AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

S. HRG. 115–868

OPPORTUNITIES AND CHALLENGES WITH THE SMALL BUSINESS ADMINISTRATION'S FEDERAL CONTRACTING PROGRAMS

FIELD HEARING

BEFORE THE

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP

OF THE

UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

JUNE 29, 2018

Printed for the Committee on Small Business and Entrepreneurship



Available via the World Wide Web: http://www.govinfo.gov

OPPORTUNITIES AND CHALLENGES WITH THE SMALL BUSINESS ADMINISTRATION'S FEDERAL CONTRACTING PROGRAMS

S. HRG. 115–868

OPPORTUNITIES AND CHALLENGES WITH THE SMALL BUSINESS ADMINISTRATION'S FEDERAL CONTRACTING PROGRAMS

FIELD HEARING

BEFORE THE

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP

OF THE

UNITED STATES SENATE

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

JUNE 29, 2018

Printed for the Committee on Small Business and Entrepreneurship



Available via the World Wide Web: http://www.govinfo.gov

U.S. GOVERNMENT PUBLISHING OFFICE

30–957 PDF WASHINGTON : 2022

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP

ONE HUNDRED FIFTEENTH CONGRESS

JAMES E. RISCH, Idaho, *Chairman*
BENJAMIN L. CARDIN, Maryland, *Ranking Member*

MARCO RUBIO, Florida
RAND PAUL, Kentucky
TIM SCOTT, South Carolina
JONI ERNST, Iowa
JAMES M. INHOFE, Oklahoma
TODD YOUNG, Indiana
MICHAEL B. ENZI, Wyoming
MIKE ROUNDS, South Dakota
JOHN KENNEDY, Louisiana

MARIA CANTWELL, Washington
JEANNE SHAHEEN, New Hampshire
HEIDI HEITKAMP, North Dakota
EDWARD J. MARKEY, Massachusetts
CORY A. BOOKER, New Jersey
CHRISTOPHER A. COONS, Delaware
MAZIE K. HIRONO, Hawaii
TAMMY DUCKWORTH, Illinois

SKIFFINGTON E. HOLDERNESS, *Republican Staff Director*
SEAN MOORE, *Democratic Staff Director*

C O N T E N T S

OPENING STATEMENTS

	Page
Risch, Hon. James E., Chairman, a U.S. Senator from Idaho	1
Sullivan, Hon. Dan, a U.S. Senator from Alaska	3
Murkowski, Hon. Lisa, a U.S. Senator from Alaska	271

WITNESSES

Panel 1

Wong, Mr. Robb, Associate Administrator, Office of Government Contracting and Business Development, U.S. Small Business Administration, Washington, DC	206

Panel 2

Jokiel, Ms. Carrie, President, ChemTrack Alaska, Inc., Anchorage, AK	224
Kompkoff, Mr. Gabe, Chief Executive Officer, Chugach Alaska Corporation, Anchorage, AK	232
Marrs, Mr. Carl, Chief Executive Officer, Old Harbor Native Corporation, Anchorage, AK	240
Peterson, Mr. Richard, President, Central Council Tlingit Haida Indian Tribes of Alaska, Juneau, AK	259
Miranda, Mr. Rolando, President, Miranda Electric, Inc., Fairbanks, AK	264

ALPHABETICAL LISTING AND APPENDIX MATERIAL SUBMITTED

Afognak Native Corporation	
Statement dated July 13, 2018	398
Bristol Bay Native Corporation	
Letter dated July 13, 2018	404
Goldbelt	
Issues Affecting Federal Contracting for Alaskan Native Contractors dated June 2018	407
Goldbelt, A History	410
Jokiel, Ms. Carrie	
Testimony	224
Prepared statement	227
Report titled ″DO NOT ENTER: Women Shut Out of U.S. Government's Biggest Contracts″	282
Kompkoff, Mr. Gabe	
Testimony	232
Prepared statement	235
Marrs, Mr. Carl	
Testimony	240
Prepared statement	243
Miranda, Mr. Rolando	
Testimony	264
Prepared statement	267
Murkowski, Hon. Lisa	
Opening statement	271
Native American Contractors Association	
Statement dated June 29, 2018	412

Page

Peterson, Mr. Richard
Testimony 259
Prepared statement 261
Risch, Hon. James E.
Opening statement 1
Sullivan, Hon. Dan
Opening statement 3
Reports from Mr. Robert N. Rubinovitz and Dr. Jon Wainwright submitted by Senator Sullivan 7
Wong, Mr. Robb
Testimony 206
Prepared statement 220

OPPORTUNITIES AND CHALLENGES WITH THE SMALL BUSINESS ADMINISTRATION'S FEDERAL CONTRACTING PROGRAMS

FRIDAY, JUNE 29, 2018

UNITED STATES SENATE,
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP,
Anchorage, AK.

The Committee met, pursuant to notice, at 2:00 p.m., in the Z.J. Loussac Public Library, Assembly Chambers, 3600 Denali Street, Anchorage, AK, Hon. James Risch, Chairman of the Committee, presiding.

Present: Senators Risch, and Sullivan.

OPENING STATEMENT OF HON. JAMES E. RISCH, CHAIRMAN, A U.S. SENATOR FROM IDAHO

Chairman RISCH. Welcome, everyone. I hate to break up a social occasion. We're here to do some business today. Thank you so much for coming. I want to thank all of you for showing up today. We're here, taking the time on this Friday afternoon, to discuss small business and the critical role small businesses play throughout the Alaskan and U.S. economies.

I am joined here by Senator Sullivan and Senator Murkowski, who is en route. We have a number of staffers from my office, from Senator Sullivan's office, from Senator Murkowski's office.

Also, I'd like to introduce Sean Moore. Sean, where are you? All right. Sean is the staff director for the minority through Senator Cardin on the Small Business Committee. Obviously, I'm chair of the Small Business Committee. Senator Cardin is my partner and is a minority member. He's excellent to work with. He shares our same view and passion for small business. He couldn't be here today, but he sends his best, and sends his best in his staff director. So thank you for being here.

I want to thank Senator Murkowski and Senator Sullivan for their help organizing this hearing. The Small Business Committee is here today at their invitation and their urging. You have a remarkable congressional delegation in Senator Murkowski, Senator Sullivan, and Representative Young. They are renowned in Washington, DC for their passionate representation of Alaska and Alaskans.

We are here in our oversight capacity to learn more about the unique impacts small businesses have here in Alaska and are hav-

ing throughout the State, and taking advantage of this opportunity to understand and work through some of the concerns that you may have with the current Small Business Administration Federal procurement programs. In short, we're here in our oversight capacity. We want to find out what's working and what isn't working.

As I mentioned, small business plays a crucial role in the success of our economy, that is, America's economy. Small businesses are a critical engine of our economy, and that is especially true when it comes to job creation. With over 71,000 small businesses here in Alaska, it's no wonder that Alaskans consistently display an attitude of self-reliance and the entrepreneurial spirit that makes America great.

Alaska also has the unique distinction of being home to the Alaska Native Corporations, which we all know were created under the Alaska Native Claims Settlement Act of 1971 to promote economic development and ensure that Native Alaskans are able to fully participate in the economy. These corporations have generally been considered a success, and the 8(a) program has been a significant part of that success by directing Federal contracts to the corporations created under this Act.

We continue to see growth in the amount of contracting dollars that small businesses are receiving through the SBA set-aside program. In the past year, small businesses were awarded over $105 billion in prime Federal contracts. This is a substantial increase of almost $6 billion of contracts awarded to small businesses across the country over last year.

We saw growth in Alaska alone as well with a nearly $200 million increase in contracting dollars from the previous year. Well, it is encouraging to see the success that this program has had. We must continually work to make sure that small businesses who are eligible to participate in the program are able to do so in the most efficient and predictable manner. As we strive to improve each small of the small business programs, it is crucial to reach out and directly talk to small businesses, like those that we have with us here today, to learn more about what is working and what isn't working.

I would also like to commend Administrator McMahon on the job she has done personally visiting 49 different districts in 39 different states, including Alaska last summer, talking to small businesses and better understanding the challenges that they face.

In addition to that, she cared enough to send one of the very best, Jeremy Field. Where's Jeremy? Jeremy is the District Director out of Seattle from the Small Business Administration. Thank you for recognizing Jeremy. Jeremy had absolutely outstanding training for this job.

How many years did you spend on the Risch team, Jeremy?

Mr. FIELD. Nine years.

Chairman RISCH. Thank you very much. Jeremy, we're so glad to have you.

Administrator McMahon testified in front of this committee last month about her findings and the success small businesses are having since abolishing many arcane and outdated regulations that were restricting small businesses from reaching their full potential. Administrator McMahon, along with the committee and along with

staff, have been working diligently to reduce the regulatory structure that is so difficult to work through.

This Small Business Committee has in recent months and years been reforming SBA and the laws that govern its great success. I was with the President just last week as he signed a major piece of legislation we produced, and he was very appreciative of this committee's efforts. We sincerely appreciate his recognition of that.

In the time I have left as Chairman, which is through the end of the year before I turn this over to Senator Rubio and I move on to a different committee, it's my goal to continue to level the playing field to provide more opportunities for small businesses so that they can continue to compete at the highest level possible.

I look forward to hearing from Associate Administrator Wong and the five other small business representatives we have here today. We're going to do two panels. First with Administrator Wong, and then with the small businesses.

Thank you again, all of you, for your participation. Again, I want to recognize the passion that the Senators and Congressman from the State of Alaska share with us for small businesses.

So, with that, Senator Sullivan, thank you for inviting us.

OPENING STATEMENT OF HON. DAN SULLIVAN, A U.S. SENATOR FROM ALASKA

Senator SULLIVAN. Thank you, Mr. Chairman. It is such an honor to have you here in the great State of Alaska. Now, it took us a while to get there. We were flying together last night and had a four- or five-hour layover delay in Minneapolis. So if you're looking at a little bit of a sleepy Chairman and number two, we got in just a couple hours ago, but we look great.

Chairman RISCH. It's not true that you can't get here from there; it just takes awhile.

Senator SULLIVAN. It just takes awhile, but we're really glad you're here.

I do want to mention, one of the most important things that Senator Murkowski and Congressman Young and I try to do representing all of you is bring important Federal Government officials to our great State. We have an amazing State, but we're very unique in so many ways. So bringing Cabinet officials—some of you may have seen I had the opportunity to bring Secretary Mattis up here last weekend. We have Secretary Acosta coming in tonight for a few days of hearings and roundtables, it's also really important to bring our fellow U.S. Senators.

I can't think of anyone, in many ways, more important than Senator Risch. He's being very humble here, but he's the Chairman of this committee, Small Business Committee for the United States Senate, and he's also number two Committee Chairman on the Foreign Relations Committee, which he'll likely be chairing after the elections in November, and number two on the Senate Intel Committee. So this is one of the most important U.S. Senators in the entire Senate, and we are very, very deeply honored that you would come here and chair this committee for our State and our small businesses.

I think it's safe to say certainly my number one priority as Alaska's Senator is to bring back strong economic growth and job oppor-

tunities for all of our State. You're probably seeing in the Lower 48 the economy is really starting to crank. The unemployment rate is at historic lows. That's in large measure because of tax reform, rolling back unnecessary, burdensome regulations, and unleashing a promise of American energy. All of those areas can certainly help us.

We need and we're trying and I think we're getting there, but we're lagging, let's face it, in terms of the economy, in terms of some of the highest unemployment rates in the country; but as the Chairman already mentioned, the key, whether it's the U.S. economy or the Alaska economy, to real sustained growth is through our small businesses, which are the engines of growth in Alaska and throughout the United States.

So that's what this hearing in many ways is all about: The economy, growth small businesses, and opportunities like government-contracting programs, which I know we're going to get into detail.

I'm very honored here to have Robb Wong of the SBA. I'm honored also to have so many from Senator Risch's staff and my staff, but it's so important to have all of them up here. I want to extend to them a warm Alaskan welcome. Senator Murkowski, we're hoping, is going to be here soon. She is actually having her own traveling challenges right now. But when she shows up here soon, we hope, we'll give her a nice warm welcome as well.

To hammer home the importance of this hearing, I want to submit for the record two expert reports on the historical and contemporary disparities on government and commercial contracting that were admitted to the court by the Department of Justice.

Are you aware that minority-owned small businesses, which is what the second panel is comprised of, those minority-owned small businesses have a 30 percent lower chance in securing government contracts than non-minority-owned businesses. Further, there have been studies that show that small disadvantaged businesses, SDBs, are statistically less likely to win a contract in industries accounting for over 82 percent of contract actions.

So I think these are the kind of disparities that we want to look at and want to address. I'm going to have the honor here in a little bit of introducing the members of the second panel, who I'm very pleased could come here. I know they're all so busy.

Small businesses are the backbone, as I mentioned, of our economy and the Nation's economy. As part of encouraging small business development and growth, the SBA and this committee, Mr. Chairman, provide many resources for our small businesses to thrive, including some of the programs we're going to talk about, woman-owned small business Federal contracting programs, service-disabled veteran small business programs, which are something I'm very passionate about. I think, Mr. Chairman, you probably know Alaska has more veterans per capita than any State in the country.

Our Alaska Native community, which is almost 20 percent of our population, serve at higher rates in the military—and we're going to see some of those witnesses today—than any other ethnic group in the country. So there's a strong patriotism in this great State across all peoples. Having service-disabled veteran-owned small

business programs, I think, is very important for the country and Alaska.

The 8(a) business development program, the HUBZone program, and the Small Mentor-Protégé Program, again, are all important programs that extend to many different populations, not only in Alaska, but in the United States. It's going to be exciting to hear about these programs from the Administrator and challenges and opportunities they present and, again, opportunities to also take advantage of these and let our small businesses in Alaska know about this.

I do want to spend a minute on an issue that I will be asking the second panel about that relates to a program, Mr. Chairman. You mentioned the importance of the 8(a) program that was extended in the 1980s to Alaska Native Regional Corporations and Village Corporations. These are corporations that were actually set up in 1971 by the Congress. I had to give a speech on the Senate floor last night because unfortunately some of my colleagues have amnesia a little bit about what we call ANCSA and how important that was.

We have a tremendous leader in the Alaska Native community, actually throughout our whole State, Tara Sweeney, who last night got confirmed by the United States Senate to be Assistant Secretary of Indian Affairs at the Department of Interior. The top official in the Federal Government in charge of Alaska Native programs and Lower 48 American Indian programs; but there were some Senators who were almost holding against her the fact that she was a shareholder in an Alaska Native Regional Corporation, despite the fact that Congress was the entity that set up the program. So I had to go down on the floor and explain a little bit to my colleagues on what they were doing. It was very inappropriate to hold somebody based on that criteria when the Congress was actually the one that set up and created that criteria.

So there have been areas where, I think, some of the 8(a) programs, Alaska Regional and Village Corporations, have been misunderstood. There was a recent article in the Alaska—the Anchorage Daily News about the 811 program and how we are working to make sure that that program—it was air-dropped into the National Defense Authorization Act in some ways as a way to penalize Alaska Native and Regional and Village Corporations. We are working to kind of reduce that. I think the Secretary of the Army, the Navy and the Air Force have recognized the importance of this. They put out recent memos on their views on the contracting. So I think we can discuss that in the second panel.

Again, overall I just want to say, Mr. Chairman, it's such an honor to have you here. Small businesses in Alaska and America are truly the success stories that drive our economy here and throughout our great Nation. Small business contracting can help add to that.

I do want to mention to everybody here—it's a great turnout—that if you are interested, you can submit statements to the record for the Chairman for this committee if you have views that you think you want us to hear about in addition to the witnesses. But I am just so honored that Chairman Risch is here holding this

hearing and that so many Alaskans and small businesses have come out to participate.

So, Mr. Chairman, thank you again. I'm very much looking forward to this hearing.

[Reports submitted by Senator Sulllivan follows:]

Introduction

My name is Robert N. Rubinovitz, and I currently serve as the Deputy Chief Economist in the Economics and Statistics Administration at the Department of Commerce where I oversee the staff in the Office of the Chief Economist. Prior to this, I served as a Vice President at NERA Economic Consulting, where I analyzed economic and policy issues in such areas as telecommunications and media, pharmaceuticals and over-the counter drugs, retail products, and financial services and developed expertise in the application of econometrics to merger analysis and other applied microeconomic topics. From 1988 to 1997, I was an economist at the Antitrust Division of the U.S. Department of Justice, where I analyzed the effects that mergers, long-term contracts, regulations, and legislation had on competition in industries such as banking, healthcare, radio, cable television, and ticket distribution. I also spent time on a detail at the Federal Communications Commission. I have also published articles on cable television deregulation and on the treatment of fixed cost savings in merger analysis. I hold a Ph.D. in Economics from the Massachusetts Institute of Technology. A copy of my c.v. is attached to this report (Attachment 1). I have not been compensated beyond my government salary for this report.

The Department of Justice has asked me to review data on government contracting to assess the relationship between contracting outcomes for small businesses and the type of ownership of these businesses. As discussed in more detail below, I analyzed data on government contracts for small businesses for FY 2012 and looked at whether, holding constant various factors that might influence the award of a contract, firms that were "small disadvantaged businesses" (SDBs) were more or less likely to win federal prime contracts relative to the other small businesses.

SDBs are businesses that are 51% or more owned and controlled by one or more disadvantaged persons; the disadvantaged person or persons must be socially disadvantaged and economically disadvantaged; and the firm must be small, according to SBA's size standards. Since October 2008, qualified small businesses can self-certify as SDBs. *See* SBA SDB Definitions (available at http://www.sba.gov/content/disadvantaged-businesses). SDBs are generally (but not always) owned by persons belonging to groups presumed to be socially disadvantaged (i.e., Blacks, Hispanics, Asians, and Native Americans).

Some SDBs are also part of the SBAs 8(a) Business Development Program. The 8(a) program was created to help small-disadvantaged businesses compete in the marketplace and to assist them in gaining access to Federal and private procurement markets. To be admitted to the program, a company must meet the eligibility criteria set out in 13 CFR Part 124, including (1) the size criteria to be a small business established in SBA regulations, and (2) the requirement that majority owners be economically and socially disadvantaged individuals. 8(a) businesses are generally (but not always) owned by persons belonging to groups presumed to be socially disadvantaged (i.e., Blacks, Hispanics, Asians, and Native Americans). Participants in the 8(a) program receive special consideration for Federal contracts. For example, procuring agencies can limit contract competitions to 8(a) firms or award contracts on a sole-source basis to 8(a) firms as long as the contract does not exceed certain limits (up to $6.5 million for contracts involving manufacturing and up to $4 million for other contracts). *See* SBA 8(A) Program

Description (available at http://www.sba.gov/content/about-8a-business-development-program). Alaska Native Corporations may also participate in the Section 8(a) program and are exempt by statute and/or regulation from the cap on sole source contract awards, the competitive threshold limits on sole source contracts and the number of firms ANCs may own. *See* 13 CFR 124.519.

Finally, some small businesses that bid on federal contracts are owned by Blacks, Hispanics, Asians, and Native Americans do not register as SDBs and are not part of the 8(a) program.

Overview of Results

Below I estimate the "odds ratio" for non-8(a) SDBs and I find that, holding constant factors such as the size and age of the firm, its legal form of organization, and its level of government security clearance, the odds of winning a contract for SDBs not participating in the 8(a) business development program are estimated to be roughly 11 percent lower relative to the odds of winning contracts by firms that were not identified as SDBs. This difference is statistically significant at the 95 percent significance level. Minority owned firms (which include minority-owned small businesses, SDBs that are minority-owned and minority-owned 8(a) participants) had roughly 30 percent lower odds of winning a contract than other small firms.

Unsurprisingly, firms that participate in the 8(a) program, a program in which firms generally do not have to engage in a full and open competition for contracts, but rather are awarded contracts through sheltered bidding or on a sole-source basis, had odds of winning contracts that were many times higher relative to the odds of winning contracts by other small businesses. Similarly, other types of firms that the federal government allows to participate in sheltered competition programs in prime contracting, such as those owned by service-disabled veterans or those located in Historically Underutilized Business Zones (HUBZones), also appear have increased to odds of winning contracts relative to the odds of firms without such characteristics.

I also looked at whether the effects of these programs or the effects of different types of ownership vary depending on the industry in which a contract is won. The results for each industry individually are very similar to those estimated using all of the data in the sample. On an industry-by-industry basis, I find that in virtually every industry, the odds of non-8(a) SDBs winning contracts, all else equal (size, age, legal organization, level of government clearance), were lower than the odds of other non-SDB small firms winning contracts, though in only about half of the industries are these odds lower in a statistically significant sense (that is, the relationship is estimated precisely enough that I can say with a degree of confidence that the odds ratio is different from one, the ratio that implies the odds of SDB firms winning contracts was the same as the odds of other small firms winning). However, the industries where the relationship is statistically significant represent the vast majority of contracts awarded in 2012. As Table 4 on page 15 demonstrates, SDBs are statistically significantly less likely to win a contract in industries accounting for 82.5% of contract actions, 67.1% of dollars awarded, and where 72.7% of SDBs are registered. There is no industry where SDBs have a statistically significant advantage in terms of winning a contract from the federal government. As Table 4(a) on page 14 demonstrates, minority owned firms (which include minority owned small

businesses, SDBs that are minority-owned and minority owned 8(a) participants) are statistically significantly less likely to win a contract in industries accounting for 68.6% of contract actions, 81.1 % of dollars awarded, and where 84.3% of minority owned businesses are registered. There is no industry where minority owned businesses have a statistically significant advantage in terms of winning a contract from the federal government.

Data

This report focuses on contracting outcomes for minority-owned firms with particular emphasis on SDBs, a sub-group of minority-owned firms. Firms self-certify their SDB status when they register to bid on contracts (as described below).

Table 1 summarizes the owner characteristics of SDB firms using 2012 data. The data used in this report contain information on 43,606 SDBs, of which roughly two thirds are self-identified as minority-owned. Another 15 percent are non-minority women-owned, and 5.5 percent are located in HUB-Zones or are veteran-owned. The remaining 15 percent of SDBs do not self-identify as minority-owned, nor do they self-identify as belonging to any other specially identified group.

My goal is to look at contracting outcomes among SDBs compared to other small firms, distinguishing between the SDBs that do and do not participate in the 8(a) program. In order to do this, I construct a database of firms that might reasonably have been expected to compete for Federal contracts, along with information on which of these firms actually won contract awards. In this database, I also have information on firm characteristics (such as size and age) as well as information identifying which firms are SDBs, which are 8(a) participants, and whether their owner belongs to another specially identified group for which the federal government has contracting goals.

Data on Entities Registered to Compete for Federal Prime Contracts

All firms that wish to compete for Federal contracts must register as potential contractors. This involves filling out a form on-line using the System for Award Management (SAM) which is operated by the General Services Administration (GSA) of the U.S. federal government.[1] Because there is no fee it is a low-cost way for a firm to self-identify as potentially interested in competing for Federal contracts. Registration in SAM must be re-certified each year.[2]

[1] www.sam.gov

[2] Obviously, given this data set, this report does not attempt to measure whether there are other businesses that potentially could contract with the federal government and the odds ratios that one would see if such businesses were included in the analysis.

Table 1

Owner Characteristics Among All Small Disadvantaged Businesses

	Number of SDBs	Percent of SDBs
Grand Total	43,606	100.0%
Total Minority*	28,234	64.7%
Black	12,104	27.8%
Hispanic	6,956	16.0%
Asian Pacific	3,473	8.0%
American Indian or Alaska Native	2,532	5.8%
Asian Subcontinent	2,200	5.0%
Not classified	969	2.2%
Non-Minority Female-Owned	6,393	14.7%
Non-Minority Male-Owned	8,979	20.6%
Non-Minority Male-Owned in Other Special Categories**	2,383	5.5%
Non-Minority Male-Owned not in Other Special Categories	6,596	15.1%

*Minority categories may overlap.

**Firms in Other Special Categories are those located in HUBZones, are Service Disabled Veteran-Owned, or Other Veteran-Owned

Firms that register in SAM must indicate the industries in which they are able to provide goods and services, using the six-digit North American Industry Classification (NAICS) codes. (NAICS is a hierarchical classification system in that as more digits are added to the code, the industry classifications become more narrowly defined – and more sparsely populated. Below I use codes at the three-digit level as a compromise balancing the need to have sufficient data in each industry grouping and the recognition that many firms can switch production within the broader three-digit category.) These data also include self-reported information from the firm on numbers of employees; average sales over the past three years; the year the firm was founded; selected socioeconomic characteristics of owners (e.g., whether the firm was owned by a woman and whether the firm is owned by a member of a minority group); and firm location. (In this report I use the term "three-digit NAICS code" or just "NAICS code" interchangeably with the term "industry.") Firms can identify themselves as operating in multiple industries, so when the data are analyzed on an industry basis, entities can appear in the data set multiple times.

Data on Contractors and Contract Awards

Contract awards (as well as modifications and orders) from prime contracts awarded by federal Executive Branch agencies must be reported in the Federal Procurement Data System (FPDS),

which is administered by the General Services Administration and publicly available for download from www.usaspending.gov.[3] These data provide two broad types of information. First, the data include contract action characteristics, such as the agency awarding the contract; the six-digit industry NAICS code of the product or service procured by the agency under the contract action; the dollars obligated (or de-obligated) under the contract action; and the place of performance. Second, the data include contractor characteristics (such as company name and identification number). Each record in the FPDS represents a single contract action. For purposes of this report, I define a firm as "winning" contracts in an industry in FY 2012 if it had at least one contract with net obligations greater than zero dollars in that industry.

SBA Data Defining Program Eligibility and Size Parameters

SBA provided data on firms that were in its 8(a) and/or HUBZone programs (in FY 2012, no other specially identified group was certified by SBA[4]) and I matched these to the FPDS and SAM matched data set using DUNS numbers in the SBA data. DUNS number is a company identifier maintained by Dun & Bradstreet that registrants use in order to register in SAM. (All other specially identified groups were self-identified in the SAM data.) I also obtained from SBA its specific definitions for 'small business', which vary across six-digit NAICS codes.[5] The analysis in this report looks only at small businesses as defined by SBA within each individual industry. When I define a firm as a small business, it is based on these industry-specific definitions. Because size distinctions vary across industries, a firm might be considered a small business in one industry but not in another.

I chose to analyze the data at the parent company level, even though sub-units within the larger parent company may be doing the actual bidding.[6] These data were analyzed at the parent company level because the purpose of this report is to identify and measure potential differences in contracting outcomes based on race/ethnicity of the owner and because no information is available about the characteristics of the managers of sub-units that compete for contracts.

Data on Firms Registered for Contracts and Firms that Won Contracts

I obtained archived SAM data from GSA in two data sets current as of July 2012. One is for official use only (FOUO) and contains registrants' DUNS number.[7] Commercial and Government Entity (CAGE) codes (used to uniquely identify entities registered in the SAM data) and DUNS numbers were extracted from the FOUO data, which contains data on entities actively registered in SAM as of July 25, 2012 (plus six months worth of expired registration data which were discarded). The FOUO data set also contains information about the form of organization of registrants and what level of security clearance they report.

---

[3] I obtained these FPDS data from Bloomberg Government as described below.

[4] Women-owned businesses that meet certain size criteria can be part of the 8(m) program which is similar to the 8(a) program. However, whether a woman-owned business was part of this program was not included in the SBA data file.

[5] See http://www.sba.gov/content/summary-size-standards-industry for a summary of the size standards.

[6] Note that the terms "company," "firm", and "parent" are used interchangeably throughout this report and that these entities can include non-profit organizations as well as private-sector, for-profit entities.

[7] Note that a registrant may have more than one DUNS number corresponding to headquarters or various levels of company parentage.

The other SAM data set obtained from GSA is called the FOIA (for Freedom of Information Act) file (current versions of the FOIA file are available for public download from www.sam.gov). The FOIA file used here contains all entities actively registered in SAM as of July 15, 2012. From this file certain data elements were extracted, including NAICS codes, business start date, and average number of employees, annual receipts, and business types. Business types are data on ownership or status of the businesses reported for each registrant, including SDB status; the race and ethnicity of the registrant (or with which the registrant is affiliated); minority-ownership; woman ownership; service-disabled veteran ownership; and other veteran ownership.[8] Certain NAICS industry groups were dropped because of incomplete data, irrelevance, or because data issues in a given NAICS group prevented the regression model from producing reliable estimates (see table 2 below), leaving 80 NAICS industry groups included in the analysis.[9] Registrants with missing or zero annual receipts or employment or with unrealistically large values of size or age were dropped.

I also obtained from GSA a list as of September 30, 2012 of firms that were excluded from doing business with the federal government (current lists of such firms are also available for public download from www.sam.gov). I matched these firms by DUNS number to the other SAM data sets and dropped from the analysis the small number of firms (190) that were on the exclusions list.

[8] Business types also identify if the registrant is only interested in grants and not contracts; located outside of the US; a government entity; and/or an international organization. All of the firms of these types were dropped from all datasets used in my analysis.

[9] Such problems include cases in which the SDB variable was automatically dropped from the analysis because it was collinear with another variable or when certain values of the SDB variable perfectly predict contracting outcomes, thereby preventing the model from estimating a meaningful relationship between the variables. In the industry-level regressions in this report, odds ratios could not be estimated for some of the variables because certain values of the variables perfectly predicted contracting outcomes (with the corresponding observations dropped from the analysis). For technical details see *Stata Base Reference Manual Volume 2: Release 12*. Stata Press, 2011, at pp. 973-975.

Table 2

Three-digit NAICS Codes Dropped from Analysis:[10]

Code	Description	Reason Dropped
221	Utilities	SBA small business definition for electric power generation is based on capacity in megawatt hours which were not available in the SAM data files.
482	Rail Transportation	No non-8(a) SDB won a contract, therefore non-(8) SDB variable dropped from analysis.
486	Pipeline Transportation	No non-8(a) SDB won a contract, therefore non-(8) SDB variable dropped from analysis.
487	Scenic and Sightseeing Transportation	No non-8(a) SDB won a contract, therefore non-(8) SDB variable dropped from analysis.
491	Postal Service	This industry only consists of one entity – the US Postal Service
521	Monetary Authorities – Central Bank	This industry only consists of one entity – the Federal Reserve System.
522	Credit Intermediation	SBA small business definitions for some industries are based on assets, which were not available in the SAM data files.
525	Funds, Trusts and Other Financial Vehicles	No non-8(a) SDB won a contract, therefore non-(8) SDB variable dropped from analysis.
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	No non-8(a) SDB won a contract, therefore non-(8) SDB variable dropped from analysis.
551	Management of Companies and Enterprises	No contracts were awarded in this industry.
814	Private Households	No SBA small business definition.
921-928	Public Administration	No SBA small business definition.

The data extracted from the FOUO and FOIA data sets were matched and merged to each other by CAGE code. These data were then matched by DUNS number to the 8(a) and HUBZone data sets to identify which of the SAM firms were participants in the 8(a) program or were certified to be HUBZone firms.

I obtained from Bloomberg Government a data extract drawn from the Federal Procurement Data System (FPDS) for contracts covered by Federal prime contracting goals for various specially

[10] Five distinct categories of contracting had zero total contracts awarded to non 8(a) SDBs: 482 Rail Transportation, 486 Pipeline Transportatio,487 Scenic and Sightseeing Transportation, 525 Funds, Trusts and Other Financial Vehicles, and 533 Lessors of Nonfinancial Intangible Assets (except Copyrighted Works). Because of the formula used in the analysis in this report, these NAICs codes could not be included as no non-8(a) SDBs won a contract in any of these codes in 2012, despite the fact that there were non-8(a) SDBs registered to do business in each of these codes. The fact that these codes could not be included in the analysis does not mean that SDBs are successful in these industries; in fact, given the complete lack of any non-8(a) SDB winning a contract, the converse could be concluded.

identified groups (small businesses; small disadvantaged businesses; woman-owned small businesses; etc.).[11] Bloomberg aggregated net contract obligations in the data up to the contract identification number/set-aside program (if any)/three-digit NAICS level and included DUNS numbers. The Bloomberg file also included the start date of each contract so that I could identify contracts that started in FY 2012 (contracts starting before FY 2012 were dropped from the analysis). Matching the FPDS data to the data on firms in SAM (using DUNS numbers) allowed me to determine which of the firms registered for government contracts actually won one or more contracts with net positive contract obligations in 2012. About 7 percent of the records in the FPDS data did not match to the SAM data and were dropped from the analysis. This should not affect this report's conclusions.

As mentioned above, contractor records were combined by the ultimate (i.e., highest level of parentage) DUNS number, as well as at the three-digit NAICS code level, thus retaining a count of the contracts awarded to each parent within each three-digit NAICS code. The specially identified group indicators, age, and size variables often vary across registrants that belong to a given parent entity with the same ultimate DUNS number, raising issues about how to treat these measures when observations are aggregated to the parent company level. Thus, I defined specially identified group status among parent firms in two different ways:

1. Least inclusive: assign a parent to a specially identified group only if *all* its sub-entity records indicate group membership.
2. Most inclusive: assign a parent to a specially identified group if *at least one* of its sub-entity records indicates group membership.

---

[11] "Q12. When calculating the percentages in the Goaling reports, the Small Business Administration determined that the counts of actions and sums of obligated dollars for certain actions shall be excluded.
The following categories of contracts are not included in the "base" amount:

- Javits-Wagner O'Day Program (JWOD, Sheltered Workshops)
- UNICOR or Federal Prison Industries
- American Institute in Taiwan
- Contracts awarded and performed outside the United States
- Acquisitions by Agencies on behalf of foreign governments or entities or international organizations
- Contracts funded predominately with agency generated sources.

Accordingly, the following Government Agencies are excluded:

- FDIC
- Postal Service
- Bureau of Engraving and Printing
- United States Mint
- Office of the Comptroller of the Currency
- Office of Thrift Supervision
- Transportation Security Administration
- Federal Aviation Administration
- Tennessee Valley Authority
- Defense Commissary Agency contracts are excluded because they are buying for resale in a military commissary.
- Quasi-government agencies operating with non-tax dollars (known as non-appropriated funds) that were not competed because the products they purchase are being bought to be resold. The money the agency gets from the sale fund the operation of the organization."

("Frequently Asked Questions About FPDS-NG" http://www.acquisition.gov/faqs_whataboutfpds.asp#q12)

I also assigned age, sales receipts, and employment values to each parent company in two ways:

1. ~~Minimum: the minimum of each of age, sales receipts, and employment values~~ across all sub-entities within the parent firm (regardless of the NAICS codes in which they registered).
2. Maximum: the maximum of each of age, sales receipts, and employment values across all sub-entities within the parent firm (regardless of the NAICS codes in which they registered).

Finally, I assigned small business status to parent companies in two ways[12]:

1. Least inclusive: For each six-digit NAICS code in which a parent or sub-entity registered, determine its size status based on its NAICS code and either its maximum sales receipts or employment values, using the appropriate regular NAICS-code specific SBA size standards. Then assign small status to a parent only if all its sub-entity records indicate group membership.
2. Most inclusive: For each six-digit NAICS code in which a parent or sub-entity registered, determine its size status based on its NAICS code and either its minimum sales receipts or employment values, using the appropriate NAICS-code specific SBA size standards (or size standard exceptions for the small number of NAICS codes with such exceptions). Then assign small status to a parent if at least one of its sub-entity records indicates group membership.

The results discussed below are based on the "least inclusive" (first) methods described here, but using the other (second) methods would not change the results in any meaningful way. Including large firms (i.e. firms that were too large to meet the SBA definition of a small business) also did not change the results in any meaningful way.

Model Specification and Results

The ultimate question of interest here is whether the data show any difference in the odds of contracts being won by minority-owned small businesses, particularly those identified as SDBs and those that are part of the 8(a) program, relative to other small businesses. Regression analysis is a tool used by economists to address this type of question. This type of analysis starts with a hypothesis about the relationships between various variables and estimates whether these variables interact with each other in a way that is consistent with the hypothesis. There are many types of regression analyses, but the logit model is widely used to analyze the odds of an event occurring, such as a firm being awarded a contract, and it is this type of model that is used in the analysis described here.

This model assumes that there is a relationship between a variable to be explained (the

[12] A relatively small number of firms won contracts in three-digit NAICS codes in which they had not registered in SAM. Since I did not have the six-digit NAICS codes for these firms I modified the size determination method by using the minimum size standard across all six-digit NAICS codes within each three-digit NAICS code for the least inclusive method and the maximum for the most inclusive method.

"dependent" variable) and one or more explanatory ("independent") variables. The standard way to represent this model is:

$$\mathbf{Y = exp(\beta * X + \varepsilon)}$$

In this example, the dependent variable is represented by Y, X is one or more independent variables that explain the dependent variable, and exp(.) is the exponentiation function. The β is an unknown parameter or set of parameters that is to be estimated and gives the degree to which an independent variable is related to a dependent variable. The final term in the equation, represented by ε, is known as the error term and represents the other elements that might influence the dependent variable but which are not explicitly included in the estimation. The error term "arises for several reasons, primarily because we cannot hope to capture every influence on an economic variable in a model, no matter how elaborate."[13]

A key feature of a regression is that it allows the researcher to isolate the effects of one independent variable on the dependent variable separately from the other independent variables. In other words, the first β that is estimated in an equation represents the relationship between Y and the first X variable *holding constant* all the other independent variables. As an example, regression analysis could be used to examine how characteristics of a home affect the sales price of a home. To do this, one might hypothesize that the value of a home depends on factors such as the number of bedrooms in a house, the number of bathrooms and the size of the lot on which the house is found. Then, the β that is associated with the number of bedrooms is a measure of how increasing the number of bedrooms affects the sales price holding constant the number of bathrooms and the size of the lot.

Another key to successfully estimating regressions and to draw the proper inferences from the results is to make sure that the appropriate variables are included in the model. For example, it may often be the case that a house with more bedrooms is also likely to have more bathrooms. If a regression of housing prices only includes the number of bedrooms it may overstate the influence of the number of bedrooms on prices as the estimate of the β associated with the number of bedrooms also will include the influence of the number of bathrooms on prices.

In the present context, the dependent variable represents whether or not the firm wins a contract, while the independent variables are all the measures that influence the odds of whether or not a given firm wins a contract. When estimating this model, as with the housing example discussed above, it is important to include other variables that might also influence whether a minority-owned small business wins a contract or not. For example, it might be the case that newer firms are less likely to win contracts, on average, than older firms. Thus, it would be important to include a measure of the age of the firm in the model to control for this fact. This is particularly important if it also happens to be the case that minority firms are more likely to be newer than other firms; in this situation, if the age of the firm is not included in the model, one might conclude that minority firms are winning fewer contracts, on average, when, in fact, it is younger firms that are winning fewer contracts.

Here, the independent variables I use are the ownership of the firm (minority-owned, women-owned, and veteran-owned); the type of organization (that is, whether the firm is a corporation, a partnership or some other type); other characteristics of the firm (size, in terms of number of employees and revenues, level of security clearance of the firm and age of the firm); and whether

[13] Greene, William H., *Econometric Analysis*, Sixth Edition, Pearson Education, 2008 at p. 9.

the firm identifies itself as an SDB and, if so, whether the firm is part of the SBA's 8(a) program.

Table 3 lists estimates of the "odds ratios" of the independent variables listed above, holding the other variables constant. Not surprisingly, there is a positive and significant increase in the odds of a small firm winning a contract as the age of the firm and the size of the firm, measured either by sales or number of employees, increases.[14] Firms with various levels of security clearance also had higher odds of winning contracts than firms that did not report having a security clearance level, with the largest effect resulting for those firms with "secret" clearance; the odds of a firm with a secret clearance winning a contract were 55 percent higher than those without a secret clearance. Ownership structure can also influence the odds of a small firm winning a contract, with the odds of corporations and partnerships winning contracts being lower and the odds of sole proprietorships winning being higher than other forms of organization.

The main variables of interest, however, are the ones at the top of the table, which relate to the type of ownership of the small business and whether the firm participates in one of the SBA programs that are designed to help small businesses win contracts. Controlling for other factors, the odds of minority-owned small firms and non-8(a) SDB firms[15] winning contracts were lower than small non-minority and non-SDB firms; specifically, the odds of an SDB firm winning a contract is roughly 11 percent lower than other types of small businesses, while small minority-owned firms, regardless of whether they are SDBs or in the 8(a) program, had roughly 30 percent lower odds of winning a contract than other firms.[16]

These relationships, as in all regression models, are estimated with some degree of error. Thus, it is common practice to estimate whether, given this degree of error, it is possible to distinguish the estimate from some fixed value (usually zero) with a high degree of certainty or whether it is just chance that makes the estimate different from this fixed value. That is, I am interested in whether these estimated relationships are "statistically significant." With odds ratios, the estimate is statistically significant if it can be distinguished, with a high degree of certainty, from one, the point where the odds of the two groups compared are the same. If the estimate cannot be distinguished from one with enough certainty, then I cannot say that the odds of winning of contract for one group are different the odds of another group winning a contract.

Whether an estimate of a statistical relationship between two variables is significant is a function of two things – how close the estimate is to the value that would indicate no relationship and the precision of the estimate. One of the key factors in the degree of precision of estimates of relationships between two variables is the number of observations used to

[14] Note that SDBs have a lower mean age (11.8 years) compared to non-SDBs (19.2 years). Generally SDBs are smaller than non-SDBs on average: mean sales are $2.9 million compared to $8.1 million; median sales are $0.8 and $0.5 respectively. However, the mean number of employees for SDBs is slightly bigger (446) than the mean for non-SDBs (424), but the median number of employees for SDBs (5) is lower than that for non-SDBs (6).

[15] There are 70,615 minority owned firms of which 28,234 (40%) are SDBs and there are 43,606 SDBs of which 28,234 are minority owned (65%).

[16] The odds ratio for firms that both identified themselves as SDBs (but that were not part of the 8(a) program) and that were small minority-owned firms is the product of the SDB non-8(a) odds ratio and the minority-owned odds ratio, or (0.886)*(0.694) = 0.615.

estimate a model; generally, the more observations, the more precise is the estimate.[17] The measures of precision are represented by the "standard errors" of the estimates, which in Table 3 are the numbers in parentheses below the estimates of the odds ratios.

Typically, when assessing statistical significance, it is common to look at roughly two standard errors above and two standard errors below the relevant estimate to determine the range within which one is confident the true estimate lies. For the estimate of the SDB odds ratio, the standard error is estimated to be 0.015 so I am confident that the true value lies somewhere between 0.866 and 0.916 (0.886 plus or minus two times 0.015). Therefore, I can say that the estimate of the odds of an SDB wining a contract is significantly less than one (i.e. the fact that the odds of an SDB firm winning a contract is estimated to be lower than odds for other firms is not due to chance.) Given the relatively large number of observations, the standard errors in Table 3 are all small relative to the size of the estimated odds ratios and, thus, most of the estimated odds ratios are statistically significant; the ones that are not are those that are estimated to be close to one (e.g. the odds ratio estimated for firms that are corporate not tax-exempt is 0.996 which is not statistically significantly different from one.) The other estimates in Table 3 show that firms in the 8(a) program, firms that were certified as being HUBZone businesses or firms owned by service-disabled veterans had larger odds of winning a contract, likely due to their participation in the Section 8(a) set-aside program or similar contracting programs. These results hold even when certain variations of the model are estimated. For example, the same basic relationship between SDBs and the winning of contracts is found when the SDB sample excludes 8(a) firms and 8(a) set aside contracts or includes variables that control for the geographic location of the small business.

Table 4 provides a summary of the results when the same model is estimated separately for each three-digit NAICS code and Table 5 provides a more detailed list of the industry-by-industry estimates (Table 6 defines the NAICS codes used in Table 5). As can be seen from Table 4, in virtually every industry, the odds of non-8(a) SDBs winning contracts are lower, all else equal, than other firms. In only about half of the industries are the odds ratios for non-8(a) SDBs winning contracts statistically significantly lower; however, the industries where the relationship is statistically significant represent the majority of contracts won in 2012.[18] Table 4(a) shows the same information for minority owned firms.

As mentioned above, how close the estimate is to one and the sizes of the standard errors (which, in turn, depend largely on the number of observations used in a regression,) are the key factors in determining the statistical significance of the odds ratios. In Table 6, there are 21 three digit NAICS code industries with at least 9,000 observations and in 18 of these the estimate of the odds ratio on SDBs is statistically significant, ranging from 0.48 to 0.84. On the other hand, the three industries with more than 9,000 observations that are not statistically significant, NAICS codes 236, 237 and 621, all have estimated coefficients that are relatively close to one (0.921, 0.927 and 0.86, respectively). At the same time, there are 21 three digit NAICS code industries

[17] To illustrate this point, if you flipped a coin 10 times and got 7 heads, you might think the coin is biased, but the number of observations prevents you from drawing that conclusion with certainty. If you flip the same coin 10,000 times and get heads 7,000 times, you can conclude that it is highly likely that the coin is biased.

[18] The two three digit NAICS code category where the coefficient on the SDB variable was positive, though not significant, were 454 (Nonstore Retailers) and 483 (Water Transportation). There are 5,355 firms registered to serve these NAICS codes but there were only 719 contracts entered into in 2012 in these industries.

in the analysis that have fewer than 2,000 observations and in only seven of these 21 is the odds ratio on the SDB variable statistically significant (and in all seven of these the estimated odds ratio is less than 0.5).

Signed: s/ Robert N. Rubinovitz
Robert N. Rubinovitz, Ph.D.
Deputy Chief Economist
Economics and Statistics Administration
Department of Commerce

August 8, 2012

Table 3
Pooled Regression Results

	Odds Ratios
SDB not 8(a)	0.886***
	(0.0151)
8(a)	5.141***
	(0.148)
woman-owned	0.927***
	(0.0105)
minority-owned	0.694***
	(0.00972)
hubzone	1.573***
	(0.0424)
service-disabled veteran	1.325***
	(0.0292)
other veteran	1.026
	(0.0167)
log age	1.203***
	(0.00614)
log employment	1.164***
	(0.00390)
log receipts	1.026***
	(0.00168)
sole proprietor	1.118***
(omitted: "other " orgs)	(0.0178)
partnership	0.696***
	(0.0127)
corporate not tax-exempt	0.990
	(0.0110)
corporate tax-exempt	0.263***
	(0.00687)
Government non-classified	1.221***
(omitted: no security reported)	(0.0261)
Government confidential	1.419***
	(0.0688)
Government secret	1.555***
	(0.0447)
Government top secret	1.071**
	(0.0320)
Constant	0.0809***
	(0.00193)
No. Observations	373,057
pseudo R2	0.0507

Robust standard errors in parentheses

Table 4

Summary Results from Industry Regressions: Difference in Odds of Non-8(a) SDBs Winning Contracts

	Contracts		Awards		Non-8(a) SDBs*		Industries	
Lower odds statistically significant	286,300	85.2%	$18,638,714,880	67.1%	106,467	72.7%	37	46.3%
Lower odds not statistically significant	48,870	14.6%	$9,010,878,464	32.5%	39,170	26.7%	41	51.3%
Higher odds statistically significant	-	0.0%	$ -	0.0%	-	0.0%	0	0.0%
Higher odds not statistically significant	717	0.2%	$115,715,432	0.4%	873	0.6%	2	2.5%
Totals	335,887	100.0%	$27,765,308,776	100.0%	146,510	100.0%	80	100.0%

*SDBs are counted once for each industry in which they are registered or won contracts. Percents may not sum to 100% due to rounding.

Table 4a

Summary Results from Industry Regressions: Difference in Odds of Minority-Owned Businesses Winning Contracts

	Contracts		Awards		Minority-Owned Businesses*		Industries	
Lower odds statistically significant	230,491	68.6%	$22,528,989,184	81.1%	161,055	84.3%	43	53.8%
Lower odds not statistically significant	103,790	30.9%	$5,193,522,688	18.7%	27,862	14.6%	33	41.3%
Higher odds statistically significant	-	0.0%	$-	0.0%	-	0.0%	0	0.0%
Higher odds not statistically significant	1,606	0.5%	$42,798,332	0.2%	2,051	1.1%	4	5.0%
Totals	335,887	100.0%	$27,765,310,204	100.0%	190,968	100.0%	80	100.0%

Table 5: Industry-Specific Regression Results

	111	112	113	114	115	211	212	213	236	237	238
SDB not 8(a)	0.464	0.177	0.295**	0.524	0.635***	0.981	0.668*	0.414**	0.921	0.927	0.807***
	(0.255)	(0.192)	(0.170)	(0.407)	(0.0769)	(1.204)	(0.154)	(0.167)	(0.0651)	(0.0765)	(0.0383)
8(a)			0.503		1.544**		1.427	0.859	9.050***	8.096***	8.018***
			(0.531)		(0.316)		(0.524)	(0.560)	(0.691)	(0.759)	(0.474)
woman-owned	0.789	1.306	0.590	1.754	0.945	0.500	0.867	0.862	0.910	0.764***	0.838***
	(0.248)	(0.458)	(0.239)	(0.867)	(0.0846)	(0.314)	(0.160)	(0.257)	(0.0546)	(0.0534)	(0.0313)
minority-owned	0.572	0.968	0.906	1.996	0.913	0.299*	0.572***	1.421	0.791***	0.542***	0.658***
	(0.243)	(0.497)	(0.366)	(1.096)	(0.102)	(0.213)	(0.122)	(0.462)	(0.0513)	(0.0432)	(0.0298)
hubzone	0.552		0.215**		1.519***		0.693*	0.380	1.878***	2.744***	1.406***
	(0.564)		(0.157)		(0.165)		(0.138)	(0.235)	(0.134)	(0.181)	(0.0766)
service-disabled veteran	0.560		0.416	0.857	0.673**	1.666	0.648	1.661	2.664***	1.457***	1.603***
	(0.423)		(0.433)	(0.902)	(0.131)	(1.412)	(0.223)	(0.701)	(0.176)	(0.129)	(0.0839)
other veteran		1.420	0.725	0.746	0.829		0.637	0.596	0.811*	0.856	0.948
		(0.598)	(0.377)	(0.567)	(0.110)		(0.191)	(0.303)	(0.0874)	(0.0954)	(0.0526)
log age	1.167	1.642***	0.923	1.122	1.154***	1.069	1.175**	2.204***	1.004	1.214***	1.161***
	(0.112)	(0.238)	(0.116)	(0.236)	(0.0484)	(0.382)	(0.0928)	(0.367)	(0.0292)	(0.0427)	(0.0209)
log employment	1.144*	1.055	1.264***	0.712	1.038	1.133	1.027	1.444***	1.096***	0.991	1.088***
	(0.0790)	(0.0874)	(0.104)	(0.189)	(0.0332)	(0.238)	(0.0641)	(0.132)	(0.0213)	(0.0262)	(0.0136)
log receipts	0.988	1.048	0.983	1.169	1.009	0.962	1.004	1.006	1.075***	1.058***	1.034***
	(0.0313)	(0.0546)	(0.0351)	(0.136)	(0.0114)	(0.0655)	(0.0255)	(0.0511)	(0.0137)	(0.0154)	(0.00673)
sole proprietor	1.269	0.776	0.795	1.570	1.124		1.144	0.865	0.833*	1.238**	0.891**
(omitted: "other" orgs)	(0.419)	(0.288)	(0.262)	(0.973)	(0.112)		(0.278)	(0.515)	(0.0849)	(0.131)	(0.0521)
partnership	0.584	0.440*	0.384*	1.022	0.847	0.691	0.800	0.788	0.894	0.891	0.833***
	(0.247)	(0.208)	(0.213)	(0.807)	(0.118)	(0.849)	(0.208)	(0.457)	(0.0797)	(0.100)	(0.0523)
corporate not tax-exempt	1.288	0.860	0.770	1.144	0.946	0.822	0.851	1.274	0.888**	0.895*	0.892***
	(0.423)	(0.324)	(0.225)	(0.620)	(0.0900)	(0.659)	(0.125)	(0.349)	(0.0478)	(0.0545)	(0.0313)
corporate tax-exempt	0.158*	0.326		1.407	0.187***			2.315	0.0973***	0.446**	0.651**
	(0.165)	(0.258)		(1.182)	(0.0619)			(1.671)	(0.0440)	(0.177)	(0.119)
Government non-classified (omitted: no security reported)	0.631		0.718	1.063	0.591**		0.865	1.782	1.254**	0.996	1.331***
	(0.693)		(0.743)	(1.236)	(0.158)		(0.329)	(0.800)	(0.111)	(0.115)	(0.0822)
Government confidential					0.801			1.665	1.506**	1.105	1.357**
					(0.507)			(2.175)	(0.294)	(0.296)	(0.198)
Government secret		2.913			0.543	9.797	2.318	5.216***	0.887	0.679*	1.171
		(3.321)			(0.294)	(16.17)	(1.351)	(3.290)	(0.133)	(0.144)	(0.130)
Government top secret						20.97	0.748		1.012	0.629*	0.821
						(40.18)	(0.765)		(0.165)	(0.164)	(0.109)
Constant	0.0535***	0.0121***	0.0622***	0.00921***	0.119***	0.0969**	0.108***	0.00245***	0.0183***	0.0184***	0.0399***
	(0.0260)	(0.00944)	(0.0305)	(0.0133)	(0.0195)	(0.0996)	(0.0397)	(0.00207)	(0.00312)	(0.00351)	(0.00369)
No. Observations	1,516	1,266	2,280	522	6,816	179	2,586	1,752	30,198	24,954	59,316
pseudo R2	0.0400	0.0572	0.0451	0.0406	0.0221	0.0822	0.0269	0.135	0.129	0.0874	0.0615

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	311	312	313	314	315	316	321	322	323	324	325
SDB not 8(a)	0.824	0.722	0.792	0.731*	0.831	0.642	0.860	0.679**	0.583***	0.547**	0.954
	(0.198)	(0.276)	(0.225)	(0.119)	(0.146)	(0.199)	(0.161)	(0.126)	(0.117)	(0.136)	(0.106)
8(a)	1.273		0.742	1.772**	1.067	4.203***	0.783	0.883	1.419	0.466*	2.073***
	(0.868)		(0.626)	(0.511)	(0.356)	(2.174)	(0.333)	(0.334)	(0.537)	(0.215)	(0.480)
woman-owned	0.857	0.525*	1.093	0.888	0.850	0.898	1.008	1.056	0.721***	0.818	1.028
	(0.141)	(0.200)	(0.202)	(0.0947)	(0.108)	(0.196)	(0.130)	(0.140)	(0.0877)	(0.158)	(0.0826)
minority-owned	0.394***	1.352	0.779	0.828	0.757*	0.787	0.574***	0.868	0.759*	0.761	0.632***
	(0.0772)	(0.450)	(0.184)	(0.121)	(0.119)	(0.216)	(0.112)	(0.147)	(0.124)	(0.159)	(0.0654)
hubzone	1.052	1.811	0.808	1.785***	0.990	1.082	1.217	1.044	1.149	0.765	0.975
	(0.380)	(1.291)	(0.314)	(0.338)	(0.231)	(0.431)	(0.267)	(0.268)	(0.397)	(0.235)	(0.175)
service-disabled veteran	0.898	0.584	0.855	1.080	1.022	1.456	0.824	1.291	1.014	0.732	1.181
	(0.300)	(0.378)	(0.347)	(0.208)	(0.234)	(0.536)	(0.202)	(0.307)	(0.260)	(0.240)	(0.165)
other veteran	1.172	0.982	0.832	1.087	1.086	1.308	0.700*	0.847	0.934	0.648	1.015
	(0.297)	(0.453)	(0.246)	(0.162)	(0.190)	(0.353)	(0.144)	(0.168)	(0.179)	(0.172)	(0.107)
log age	1.139**	1.405**	1.475***	1.151***	1.241***	1.173	1.410***	1.253***	1.124*	1.445***	1.440***
	(0.0738)	(0.195)	(0.135)	(0.0582)	(0.0798)	(0.123)	(0.0982)	(0.0823)	(0.0690)	(0.112)	(0.0528)
log employment	0.981	1.066	1.239***	1.288***	1.270***	1.160*	0.991	1.155***	1.226***	1.054	1.178***
	(0.0670)	(0.106)	(0.0792)	(0.0524)	(0.0591)	(0.0952)	(0.0514)	(0.0583)	(0.0609)	(0.0634)	(0.0320)
log receipts	1.169***	1.047	1.006	1.034*	1.078***	1.104*	1.042	1.019	1.011	1.053*	1.040***
	(0.0571)	(0.0434)	(0.0291)	(0.0208)	(0.0295)	(0.0617)	(0.0301)	(0.0251)	(0.0258)	(0.0324)	(0.0131)
sole proprietor	0.919	1.251	0.250***	0.966	0.885	0.451	1.024	0.711	0.723	0.394**	0.922
(omitted: "other" orgs)	(0.276)	(0.578)	(0.130)	(0.185)	(0.198)	(0.225)	(0.237)	(0.215)	(0.170)	(0.182)	(0.152)
partnership	0.643*	0.773	0.330**	0.678*	0.690	1.045	0.953	0.647	0.834	0.427***	0.774*
	(0.171)	(0.366)	(0.146)	(0.145)	(0.158)	(0.386)	(0.214)	(0.178)	(0.189)	(0.121)	(0.107)
corporate not tax-exempt	0.734**	0.588*	0.712**	0.896	0.895	1.145	0.985	1.029	0.874	0.751*	0.885
	(0.102)	(0.178)	(0.121)	(0.0936)	(0.113)	(0.244)	(0.127)	(0.138)	(0.109)	(0.113)	(0.0665)
corporate tax-exempt	0.294**	0.314		0.104***		0.659	0.153***	0.164***	1.452	0.593	0.343***
	(0.150)	(0.328)		(0.0779)		(0.524)	(0.111)	(0.102)	(0.396)	(0.340)	(0.124)
Government non-classified (omitted: no security reported)	1.476	0.867	1.454	1.089	1.138	1.487	1.122	0.910	1.145	0.957	1.440***
	(0.506)	(0.533)	(0.503)	(0.227)	(0.270)	(0.506)	(0.299)	(0.267)	(0.310)	(0.350)	(0.203)
Government confidential	1.967		1.256	0.363	0.716	0.458	0.504	1.095	1.032		1.211
	(1.450)		(1.537)	(0.291)	(0.597)	(0.463)	(0.375)	(0.702)	(0.557)		(0.370)
Government secret	2.090		2.428*	0.979	1.284	0.209	1.245	1.452	1.142	0.802	1.911***
	(1.369)		(1.186)	(0.309)	(0.451)	(0.233)	(0.585)	(0.659)	(0.484)	(0.477)	(0.377)
Government top secret			2.811	1.364	1.346	0.582	0.697	1.250	1.068	0.590	0.651
			(3.064)	(0.853)	(0.631)	(0.655)	(0.524)	(1.008)	(0.592)	(0.573)	(0.255)
Constant	0.0246***	0.0349***	0.0564***	0.0650***	0.0322***	0.0174***	0.0309***	0.0590***	0.0463***	0.0796***	0.0411***
	(0.0148)	(0.0228)	(0.0253)	(0.0185)	(0.0121)	(0.0125)	(0.0120)	(0.0209)	(0.0154)	(0.0348)	(0.00725)
No. Observations	2,166	722	1,317	3,568	2,618	1,312	4,020	2,596	5,446	1,502	7,319
pseudo R2	0.0952	0.0606	0.0929	0.0603	0.0873	0.0774	0.0380	0.0441	0.0439	0.0976	0.0657

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	326	327	331	332	333	334	335	336	337	339	423
SDB not 8(a)	0.882	0.839	0.703**	0.773***	0.804***	0.781***	0.798***	0.841**	0.835	0.740***	0.836***
	(0.111)	(0.142)	(0.103)	(0.0458)	(0.0531)	(0.0428)	(0.0647)	(0.0638)	(0.0980)	(0.0553)	(0.0394)
8(a)	0.670	1.155	0.535	1.122	1.173	1.207**	1.058	1.094	2.670***	1.131	1.598***
	(0.228)	(0.409)	(0.211)	(0.137)	(0.152)	(0.113)	(0.152)	(0.164)	(0.462)	(0.194)	(0.139)
woman-owned	1.109	0.896	0.978	0.930*	0.914**	0.963	1.128**	1.002	1.096	0.837***	0.832***
	(0.0924)	(0.106)	(0.105)	(0.0380)	(0.0411)	(0.0381)	(0.0663)	(0.0531)	(0.0860)	(0.0411)	(0.0282)
minority-owned	0.790**	0.668**	0.917	0.926	0.859**	0.700***	0.844**	0.902	0.692***	0.764***	0.683***
	(0.0923)	(0.112)	(0.122)	(0.0509)	(0.0513)	(0.0333)	(0.0615)	(0.0613)	(0.0762)	(0.0505)	(0.0292)
hubzone	0.996	0.827	0.774	0.974	0.818**	0.990	1.018	1.177*	1.187	0.858	0.920
	(0.181)	(0.187)	(0.163)	(0.0754)	(0.0780)	(0.0949)	(0.127)	(0.115)	(0.189)	(0.108)	(0.0751)
service-disabled veteran	0.807	0.699	0.602**	0.975	0.811**	0.743***	0.936	0.840*	1.266*	1.172*	0.883**
	(0.147)	(0.159)	(0.141)	(0.0777)	(0.0713)	(0.0520)	(0.0946)	(0.0813)	(0.168)	(0.104)	(0.0542)
other veteran	0.975	1.233	0.738**	1.091*	1.006	0.859***	0.930	0.907	0.909	0.974	0.860***
	(0.111)	(0.192)	(0.111)	(0.0546)	(0.0545)	(0.0432)	(0.0718)	(0.0579)	(0.112)	(0.0646)	(0.0398)
log age	1.245***	1.291***	1.411***	1.242***	1.271***	1.371***	1.476***	1.461***	1.162***	1.081***	1.099***
	(0.0532)	(0.0718)	(0.0752)	(0.0241)	(0.0261)	(0.0259)	(0.0436)	(0.0364)	(0.0474)	(0.0243)	(0.0165)
log employment	1.088***	1.098**	0.978	1.080***	1.126***	1.160***	1.083***	1.052***	1.188***	1.233***	1.281***
	(0.0345)	(0.0475)	(0.0375)	(0.0160)	(0.0170)	(0.0148)	(0.0225)	(0.0182)	(0.0374)	(0.0218)	(0.0152)
log receipts	1.036**	1.029	1.039**	1.022***	1.034***	1.041***	1.031***	1.023***	1.040**	1.041***	1.021***
	(0.0168)	(0.0212)	(0.0185)	(0.00666)	(0.00702)	(0.00594)	(0.00956)	(0.00772)	(0.0162)	(0.00868)	(0.00533)
sole proprietor	0.970	0.852	1.041	0.981	0.858*	0.915	1.147	0.849*	0.843	0.864	1.068
(omitted: "other" orgs)	(0.171)	(0.200)	(0.197)	(0.0730)	(0.0738)	(0.0715)	(0.136)	(0.0839)	(0.138)	(0.0790)	(0.0676)
partnership	0.903	1.062	0.685*	0.877*	0.868*	0.895*	0.833*	0.838**	1.029	0.896	0.884**
	(0.137)	(0.223)	(0.147)	(0.0653)	(0.0663)	(0.0590)	(0.0891)	(0.0754)	(0.145)	(0.0729)	(0.0505)
corporate not tax-exempt	1.061	1.163	0.878	0.996	0.940	0.930**	0.969	0.971	1.022	0.900**	0.967
	(0.0862)	(0.129)	(0.0872)	(0.0376)	(0.0364)	(0.0329)	(0.0535)	(0.0460)	(0.0812)	(0.0417)	(0.0301)
corporate tax-exempt	0.481**		0.285**	0.367***	0.452***	0.538***	0.436***	0.434***	0.225***	0.434***	0.729**
	(0.172)		(0.150)	(0.0709)	(0.0823)	(0.0941)	(0.123)	(0.0974)	(0.121)	(0.0769)	(0.0904)
Government nonclassified	1.113	1.351	1.374*	1.178**	0.918	0.948	1.064	0.790***	1.117	1.137	1.025
(omitted: no security reported)	(0.174)	(0.300)	(0.247)	(0.0858)	(0.0748)	(0.0553)	(0.102)	(0.0700)	(0.176)	(0.109)	(0.0655)
Government confidential	1.112	2.197**	2.174***	1.788***	1.454***	1.197	1.868***	1.201	0.906	1.329	1.416**
	(0.321)	(0.770)	(0.648)	(0.225)	(0.210)	(0.158)	(0.348)	(0.182)	(0.320)	(0.262)	(0.203)
Government secret	1.204	1.058	1.222	1.392***	1.074	1.149**	1.196	0.741***	0.941	0.972	1.257**
	(0.317)	(0.426)	(0.361)	(0.156)	(0.120)	(0.0776)	(0.141)	(0.0749)	(0.245)	(0.153)	(0.126)
Government top secret	1.076	1.212	0.602	0.790	0.724*	0.826**	0.907	0.309***	0.956	0.822	1.243**
	(0.460)	(0.676)	(0.376)	(0.135)	(0.120)	(0.0642)	(0.152)	(0.0517)	(0.286)	(0.178)	(0.125)
Constant	0.0607***	0.0523***	0.0746***	0.103***	0.104***	0.103***	0.0814***	0.120***	0.0724***	0.121***	0.0844***
	(0.0136)	(0.0150)	(0.0189)	(0.00993)	(0.0104)	(0.00882)	(0.0112)	(0.0138)	(0.0159)	(0.0140)	(0.00644)
No. Observations	6,178	3,624	3,708	23,841	20,004	23,412	9,881	12,587	5,623	15,230	43,167
pseudo R2	0.0266	0.0407	0.0385	0.0221	0.0332	0.0534	0.0467	0.0442	0.0424	0.0401	0.0422

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	424	425	441	442	443	444	445	446	447	448	451
SDB not 8(a)	0.777**	0.498*	0.811	0.953	0.802	0.642*	0.842	0.470**	0.995	0.735	0.924
	(0.0762)	(0.209)	(0.178)	(0.221)	(0.116)	(0.146)	(0.443)	(0.168)	(0.635)	(0.239)	(0.272)
8(a)	0.994		0.387	2.096**	2.070***	0.922	1.635			0.727	1.459
	(0.215)		(0.403)	(0.784)	(0.426)	(0.390)	(1.348)			(0.509)	(1.195)
woman-owned	0.803***	0.612	0.938	0.733**	1.128	0.742**	1.386	0.668**	0.837	1.002	0.927
	(0.0564)	(0.187)	(0.128)	(0.116)	(0.117)	(0.104)	(0.415)	(0.134)	(0.419)	(0.236)	(0.175)
minority-owned	0.763***	0.798	0.525***	0.563***	0.743**	0.787	0.300***	0.805	0.616	0.697	0.553**
	(0.0639)	(0.280)	(0.0973)	(0.124)	(0.0923)	(0.159)	(0.132)	(0.200)	(0.369)	(0.196)	(0.146)
hubzone	1.131	3.310**	1.613	1.293	1.266	1.686**		1.598		1.400	1.326
	(0.175)	(1.765)	(0.491)	(0.422)	(0.325)	(0.409)		(0.820)		(0.736)	(0.730)
service-disabled veteran	0.815	0.303	0.433**	0.732	0.757	0.971		1.038		1.221	0.744
	(0.112)	(0.243)	(0.163)	(0.221)	(0.141)	(0.256)		(0.336)		(0.483)	(0.283)
other veteran	0.708***	0.465	0.638**	0.962	0.613***	0.654*	0.723	1.198	0.902	0.827	0.727
	(0.0765)	(0.251)	(0.119)	(0.234)	(0.108)	(0.144)	(0.415)	(0.314)	(0.683)	(0.283)	(0.201)
log age	1.319***	1.605***	1.121**	0.905	1.118**	1.150**	1.231	1.051	1.020	1.218*	1.084
	(0.0429)	(0.246)	(0.0571)	(0.0653)	(0.0597)	(0.0698)	(0.157)	(0.0999)	(0.177)	(0.129)	(0.0952)
log employment	1.255***	1.196*	1.057	1.570***	1.322***	1.289***	0.918	1.127	1.222	1.203*	1.423***
	(0.0316)	(0.113)	(0.0422)	(0.102)	(0.0644)	(0.0633)	(0.122)	(0.101)	(0.172)	(0.125)	(0.101)
log receipts	1.040***	1.008	1.002	0.984	1.086***	0.992	1.125	1.090*	1.008	1.110*	1.010
	(0.0137)	(0.0415)	(0.0166)	(0.0231)	(0.0342)	(0.0201)	(0.106)	(0.0530)	(0.0564)	(0.0665)	(0.0309)
sole proprietor	0.933	1.387	0.770	0.931	1.127	0.952	0.255**	1.094	2.009	0.684	1.208
(omitted: "other" orgs)	(0.130)	(0.675)	(0.169)	(0.293)	(0.240)	(0.240)	(0.165)	(0.334)	(1.620)	(0.286)	(0.356)
partnership	0.766**	1.290	1.058	1.076	1.181	0.881	0.349*	0.498**	0.514	0.669	0.914
	(0.0972)	(0.607)	(0.189)	(0.295)	(0.220)	(0.203)	(0.200)	(0.167)	(0.575)	(0.286)	(0.309)
corporate not tax-exempt	0.910	0.792	0.899	1.085	0.995	0.939	0.567**	0.688**	1.549	1.151	1.177
	(0.0592)	(0.230)	(0.0953)	(0.165)	(0.103)	(0.114)	(0.156)	(0.127)	(0.719)	(0.261)	(0.223)
corporate tax-exempt	1.112	0.630	0.270**	0.156*	0.552	0.705	0.106**	0.760		0.466	0.302**
	(0.210)	(0.733)	(0.163)	(0.160)	(0.281)	(0.345)	(0.111)	(0.389)		(0.360)	(0.162)
Government non-classified	0.834	0.886	0.726	1.536	1.166	1.032	2.291	2.198**		3.993***	1.178
(omitted: no security reported)	(0.134)	(0.537)	(0.246)	(0.468)	(0.191)	(0.334)	(1.535)	(0.815)		(1.370)	(0.429)
Government confidential	0.746	3.059	0.839	1.275	0.961	1.169	4.204*	1.127			0.724
	(0.276)	(2.884)	(0.677)	(0.950)	(0.390)	(0.705)	(3.248)	(1.216)			(0.791)
Government secret	1.489	3.496	1.638	1.247	1.486*	1.597		0.658		2.653	0.318
	(0.391)	(2.831)	(0.759)	(0.733)	(0.339)	(0.782)		(0.683)		(1.742)	(0.332)
Government top secret	1.355	0.938	0.541	2.651	1.842***	3.216**		1.153		1.556	
	(0.432)	(1.013)	(0.558)	(1.694)	(0.339)	(1.660)		(1.174)		(1.587)	
Constant	0.0281***	0.00877***	0.108***	0.0617***	0.0182***	0.0402***	0.0319***	0.0285***	0.0454***	0.0102***	0.0372***
	(0.00518)	(0.00596)	(0.0269)	(0.0219)	(0.00738)	(0.0121)	(0.0367)	(0.0155)	(0.0406)	(0.00744)	(0.0156)
No. Observations	13,306	2,344	4,989	3,250	5,401	5,678	797	2,404	442	1,554	2,343
pseudo R2	0.0765	0.0800	0.0203	0.0606	0.0719	0.0374	0.0966	0.0503	0.0330	0.0898	0.0611

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	452	453	454	481	483	484	485	488	492	493	511
SDB not 8(a)	0.944	0.833	1.046	0.466**	1.042	0.983	0.692	0.501***	0.400***	0.705	0.734***
	(0.610)	(0.129)	(0.228)	(0.147)	(0.411)	(0.153)	(0.160)	(0.109)	(0.138)	(0.241)	(0.0867)
8(a)	19.21***	1.513	0.848	1.188	1.646	4.800***	1.586	2.706***	0.888	1.506	1.615***
	(17.70)	(0.420)	(0.506)	(0.818)	(1.328)	(0.981)	(0.665)	(0.708)	(0.383)	(0.609)	(0.255)
woman-owned	0.412*	1.018	0.641**	0.639**	0.271***	0.857	0.883	0.699***	0.997	0.700*	0.536***
	(0.194)	(0.106)	(0.116)	(0.122)	(0.110)	(0.0957)	(0.157)	(0.0956)	(0.223)	(0.151)	(0.0428)
minority-owned	0.524	1.128	0.893	0.307***	0.399**	0.722**	0.841	0.483***	0.653*	0.614	0.484***
	(0.308)	(0.150)	(0.182)	(0.0862)	(0.154)	(0.105)	(0.156)	(0.0851)	(0.168)	(0.190)	(0.0475)
Hubzone		1.413	2.213**	1.468	1.057	0.611**	0.714	0.882	1.105	1.078	0.928
		(0.329)	(0.743)	(0.660)	(0.599)	(0.135)	(0.400)	(0.236)	(0.641)	(0.436)	(0.229)
service-disabled veteran	1.270	1.039	1.410	0.520*	0.365	1.059	1.858**	0.846	1.216	0.971	0.625***
	(0.666)	(0.207)	(0.438)	(0.199)	(0.244)	(0.226)	(0.516)	(0.175)	(0.391)	(0.280)	(0.0968)
other veteran	1.072	0.685**	0.694	0.896	0.626	0.958	0.928	0.898	0.659	0.798	0.718***
	(0.561)	(0.123)	(0.179)	(0.184)	(0.255)	(0.164)	(0.217)	(0.150)	(0.261)	(0.259)	(0.0846)
log age	1.221	1.062	1.432***	2.044***	1.600***	1.295***	1.593***	1.358***	1.336**	1.000	1.264***
	(0.229)	(0.0534)	(0.119)	(0.193)	(0.211)	(0.0732)	(0.137)	(0.0801)	(0.162)	(0.0986)	(0.0432)
log employment	1.126	1.239***	1.240***	0.880**	0.900	1.198***	1.153***	1.064	1.036	1.074	1.236***
	(0.169)	(0.0632)	(0.0807)	(0.0516)	(0.0838)	(0.0316)	(0.0504)	(0.0407)	(0.0816)	(0.0623)	(0.0289)
log receipts	1.030	1.068**	1.095**	1.037	1.016	1.023	1.032	0.997	1.058	1.066*	1.056***
	(0.0722)	(0.0300)	(0.0504)	(0.0255)	(0.0337)	(0.0166)	(0.0259)	(0.0165)	(0.0418)	(0.0417)	(0.0143)
sole proprietor	0.440	0.612**	1.181	1.180	0.426*	0.541***	0.775	1.130	1.000	1.629	0.726**
(omitted: "other" orgs)	(0.368)	(0.130)	(0.371)	(0.327)	(0.207)	(0.118)	(0.245)	(0.233)	(0.383)	(0.646)	(0.117)
Partnership	1.679	0.800	0.637	1.016	0.530	0.680*	1.044	0.867	0.650	1.120	0.805*
	(1.176)	(0.158)	(0.225)	(0.296)	(0.218)	(0.135)	(0.308)	(0.194)	(0.315)	(0.349)	(0.0960)
corporate not tax-exempt	1.723	0.932	1.273	0.815	0.454***	0.709***	0.945	0.973	0.849	0.867	1.002
	(0.742)	(0.101)	(0.200)	(0.136)	(0.108)	(0.0731)	(0.167)	(0.119)	(0.203)	(0.175)	(0.0670)
corporate tax-exempt	0.564	0.275***	0.321	0.138*	0.195	0.352	0.0876***	0.504	0.707	0.457	0.814
	(0.667)	(0.109)	(0.237)	(0.141)	(0.201)	(0.260)	(0.0469)	(0.239)	(0.555)	(0.337)	(0.108)
Government non-classified (omitted: no security reported)	0.586	1.334	0.656	0.550	1.091	1.403	1.507	0.790	0.480	1.062	0.846
	(0.427)	(0.288)	(0.260)	(0.205)	(0.504)	(0.289)	(0.437)	(0.198)	(0.249)	(0.387)	(0.0913)
Government confidential	22.84**	1.235	0.518			0.967	0.613	1.088	1.440	2.104	1.076
	(30.27)	(0.573)	(0.517)			(0.543)	(0.604)	(0.521)	(1.155)	(1.320)	(0.293)
Government secret	2.042	1.049	0.674	0.663	1.119	1.051	0.499	1.384		1.279	0.792*
	(1.968)	(0.453)	(0.523)	(0.311)	(0.512)	(0.307)	(0.268)	(0.336)		(0.382)	(0.110)
Government top secret	1.078	1.294	1.854	0.205	2.318	0.801	0.715	0.702	1.081	1.138	0.920
	(0.862)	(0.684)	(1.105)	(0.204)	(1.682)	(0.356)	(0.411)	(0.280)	(0.450)	(0.474)	(0.108)
Constant	0.0214***	0.0255***	0.00436***	0.0521***	0.0871***	0.0239***	0.0197***	0.0356***	0.0321***	0.0154***	0.0555***
	(0.0235)	(0.00926)	(0.00277)	(0.0201)	(0.0442)	(0.00648)	(0.00790)	(0.00925)	(0.0175)	(0.00901)	(0.00995)
No. Observations	663	6,187	4,341	1,553	1,009	8,114	2,431	7,139	1,447	4,369	9,939
pseudo R2	0.117	0.0422	0.0990	0.135	0.0880	0.0530	0.0872	0.0445	0.0715	0.0227	0.0896

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	512	515	517	518	519	523	524	531	532	541	561
SDB not 8(a)	0.437**	0.859	0.719**	0.738	0.483**	0.272*	0.794	0.480***	0.549***	0.644***	0.700***
	(0.144)	(0.259)	(0.107)	(0.153)	(0.137)	(0.206)	(0.345)	(0.106)	(0.0811)	(0.0246)	(0.0359)
8(a)	3.167***	1.241	1.506**	1.916***	1.338	0.988	0.775	0.983	1.103	3.521***	3.241***
	(1.174)	(0.871)	(0.285)	(0.415)	(0.419)	(1.153)	(0.856)	(0.461)	(0.254)	(0.160)	(0.194)
woman-owned	0.591***	0.661*	0.711***	0.675**	0.657***	1.412	0.173***	1.340***	0.704***	0.762***	0.961
	(0.0991)	(0.151)	(0.0822)	(0.103)	(0.102)	(0.587)	(0.0927)	(0.126)	(0.0726)	(0.0184)	(0.0337)
minority-owned	0.462***	0.705	0.558***	0.514***	0.461***	0.374**	0.391**	0.473***	0.885	0.645***	0.679***
	(0.114)	(0.160)	(0.0726)	(0.0890)	(0.0994)	(0.187)	(0.150)	(0.0718)	(0.110)	(0.0200)	(0.0290)
hubzone	0.317	1.546	1.273	1.219	0.500		2.678	1.099	1.013	0.889*	1.304***
	(0.310)	(2.141)	(0.300)	(0.381)	(0.307)		(3.190)	(0.483)	(0.207)	(0.0606)	(0.0962)
service-disabled veteran	1.163	0.178**	0.684**	0.588**	0.511**	0.537	0.620	0.467**	0.848	0.737***	1.018
	(0.365)	(0.132)	(0.117)	(0.148)	(0.166)	(0.595)	(0.362)	(0.154)	(0.147)	(0.0322)	(0.0582)
other veteran	0.694	0.425*	0.945	0.965	0.349***	3.290**	0.366	1.503***	0.666**	0.685***	0.848***
	(0.197)	(0.204)	(0.142)	(0.220)	(0.128)	(1.529)	(0.271)	(0.180)	(0.109)	(0.0272)	(0.0495)
log age	1.189*	1.104	1.220***	1.286***	1.247***	1.731**	1.556***	1.493***	1.090*	1.218***	1.315***
	(0.105)	(0.113)	(0.0607)	(0.116)	(0.0967)	(0.372)	(0.226)	(0.0542)	(0.0546)	(0.0156)	(0.0268)
log employment	1.082	1.199***	1.293***	1.293***	1.575***	1.095	1.143*	0.861***	1.239***	1.236***	1.145***
	(0.0566)	(0.0707)	(0.0462)	(0.0595)	(0.0843)	(0.123)	(0.0874)	(0.0309)	(0.0390)	(0.00988)	(0.0131)
log receipts	1.027	0.939***	1.056**	1.065*	1.005	0.938	0.937**	0.971***	1.006	1.021***	0.993
	(0.0255)	(0.0189)	(0.0230)	(0.0385)	(0.0227)	(0.0394)	(0.0300)	(0.00923)	(0.0141)	(0.00391)	(0.00497)
sole proprietor	1.490*	3.933***	0.798	2.152***	2.211***	0.969	0.462	2.091***	0.695*	1.534***	1.608***
(omitted: "other orgs)	(0.322)	(1.136)	(0.202)	(0.614)	(0.518)	(0.652)	(0.303)	(0.210)	(0.132)	(0.0520)	(0.0808)
partnership	1.240	0.658	1.018	1.292	0.450**	0.692	1.242	0.282***	0.552***	0.922*	0.940
	(0.314)	(0.328)	(0.170)	(0.331)	(0.164)	(0.591)	(0.698)	(0.0348)	(0.103)	(0.0385)	(0.0645)
corporate not tax-exempt	0.962	0.815	0.796**	1.304*	1.036	2.063	0.918	1.730***	0.899	0.976	0.950
	(0.170)	(0.231)	(0.0776)	(0.193)	(0.159)	(0.983)	(0.320)	(0.167)	(0.0837)	(0.0248)	(0.0394)
corporate tax-exempt	0.447*	0.559	0.748	0.875	0.973	0.671	1.014	0.0467***	0.312**	0.831***	0.383***
	(0.194)	(0.237)	(0.199)	(0.414)	(0.225)	(0.730)	(0.881)	(0.0169)	(0.165)	(0.0467)	(0.0532)
Government non-classified	0.881	2.019**	0.827	1.073	0.645	1.138	0.401	0.991	1.075	1.137***	0.877**
(omitted: no security reported)	(0.265)	(0.656)	(0.143)	(0.215)	(0.173)	(0.908)	(0.414)	(0.249)	(0.196)	(0.0454)	(0.0583)
Government confidential	0.524	4.120**	1.120	0.646	0.678	1.110	1.897	0.830	0.628	1.294***	1.137
	(0.552)	(2.749)	(0.419)	(0.331)	(0.375)	(1.015)	(2.046)	(0.513)	(0.389)	(0.119)	(0.144)
Government secret	0.517	0.742	0.904	0.553**	0.510**	2.120	3.351*	0.476	1.012	1.962***	0.973
	(0.233)	(0.513)	(0.170)	(0.142)	(0.167)	(2.397)	(2.118)	(0.344)	(0.296)	(0.0802)	(0.0747)
Government top secret	0.875		0.710**	0.649**	0.257***		1.350	0.744	0.786	1.871***	0.586***
	(0.385)		(0.109)	(0.129)	(0.0885)		(1.459)	(0.468)	(0.308)	(0.0740)	(0.0472)
Constant	0.0362***	0.191***	0.0268***	0.00562***	0.0187***	0.0149***	0.0470***	0.0290***	0.0786***	0.0443***	0.0530***
	(0.0130)	(0.0711)	(0.00802)	(0.00270)	(0.00617)	(0.0117)	(0.0301)	(0.00425)	(0.0172)	(0.00240)	(0.00425)
No. Observations	4,140	1,123	6,709	8,641	6,512	1,067	1,442	24,161	7,078	109,839	46,520
pseudo R2	0.0480	0.138	0.0798	0.0689	0.139	0.128	0.130	0.120	0.0384	0.0568	0.0435

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	562	611	621	622	623	624	711	712	713	721	722
SDB not 8(a)	0.653***	0.538***	0.860	0.377***	0.348	0.555***	0.256***	0.135*	0.561	0.542***	0.949
	(0.0698)	(0.0506)	(0.118)	(0.105)	(0.239)	(0.121)	(0.0700)	(0.140)	(0.239)	(0.108)	(0.165)
8(a)	2.049***	1.740***	5.822***	1.719	0.707	1.722	0.987	3.160	2.110	0.562	1.418
	(0.258)	(0.212)	(1.013)	(0.576)	(0.799)	(0.591)	(0.477)	(2.386)	(1.610)	(0.290)	(0.425)
woman-owned	0.872*	0.781***	0.875*	0.412***	0.536**	1.177	0.564***	0.763	0.611**	0.842*	0.952
	(0.0666)	(0.0390)	(0.0625)	(0.0762)	(0.153)	(0.134)	(0.0618)	(0.225)	(0.150)	(0.0877)	(0.111)
minority-owned	0.688***	0.444***	0.561***	0.873	0.653	0.549***	0.877	0.754	0.529**	0.888	0.545***
	(0.0653)	(0.0302)	(0.0512)	(0.176)	(0.182)	(0.0760)	(0.112)	(0.296)	(0.160)	(0.0745)	(0.0731)
hubzone	0.740**	0.960	1.411	0.366*		0.357	0.475	1.450	0.320	1.070	1.017
	(0.0973)	(0.185)	(0.367)	(0.193)		(0.256)	(0.493)	(1.060)	(0.297)	(0.662)	(0.343)
service-disabled veteran	0.743**	0.837**	1.119	0.792	0.351	1.165	0.558*		0.481	0.679	0.187***
	(0.0910)	(0.0736)	(0.153)	(0.202)	(0.365)	(0.280)	(0.173)		(0.225)	(0.202)	(0.0790)
other veteran	0.960	1.049	0.943	0.909	2.044*	0.760	1.039	0.850	0.668	0.974	0.887
	(0.117)	(0.0751)	(0.102)	(0.222)	(0.778)	(0.185)	(0.187)	(0.461)	(0.261)	(0.161)	(0.192)
log age	1.342***	1.364***	1.141***	1.359***	1.152*	1.176***	1.162***	0.875	1.105	0.995	1.331***
	(0.0583)	(0.0363)	(0.0385)	(0.106)	(0.0841)	(0.0687)	(0.0617)	(0.110)	(0.110)	(0.0358)	(0.0789)
log employment	1.145***	0.944***	0.990	0.928*	1.431***	0.983	1.100**	1.077	1.119**	1.176***	0.999
	(0.0305)	(0.0198)	(0.0211)	(0.0408)	(0.0591)	(0.0444)	(0.0407)	(0.120)	(0.0636)	(0.0257)	(0.0358)
log receipts	0.996	0.995	1.018*	1.039**	1.044*	1.027	0.948***	0.970	1.007	0.998	0.998
	(0.0112)	(0.00657)	(0.00954)	(0.0198)	(0.0271)	(0.0173)	(0.0118)	(0.0352)	(0.0252)	(0.00909)	(0.0161)
sole proprietor	1.227*	2.092***	1.058	0.544**	2.738**	1.883***	1.954***	1.771	1.272	2.590***	1.514**
(omitted: "other" orgs)	(0.148)	(0.140)	(0.102)	(0.147)	(1.236)	(0.307)	(0.302)	(0.807)	(0.373)	(0.315)	(0.251)
partnership	0.960	1.074	0.923	0.695	0.928	0.710	0.733	0.442	1.162	0.996	0.803
	(0.120)	(0.106)	(0.113)	(0.202)	(0.180)	(0.184)	(0.199)	(0.480)	(0.375)	(0.0885)	(0.145)
corporate not tax-exempt	0.875*	1.041	0.879	1.128	1.009	0.943	0.764	1.393	0.893	0.920	0.846
	(0.0645)	(0.0662)	(0.0731)	(0.187)	(0.178)	(0.149)	(0.145)	(0.563)	(0.211)	(0.0784)	(0.111)
corporate tax-exempt	0.304***	0.538***	0.329***	0.188***	0.377***	0.268***	0.277***	0.997	0.567*	0.773	0.271***
	(0.116)	(0.0466)	(0.0418)	(0.0458)	(0.0686)	(0.0424)	(0.0731)	(0.412)	(0.178)	(0.151)	(0.0862)
Government non-classified (omitted: no security reported)	0.691**	0.947	0.942	1.269	1.624	0.552	1.030		0.605	0.617*	0.507*
	(0.110)	(0.0850)	(0.156)	(0.406)	(0.657)	(0.200)	(0.265)		(0.378)	(0.161)	(0.180)
Government confidential	1.339	0.718	0.727	0.256		1.798	1.597		7.929***	0.970	0.873
	(0.361)	(0.181)	(0.249)	(0.247)		(0.746)	(0.865)		(4.923)	(0.561)	(0.691)
Government secret	0.482***	0.975	0.874	0.327**		1.265	0.430	2.276	1.039	1.168	1.149
	(0.135)	(0.112)	(0.197)	(0.157)		(0.488)	(0.258)	(2.029)	(0.809)	(0.594)	(0.459)
Government top secret	0.467**	0.884	0.491**	0.169**		0.807	1.119		3.787*	0.798	
	(0.148)	(0.0998)	(0.175)	(0.124)		(0.510)	(0.611)		(2.958)	(0.615)	
Constant	0.0662***	0.0636***	0.0897***	0.234***	0.0147***	0.0276***	0.118***	0.0918***	0.0667***	0.168***	0.141***
	(0.0113)	(0.00658)	(0.0125)	(0.0729)	(0.00619)	(0.00688)	(0.0243)	(0.0556)	(0.0262)	(0.0269)	(0.0373)
No. Observations	10,702	28,911	13,624	1,420	3,849	14,706	5,880	1,467	2,023	6,150	3,198
pseudo R2	0.0395	0.0624	0.0333	0.105	0.115	0.0661	0.0828	0.0376	0.0476	0.0263	0.0534

Robust standard errors in parentheses

Table 5: Industry-Specific Regression Results

	811	812	813
SDB not 8(a)	0.751***	0.475***	0.531**
	(0.0564)	(0.110)	(0.133)
8(a)	1.457***	0.666	1.137
	(0.179)	(0.327)	(0.643)
woman-owned	0.912*	0.577***	0.455***
	(0.0484)	(0.0868)	(0.0692)
minority-owned	0.634***	0.583***	0.767*
	(0.0410)	(0.101)	(0.105)
hubzone	0.829	1.966**	0.883
	(0.116)	(0.657)	(0.700)
service-disabled veteran	0.939	0.966	1.354
	(0.0860)	(0.227)	(0.340)
other veteran	1.039	0.886	0.701
	(0.0658)	(0.194)	(0.164)
log age	1.187***	1.133**	1.532***
	(0.0290)	(0.0700)	(0.0734)
log employment	1.178***	1.215***	1.033
	(0.0202)	(0.0482)	(0.0338)
log receipts	1.002	0.990	0.994
	(0.00716)	(0.0175)	(0.0125)
sole proprietor	0.834**	1.333	4.316***
(omitted: "other orgs)	(0.0654)	(0.266)	(0.673)
partnership	0.860*	1.079	0.833
	(0.0777)	(0.247)	(0.303)
corporate not tax-exempt	0.997	1.066	0.769
	(0.0503)	(0.164)	(0.141)
corporate tax-exempt	0.776	0.0822***	0.549***
	(0.159)	(0.0595)	(0.0711)
Government non-classified	1.156	1.188	1.680**
(omitted: no security reported)	(0.104)	(0.331)	(0.415)
Government confidential	0.957	1.091	0.981
	(0.215)	(0.713)	(0.571)
Government secret	1.065	0.887	0.850
	(0.134)	(0.432)	(0.470)
Government top secret	0.641***	0.923	0.872
	(0.0994)	(0.497)	(0.477)
Constant	0.0838***	0.0758***	0.0297***
	(0.00913)	(0.0213)	(0.00660)
No. Observations	21,820	3,877	9,378
pseudo R2	0.0265	0.0690	0.0760

Robust standard errors in parentheses

Table 6

NAICS Codes Referenced in Table 4

111 – Crop Production
112 – Animal Production
113 – Forestry and Logging
114 – Fishing, Hunting and Trapping
115 – Support Activities for Agriculture and Forestry
211 – Oil and Gas Extraction
212 – Mining (except Oil and Gas)
213 – Support Activities for Mining
236 – Construction of Buildings
237 – Heavy and Civil Engineering Construction
238 – Specialty Trade Contractors
311 – Food Manufacturing
312 – Beverage and Tobacco Product Manufacturing
313 – Textile Mills
314 – Textile Product Mills
315 – Apparel Manufacturing
316 – Leather and Allied Product Manufacturing
321 – Wood Product Manufacturing
322 – Paper Manufacturing
323 – Printing and Related Support Activities
324 – Petroleum and Coal Products Manufacturing
325 – Chemical Manufacturing
326 – Plastics and Rubber Products Manufacturing
327 – Nonmetallic Mineral Product Manufacturing
331 – Primary Metal Manufacturing
332 – Fabricated Metal Product Manufacturing
333 – Machinery Manufacturing
334 – Computer and Electronic Product Manufacturing
335 – Electrical Equipment, Appliance and Component Manufacturing
336 – Transportation Equipment Manufacturing
337 – Furniture and Related Product Manufacturing
339 – Miscellaneous Manufacturing
423 – Merchant Wholesalers, Durable Goods
424 – Merchant Wholesalers, Nondurable Goods
425 – Wholesale Electronic Markets and Agents and Brokers
441 – Motor Vehicle and Parts Dealers
442 – Furniture and Home Furnishings Stores
443 – Electronics and Appliance Stores

Table 6

NAICS Codes Referenced in Table 4

444 – Building Material and Garden Equipment and Supplies Dealers
445 – Food and Beverage Stores
446 – Health and Personal Care Stores
447 – Gasoline Stations
448 – Clothing and Clothing Accessories Stores
451 – Sporting Good, Hobby, Book and Music Stores
452 – General Merchandise Stores
453 – Miscellaneous Store Retailers
454 – Nonstore Retailers
481 – Air Transportation
483 – Water Transportation
484 – Truck Transportation
485 – Transit and Ground Passenger Transportation
488 – Support Activities for Transportation
492 – Couriers and Messengers
493 – Warehousing and Storage
511 – Publishing Industries (except Internet)
512 – Motion Picture and Sound Recording Industries
515 – Broadcasting (except Internet)
517 – Telecommunications
518 –Data Processing, Hosting, and Related Services
519 – Other Information Services
523 – Financial Investments and Related Activities
524 – Insurance Carriers and Related Activities
531 – Real Estate
532 – Rental and Leasing Services
541 – Professional, Scientific and Technical Services
561 – Administrative and Support Services
562 – Waste Management and Remediation Services
611 – Educational Services
621 – Ambulatory Health Care Services
622 – Hospitals
623 – Nursing and Residential Care Facilities
624 – Social Assistance
711 – Performing Arts, Spectator Sports and Related Industries
712 – Museums, Historical Sites and Similar Institutions
713 – Amusement, Gambling and Recreation Industries
721 – Accommodation
722 – Food Services and Drinking Places

Table 6

NAICS Codes Referenced in Table 4

811 – Repair and Maintenance

812 – Personal and Laundry Services

813 – Religious, Grantmaking, Civic, Professional and Similar Organizations

ROBERT N. RUBINOVITZ
11904 Hitching Post Lane ▪ Rockville, MD 20852 ▪ 301-770-0206 (home) ▪ 301-461-7813 (cell)
Robert.rubinovitz@verizon.net

Summary

An economist with over twenty years experience applying empirical and statistical economic techniques to policy issues in many industries, both in the Federal government and in the private sector. Qualifications include excellent written and oral communication skills, great attention to detail and the ability to discern the appropriate empirical tools to apply to policy.

Education

PhD, Economics - Massachusetts Institute of Technology
Dissertation: The Deregulation of the Savings and Loan Industry

BA, summa cum laude, Economics and History - University of Pennsylvania

Professional Experience

US Department of Commerce, Economics and Statistics Administration **2010-Present**
Deputy Chief Economist

Manage a staff of thirteen economists. Analyze major economic data releases, such GDP, personal income and durable goods, for the Secretary of Commerce and other senior officials and post analysis on the Department's website. Serve as internal consultant for other agencies within the Department and the Administration on economic issues. Lead research projects in areas such as innovation and telecommunications. Received a Gold Medal Award for Distinguished Achievement in the Federal Service.

US Department of Justice, Antitrust Division **2010**
Economist

NERA Economic Consulting, Washington, DC **1999-2009**
Vice President (2003-2009); Senior Consultant (1999-2003)

Provided economic consulting services to clients in industries such as telecommunications, financial services, pharmaceuticals, agriculture, and energy. Reviewed and synthesized documents and large data sets into coherent and persuasive analyses. Wrote numerous "white papers" submitted to government agencies, expert reports submitted in Federal court and published numerous articles. Presented research findings to government agencies and various other audiences.

- Testified in an arbitration hearing on the effect of volume discounts on competition and potential damages from any harm to competition.

- Demonstrated expertise in data analysis, including the econometric estimation of damages related to labor discrimination and price-fixing.

- Successfully led many project teams; developed task timelines; provided feedback to staff on their work. Many of these projects generated roughly $1 million in revenue each.

Economists Incorporated **1997-1999**
Senior Economist

- Researched and wrote expert reports for a senior colleague on multi-player games on the Internet and on the wholesale distribution of medical products and analyzed mergers in banking, industrial products and healthcare.

US Department of Justice, Antitrust Division **1988-1997**
Economist

Investigated mergers and other business practices in various industries, including banking, healthcare, ticket distribution, cable television and broadcast radio.

- Published a paper on the effects of cable television deregulation that has been cited more than 80 times, including in the U.S. Senate debate on re-regulation.

- Traveled to Eastern Europe to advise governments on policy issues related to their transition to market economies.

- Wrote comments for the Division on bidding rules for direct broadcast satellite slots (filed with the FCC) and on cable television legislation (filed with Congress).

- Worked on six-month detail at the Federal Communications Commission (1995).

Massachusetts Institute of Technology **1985-1988**
Teaching Assistant and Research Assistant

- Taught part of the graduate level microeconomic theory sequence for two years and conducted research for Professors Jeffrey Harris and Lester Thurow.

Joint Economic Committee **1984**
Summer Intern

- Assisted staff with research projects and preparations for hearings.

Addendum

Honors and Professional Activities

Referee for *Journal of Law and Economics* and *Journal of Law, Economics and Organizations*

Book Review of *Cable TV: Regulation or Competition?* by R.W. Crandall and H. Furchtgott-Roth, published in *Review of Industrial Organization*, 1997

Member, American Bar Association, Antitrust Law Section

Member, Phi Beta Kappa

Member, Omicron Delta Epsilon (Economics Honor Society)

Benjamin Franklin Scholar, University of Pennsylvania

AAG Outstanding Contribution Awards, Antitrust Division, Department of Justice, 1994, 1995 and 1996

Publications

"The Use of Benchmarking in Labor Discrimination Litigation" (with John Johnson IV), Working Paper, 2009.

"Critical Loss Analysis: Let's Finish the Story," Working Paper, 2009.

"The Role of Fixed Cost Savings in Merger Analysis," *Journal of Competition Law and Economics*, November 2008.

"Acquisitions that Create Efficiencies: Merger Analysis and the Treatment of Reductions in Fixed Costs," *Antitrust Insights*, a NERA publication, Spring 2008.

"New Thinking on the Role of Fixed Cost Savings in Merger Analysis," *Antitrust Source*, American Bar Association, Section of Antirust Law, volume 7, no. 4, 2008.

"A Shopping List for Assessing the Competitive Effects of Retail Chain Mergers" (with Elizabeth M. Bailey and Timothy P. Daniel), *Antitrust*, American Bar Association, Section of Antirust Law, volume 20, no.1, 2005.

Contributor to *Telecom Antitrust Handbook*, American Bar Association, Section of Antitrust Law, June 2005.

"The Economics of Refusals to Deal," *Antitrust Insights*, a NERA publication, May/June 2004.

"Market Power and Price Increases for Basic Cable Service since Deregulation," *Rand Journal of Economics*, Volume 24, Number 1, Spring 1993, pp. 1-18.

"Moral Hazard in the Thrift Industry," EAG Discussion Paper, US Department of Justice, 90-1, 1990.

"How Does Financial Performance Influence a Thrift's Decision to Diversify?" EAG Discussion Paper, US Department of Justice, 89-5, 1989.

Testimony and Reports

Expert Report, Deposition and Arbitration Hearing Testimony on behalf of Defendants in *Skywalker Communications, Inc. v Hughes Network Systems*, American Arbitration Association, Washington, DC, July 2005.

Selected Presentations

"The Role of Fixed Cost Savings in Merger Analysis," seminars presented at Cleary Gottlieb, Washington, DC, June 2008 and at Hogan and Hartson, Washington, DC, March 2008.

"The Role of Economists in Antitrust Litigation," seminar presented at Hogan and Hartson, Washington, DC, October 2006.

"The Application of Differentiated Product Econometrics in Merger Analysis," seminar presented at Cleary Gottlieb, Washington, DC, September 2006.

Participant in Panel entitled "Presenting a Merger to the Government: A Demonstration," *ABA Section of Business Law Spring Meeting*, Tampa, Florida, April 2006.

Participant in Panel entitled "A Merger Presentation to the Agencies: A Case Study," *NERA Antitrust and Trade Regulation Seminar*, Santa Fe, New Mexico, July 2005.

"Market Definition and Pharmaceuticals: New Thinking on Critical Loss," *NERA Antitrust and Trade Regulation Seminar*, Santa Fe, New Mexico, July 2003.

"Merger Analysis of Differentiated Products," seminar presented at Wilmer, Cutler and Pickering, Washington DC, June 2001.

Presentation to Polish Competition Authority on Antitrust Issues in Banking, Insurance and Media, 1995.

Presentation to Slovakian Competition Authority on Price Regulation, 1994.

"Market Power and Price Increases for Basic Cable Television Service since Deregulation," *Telecommunications Policy Research Conference*, 1991.

IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA

Rothe Development, Inc.,	)	
	)	
Plaintiff	)	
	)	
vs.	)	Civil Action No. 12-CV-744
	)	
	)	
Department of Defense and	)	
Small Business Administration	)	
	)	
Defendants.	)	
	)	
	)	
	)	

REPORT OF DEFENDANT'S EXPERT

Jon Wainwright, Ph.D.
Senior Vice President
NERA Economic Consulting
3801 South Capital of Texas Highway, Suite 330
Austin, Texas 78704
jon.wainwright@nera.com
512.371.8995

March 8, 2013

CONTENTS

I. Introduction 1

A. Qualifications 1

B. Minorities Have Been Historically and Consistently Disadvantaged in Business Enterprise Activity 2

II. Overview of Disparity Study Methods 3

A. Determination of Relevant Geographic Market Area 4

B. Determination of Relevant Product Market 4

C. Estimation of MBE Availability 5

D. Estimation of Agency MBE Utilization 7

E. Estimation of Agency Disparities Between MBE Utilization and Availability 7

F. Determination of Economy-Wide Disparity Analyses for the Relevant Markets 8

G. Collection of Anecdotal Evidence 9

III. Studies Conducted Since 2000 Show Large Disparities Against Minority-Owned Businesses 9

A. Studies Conducted Since 2000 Have Broad Coverage by Government Type, Industry, and Geography 9

B. There is Strong Evidence of Business Disparities in Recent Disparity Studies 20

C. There is Strong Evidence of Disparities Consistent with Discrimination Throughout the U.S. in the Private Sector 55

1. There is Strong Evidence of Disparities Between Utilization and Availability in the Survey of Business Owners 56

2. The Effects of Discrimination on Entrepreneurial Success 58

3. There is Strong Evidence of Disparities Consistent with Discrimination in Minority Business Formation Rates and Business Owner Earnings 63

4. There is Strong Evidence of Disparities Consistent with Discrimination in Minority Business Formation Rates and Business Owner Earnings in the Information Technology Services and Facilities Management Industries 82

5. There is Strong Evidence of Credit Discrimination Against MBEs from the Survey of Small Business Finances 87

IV. Conclusions 91

V. References 92

VI. Appendix A 95

VII. Appendix B 125

TABLES

Table 1. Selected Disparity and Availability Studies Performed in the United States Since 2000. 11

Table 2. Specific Industry Activities Included in Construction and Construction-Related Professional Services (CPS) 18

Table 3. Specific Industry Activities for Plaintiff 19

Table 4. Regions, Divisions, and States Represented by Disparity Studies in Table 1. 20

Table 5. MBE Utilization, Availability, and Disparity: Selected Studies Performed in the U.S. Since 2000 24

Table 6. Summary Statistics Showing Prevalence of Disparities in the 2007 SBO (Tables A.1 to A.15). 57

Table 7. Summary Statistics Showing Prevalence of Disparities in the 2002 SBO (Tables B.1 to B.15) 58

Table 8. Actual and Potential Minority Business Formation Rates, All Industries, Selected Disparity Studies from Table 1. 65

Table 9. Actual and Potential Minority Business Formation Rates, Construction and CPS Industries, Selected Disparity Studies from Table 1 68

Table 10. Actual and Potential Minority Business Formation Rates, Other Services and Goods Industries, Selected Disparity Studies from Table 1 71

Table 11. Minority Business Owner Earnings Disparities, All Industries, Selected Disparity Studies from Table 1. 74

Table 12. Minority Business Owner Earnings Disparities, Construction and CPS Industries, Selected Disparity Studies from Table 1. 77

Table 13. Minority Business Owner Earnings Disparities, Other Services and Goods Industries, Selected Disparity Studies from Table 1. 80

Table 14. Actual and Potential Minority Business Formation Rates, Information Technology Services and Administrative and Other Support Services. 84

Table 15. Minority Business Owner Earnings Disparities, Information Technology Services and Administrative and Other Support Services. 86

Table 14. Excess Loan Denial Rates–Nine Jurisdictions 90

Table 15. Excess Cost of Credit–Nine Jurisdictions 90

Table A.1. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, All Industries, 2007 95

Table A.2. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, All Industries, 2007 97

Table A.3. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, All Industries, 2007 99

Table A.4. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, All Industries, 2007 101

Table A.5. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, All Industries, 2007 103

Table A.6. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Construction, 2007 105

Table A.7. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Construction, 2007 107

Table A.8. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Construction, 2007 109

Table A.9. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Construction, 2007 111

Table A.10. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Construction, 2007 113

Table A.11. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Professional, Scientific and Technical Services, 2007 115

Table A.12. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Professional, Scientific and Technical Services, 2007 117

Table A.13. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Professional, Scientific and Technical Services, 2007 119

Table A.14. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Professional, Scientific and Technical Services, 2007 121

Table A.15. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Professional, Scientific and Technical Services, 2007 123

Table B.1. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, All Industries, 2002 125

Table B.2. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, All Industries, 2002 127

Table B.3. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, All Industries, 2002 129

Table B.4. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, All Industries, 2002 131

Table B.5. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, All Industries, 2002 133

Table B.6. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Construction, 2002 135

Table B.7. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Construction, 2002 137

Table B.8. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Construction, 2002 139

Table B.9. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Construction, 2002 141

Table B.10. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Construction, 2002 143

Table B.11. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Professional, Scientific and Technical Services, 2002 145

Table B.12. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Professional, Scientific and Technical Services, 2002 147

Table B.13. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Professional, Scientific and Technical Services, 2002 149

Table B.14. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Professional, Scientific and Technical Services, 2002 151

Table B.15. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Professional, Scientific and Technical Services, 2002 153

I. Introduction

I am Jon Wainwright, Senior Vice President with NERA Economic Consulting in Chicago, Illinois and Austin, Texas. NERA is a national and international economic consulting firm dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. I hold a Ph.D. in economics and have worked with NERA since 1995.

I have been asked to review the Minority-Owned Business Enterprise (MBE) disparity and availability studies submitted to Congress as well as other related studies and statistical materials. These disparity and availability studies were conducted by myself and by others, and examine statistical evidence of MBE participation in public sector and private sector contracting and procurement activity, MBE representation in the relevant business population, and explanations for the disparities observed between these factors. They also include qualitative, or anecdotal, accounts from both MBEs and non-MBEs regarding these disparities. Taken as a whole, my conclusion is that these materials contain significant evidence of large and adverse disparities facing minority business enterprises. Moreover, I find that these disparities cannot be explained solely by differences between the minority and non-minority businesses in factors untainted by the effects of discrimination. Therefore, they are consistent with the presence of discrimination and its lingering effects in the small business contracting environment. When I also include the smaller number of studies in the record that have not yet been submitted to Congress, I reach the same general conclusions.

A. Qualifications

I hold a Ph.D. in economics from the University of Texas at Austin. My graduate curriculum included advanced courses in statistics, econometrics and labor economics, among others. Prior to joining NERA, I was a Research Associate Professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin and also headed my own economic consulting firm. I am a member of the American Economic Association and an associate member of the American Bar Association Sections on Public Contract Law and Labor and Employment Law.

At NERA, I conduct economic and statistical studies of discrimination for attorneys, corporations, governments and non-profit organizations. I also conduct research and advise clients on adverse impact and economic damage issues arising from contracting activities, hiring, termination, performance assessment, compensation, and promotion. I have extensive experience producing, processing, and analyzing large and complex statistical databases. I have worked extensively with public sector contracting and purchasing data, as well as with the socioeconomic and demographic data produced by the Census Bureau and other official statistical agencies, including the Public Use Microdata Samples from the decennial census and the American Community Survey, the five-year Economic Censuses, and the Current Population Survey.

I have conducted economic and statistical research and assisted in litigation concerning the use of affirmative action in public contracting activities since the 1989 *Croson* decision.[1] Since

[1] *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989).

2004, I have directed NERA's national affirmative action consulting practice. In that capacity, I have served as the project director and principal investigator for more than 30 studies of business discrimination, and prior to that time as principal or co-principal investigator on approximately a dozen additional business discrimination studies. I have authored two peer-reviewed monographs and several articles and white papers on this and related subjects, including *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*, published in 2010 by the *Transportation Research Board* of the *National Academy of Sciences*. I have been repeatedly qualified as an expert witness in both federal and state courts and have testified in these and related matters on 15 occasions, and have testified before the United States Congress on these matters on five occasions.

My current curriculum vitae, including my publications and a listing of all trial testimony I have given in the last ten years, is attached to this report as Exhibit A. The source material relied on in reaching my findings and conclusions are noted below in the body of my report.

B. Minorities Have Been Historically and Consistently Disadvantaged in Business Enterprise Activity

As other researchers have noted, and as demonstrated in the studies, reports, and other testimony submitted to Congress, minorities have been historically and consistently disadvantaged by the effects of discrimination in business enterprise.[2] Despite progress in some areas, these disadvantages persist.[3]

Blacks, for example, comprise 14.0 percent of the general population, 12.0 percent of the civilian labor force, 11.2 percent of total employment, and 12.5 percent of total money income. However, Blacks own only 7.3 percent of the nation's businesses, and those businesses earn a mere 1.25 percent of all business sales and receipts.[4]

For Hispanics the situation is similar; they represent almost 16.3 percent of the general population, 15.8 percent of the civilian labor force, 15.4 percent of total employment, and 11.3 percent of total money income. However, Hispanics own only 8.6 percent of the nation's businesses, and those businesses earn only 3.2 percent of all business sales and receipts.

For American Indians and Alaska Natives, the trend is similar. This group comprises approximately 2.0 percent of the general population, but only 0.9 percent of the business population and earn only 0.31 percent of business sales and receipts.

---

[2] *See, e.g.*, U.S. Department of Commerce (2006); Lowrey (2007); Marshall (2000); Lowrey (2007).

[3] *See,* generally, United States Small Business Administration (2010).

[4] General population statistics are from the U.S. Census Bureau (2012); civilian labor force and total employment figures are from Bureau of Labor Statistics (2012a, 2012b); total money income statistics are from U.S. Census Bureau (2010a); business enterprise statistics are from the 2007 *Survey of Business Owners*, U.S. Census Bureau (2011a). Publicly-owned companies have been excluded from all of the calculations in this report that use *Survey of Business Owners* statistics.

Asians and Pacific Islanders might appear to be an exception; they represent 6.2 percent of the general population, 5.2 percent of the civilian labor force, 5.4 percent of total employment, 4.0 percent of total money income, and own 6.0 percent the nation's businesses. However, similar to other minority groups, their share of business sales and receipts, at only 4.7 percent, is substantially lower than their proportional representation in the business population.

Even when restricted to just firms with paid employees, the disparities between minorities and non-minorities are very large. In 2007, for every dollar in sales and receipts earned by non-minority male-owned employers, Asian and Pacific Islander and Native American employers earned 44 cents, Hispanic employers earned 42 cents, and Blacks earned 35 cents.[5] These disparities have actually worsened in recent years. According to Lowrey, in the 2002 business census data, "[o]n average, for every dollar that a non-minority male-owned firm made, Pacific Islander-owned firms made about 59 cents, Hispanic-, Native American-, and Asian-owned firms made 56 cents, and Black-owned businesses made 43 cents."[6]

The overwhelming majority of businesses (78 percent) have less than 10 employees, and only a small fraction (0.13 percent) have more than 500. Minority-owned firms are over-represented in the former category and under-represented in the latter. For the largest firms in 2007, 0.14 percent of non-minority-owned firms had 500 or more employees, compared to 0.04 percent of Asian and Pacific Islander-owned firms, 0.07 percent of Hispanic-owned firms, 0.04 percent of Native American-owned firms, and 0.10 percent of Black-owned firms.[7]

Even those minorities who manage against the odds to start their own businesses must compete in a business enterprise system that has long been dominated by non-minority-owned firms.[8] The advantages enjoyed by non-minorities in this context are borne out in the statistics—in a recent pair of studies of employer business closure rates using data from the 2002 business census and the 2002-2006 *County Business Patterns* data, Lowrey documented that existing Black-owned, Hispanic-owned, and Asian and Pacific Islander-owned businesses across a wide variety of industry groups suffered substantially higher closure rates than did their non-minority counterparts.[9]

II. Overview of Disparity Study Methods

Before proceeding to a summary of the evidence in the record of minority business discrimination, it is helpful to provide a brief overview of what disparity studies are and the types of evidence they typically contain. Below, I describe the key elements included in my own disparity studies and explain their importance in the context of strict scrutiny. Many of these

[5] U.S. Census Bureau (2011a). The 2007 data, released in 2011, are the most recent available.

[6] Lowrey (2007), p. 1.

[7] U.S. Census Bureau (2011b, 2011c).

[8] *See, e.g.*, Wainwright (2000), pp. 17-22, and the studies cited therein.

[9] Lowrey (2010), pp. 20-21. The comparison was between non-publicly held establishments that were in business in 2002 but had closed by 2006 versus all non-publicly held establishments in business in 2002.

elements are found in other consultants' studies as well.[10] The key elements of a disparity study include:

- Determining the appropriate geographic and product market area;
- Developing availability and utilization estimates;
- Estimating public entity contracting disparities;
- Estimating economy-wide disparities; and
- Collecting anecdotal evidence in order to check for consistency with statistical findings.

A. Determination of Relevant Geographic Market Area

The relevant geographic market area for each disparity study identifies those vendor locations that account for approximately 75 percent or more of contract and subcontract[11] dollar expenditures in the project database for the study period.[12] Firms in these locations should be included for analysis in the disparity study. Each study contains a section describing how the government entity's contract and subcontract data were used to make this determination and showing the results.

Location is determined by linking the zip code of the contractor or subcontractor to the associated state and county. For multi-establishment firms, location does not have to be defined as the headquarters of the firm. If the firm has established a local presence, it is appropriate to use that address for purposes of market area determination.

B. Determination of Relevant Product Market

Two contracting categories regularly examined in disparity studies are Construction and Construction-related Professional Services (CPS).[13] Other Professional Services, General Services, and Commodities, Supplies, and Equipment are frequently examined as well.

The relevant product market is comprised of those detailed industries that collectively account for at least 75 percent of relevant contract and subcontract dollar expenditures for the time period being examined in the disparity study. Firms in these industries should be included for analysis in the study. The amounts accounted for by each industry are listed by dollars and also as a percentage of overall spending. The percentage distribution by industry is used elsewhere in the

[10] These are discussed in more detail in Wainwright and Holt (2010, 29–53).

[11] By "subcontract" I intend to include subcontractors, subconsultants, suppliers, and truckers, and in general, any firm that is paid by the prime contractor or vendor to provide goods or services.

[12] The project database should include a representative sample of prime contracts and purchases, and associated subcontracting, subconsulting, and supplier activity, during the time period under study.

[13] Sometimes also referred to as "architecture & engineering," "design," "pre-construction," or just "consulting."

study to calculate overall MBE availability as a dollar-weighted average of detailed industry level MBE availability.

Detailed industry affiliation is determined by the consultant assigning a four-, five-, and/or six-digit NAICS code, as appropriate, to each establishment in the project database.[14] For firms whose work qualifies under more than one NAICS code, the assignment is made based on the firm's primary code unless there is enough information available to allocate the firm's work by dollars across multiple industries.[15]

The use of NAICS codes is recommended even if public agencies use systems other than NAICS (such as Construction Specification Institute codes, National Institute of Government Purchasing codes, or other internal work code systems) to classify contract and subcontract work. This is because the data necessary to implement industry-level availability estimates are classified according to NAICS (*i.e.*, Dun & Bradstreet data).

C. Estimation of MBE Availability

MBE availability is a statistic expressing the percentage of businesses in a relevant geographic and product market that are owned by minorities.

To estimate availability, I use a "custom census" designed to provide an accurate calculation of the current availability of MBEs in the relevant market.[16] Other consultants have employed different methods for measuring availability, including the use of vendor lists, bidder lists, and other types of Census data. A variety of approaches to measuring availability are reflected in the disparity studies identified in Table 1.

The custom census approach employs a seven-step analysis that: (1) creates a database of representative public contracts, (2) identifies the appropriate geographic market for the entity's contracting activity, (3) identifies the appropriate product market for the entity's contracting activity, (4) counts all businesses in those relevant markets, (5) identifies listed minority-owned businesses in the relevant markets, (6) verifies the ownership status of listed minority-owned businesses, and (7) verifies the ownership status of all other businesses. This method results in an overall MBE availability number that is a dollar-weighted average of all of the underlying industry availability numbers, with larger weights applied to industries with relatively more spending and lower weights applied to industries with relatively less spending. The availability figure can also be sub-divided by race, ethnicity, and gender group, where required.[17]

---

[14] NAICS stands for North American Industry Classification System and has been the standard system of industrial classification for the United States since it replaced the Standard Industrial Classification (SIC) system in 1997.

[15] If the client's contract data contain enough descriptive information about the nature of the work being performed, then this may be possible. Otherwise, the allocation among codes is arbitrary.

[16] *See, e.g., Northern Contracting, Inc. v. Illinois Department of Transportation*, 473 F.3d 715, 723 (7th Cir. 2007) ("*Northern Contracting III*"); *Sherbrooke*, 345 F.3d at 973; and *Concrete Works of Colorado, Inc. v. City and County of Denver*, 321 F.3d 950, 966 (10th Cir. 2003), *cert. denied*, 540 U.S. 1027 (2003) (*Concrete Works IV*) (custom census was "more sophisticated" than earlier studies using Census data and bidders lists).

[17] *See* Wainwright and Holt (2010, 33-44) for an extended discussion of the custom census approach.

In addition to the custom census, another relatively common approach is to use internal agency lists of contractors and subcontractors, such as certified MBE directories, bidders lists, prequalified contractor lists, licensed contractor lists, planholder lists, or lists of winning bidders or sub-bidders. Internal lists are sometimes supplemented with lists gathered from other sources. I refer to this as the "bidders list approach."

A variation on the bidders list approach is also sometimes used. I refer to this approach as the "bidders list approach with adjustments." This method seeks to test whether firms with lower revenues won fewer contracts and subcontracts while firms with higher revenues won more. This method is implemented by surveying an agency's bidders in order to collect data on revenues and then comparing that data to existing data on contract and subcontract awards and eliminating from the availability count the firms that have not previously won awards at or above certain dollar thresholds.

It is worth noting that the studies employing this type of "capacity" adjustment have not found a statistically significant relationship between revenues and contract awards.[18] In part, the data did not fit because firms of given revenue sizes won a variety of contracts and subcontracts both large and small.[19] Despite finding little or no empirical support for the hypothesized relationship between revenue size and propensity to win contract and subcontract awards, some of the consultants employing this approach eliminate firms from their availability calculations if they had revenue levels lower than those of survey respondents that had actually won agency contracts or subcontracts. In my view, this results in an unjustified downward adjustment in these studies' availability estimates.

Another method of estimating availability I refer to as the "custom census approach with adjustments." As with the "bidders list with adjustments" approach, the "custom census with adjustments" approach is biased downward. It reduces the availability percentage by controlling for factors that are likely to be directly affected by the presence of discrimination in the relevant markets. My view is that whether firms have worked or attempted to work on agency projects, whether firms have been awarded prime contracts or subcontracts, or the size of those contracts should not be used to limit the MBE availability measure. Not only is this a problem in its own right, but also it may hide the existence of discrimination because a downward bias in availability can lead to a conclusion of no significant disparity when, in fact, a disparity exists. Firm revenues, employment size, or other metrics, can be influenced by the presence of

[18] *See, e.g.*, the 2001 study by MGT of America, Inc. for the Colorado Department of Transportation, ROTHE019855, at 2-12 through 2-16, and the 2004 study by MGT for the North Carolina Department of Transportation, ROTHE034043, at 4-96. Moreover, none of these studies describes why a firm's revenue is appropriately construed as a race--neutral explanatory variable. The difficulties involved in using variables such as revenue, which can be impacted by discrimination, to explain success or failure in the award of contracts or subcontracts is discussed in more detail below in Section III.C.2, "Effects of Discrimination on Entrepreneurial Success."

[19] *See Concrete Works IV*, 321 F.3d at 981 ("At trial, Denver introduced evidence that the median number of employees of all construction firms in the Denver MSA is three and presented testimony that even firms with few permanent employees can perform large, public contracts by hiring additional employees or subcontractors and renting equipment. Additionally, the district court found that 'most firms have few full-time permanent employees and must grow or shrink their performance capacity according to the volume of business they are doing'").

discrimination in the relevant markets, and cause availability or disparity statistics to mask the continuing effects of discrimination.

D. Estimation of Agency MBE Utilization

MBE utilization is a statistic showing the fraction of public contracting and procurement dollars in a particular market that are spent with MBEs.

The project database assembled for a disparity study will typically detail several years of recent contract and subcontract activity for both MBEs and non-MBEs. Utilization statistics—that is, the percentage of contract dollars spent with MBEs—can be calculated along a variety of dimensions, including by race and ethnicity, by time period, and by major procurement category.

Many studies conduct separate utilization analyses for prime contracts versus subcontracts, as well as for both types of contracting combined, which often provides the fullest picture of MBE participation relative to an agency's spending. If the project database has been coded by NAICS, utilization statistics can also be produced for detailed industry categories. In a typical study, utilization statistics are then combined with availability measures to determine disparity indexes or ratios.

E. Estimation of Agency Disparities Between MBE Utilization and Availability

A disparity analysis of public spending is simply a comparison of MBE utilization to MBE availability in various categories of contracting relevant to a given agency. The preceding discussions of market definition, availability measurement, and utilization statistics are therefore all relevant to the concept of a disparity analysis. Testing the results for substantive significance and statistical significance, respectively, helps to determine if the observed disparities are large and whether they could have arisen due to random chance alone.

In and of itself, conducting a disparity analysis on contracts that have been subject to race-conscious contracting requirements may not reveal much about the impact of discrimination, since the intent of such remedial efforts is to reduce or eliminate disparities. If the analytical focus is strictly on contracts that were subject to such requirements, then cases where disparities are absent (*i.e.*, where MBE participation is found to meet or exceeded estimates of MBE availability) may mislead policy makers or courts to conclude that discrimination is also absent, when in fact they may simply reflect the impact of the public agency's successful remedial efforts.

Several courts have recognized this paradox. For example, the plaintiffs in *Concrete Works* argued that "overutilization" on projects subject to race-conscious contracting requirements indicated an absence of discrimination. The Tenth Circuit rejected this argument, concluding that the more pertinent inquiry should focus on MBE participation where race-conscious goals were absent.[20] Ideally, therefore, part of the disparity analysis should focus on activities that were

[20] *Concrete Works IV*, 321 F.3d at 984-88; *see also Western States*, 407 F.3d at 992; *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868, *37-38 (Sept. 8, 2005) ("*Northern*

generally *not* subject to race-conscious contracting requirements. This might include the agency's own prime contract activity, its contracts without MBE subcontracting goals, outcomes from public agencies in similar markets without such requirements, or MBE activity in the private sector of the surrounding economy where such requirements are largely absent. When the outcomes from activities that were subject to race-conscious requirements can be contrasted with those from activities that were not, either at the contract-level, agency-level, or economy-wide, it is easier to determine if the results are consistent with the presence of business discrimination.

F. Determination of Economy-Wide Disparity Analyses for the Relevant Markets

Since measuring disparities in the presence of race-conscious requirements can obscure the presence of discrimination, some disparity studies include a variety of statistical analyses that assess how minorities fare in other aspects of business enterprise activity in order to determine if an agency is passively participating in an industry sector impacted by discrimination. By "passive participation" I mean that, if the larger market within which a public agency does business is infected with discrimination, by continuing to hire and pay firms from that larger market without taking any remedial action, the agency may thereby reinforce the effects of any existing discrimination.

Evidence of economy-wide discrimination in disparity studies can take several forms. For example:

- Regression analyses comparing business formation rates between minorities and similarly situated non-minority males in the relevant markets, using the Census Bureau's *Public Use Microdata Sample* from the decennial census (PUMS) and its *Public Use Microdata Sample* from the *American Community Survey* (ACS PUMS).

- Regression analyses comparing the earnings of minority business owners to those of similarly situated non-minority male business owners in the relevant markets, using the PUMS or ACS PUMS.

- Regression analyses comparing denial rates on commercial loans between minority and similarly-situated non-minority male business owners, using data from the *Survey of Small Business Finances* produced by the Federal Reserve Board and the Small Business Administration.

- Disparity indexes comparing market share of revenues to market share of business population between minority and non-minority businesses, using data from the Census Bureau's *Survey of Business Owners* (SBO).

Contracting II"); and *Hershell Gill Consulting Engineers, Inc. v. Miami-Dade County, Florida*, 333 F.Supp.2d 1305, 1318 (S.D. Fla. 2004) ("[The court] will keep the potential effect of the MWBE programs in mind when analyzing the evidence presented by the County").

G. Collection of Anecdotal Evidence

Anecdotal evidence consists of personal accounts from business owners, MBE and non-MBE alike, concerning the barriers, challenges, and successes they experience in the market place.

Anecdotal evidence is an important part of a disparity study to augment statistical analyses. Anecdotal evidence can be collected in a variety of formats including mail surveys, individual interviews, group interviews or focus groups, and public hearings. All of these approaches can and have produced qualitative evidence of barriers to full and fair participation by MBEs in the public contracting process. Some disparity studies often employ multiple approaches to gathering this type of evidence, *e.g.,* mail surveys and focus groups or personal interviews.

Studies typically gather evidence from MBEs as well as non-MBEs and try to explore the extent to which barriers reported by anecdotal sources are the result of discrimination rather than the usual challenges facing all businesses related to developing markets, finding suppliers, managing cash flow, *etc.* Special emphasis is often placed on the experiences of MBEs that desire to obtain prime contracts and subcontracts as a measure of continuing barriers to full participation in the market. Studies typically strive to have a wide enough variety of interviewees, survey participants, *etc.*, to ensure participation from MBEs and non-MBE and from major procurement categories.

III. Studies Conducted Since 2000 Show Large Disparities Against Minority-Owned Businesses

A. Studies Conducted Since 2000 Have Broad Coverage by Government Type, Industry, and Geography

Since the U.S. Supreme Court decision in *City of Richmond v. J.A. Croson Co.,*[21] the disparities facing minority business owners in the United States have been documented in more than 300 studies and related research reports.[22] Since 2000 alone, more than 100 such studies have been conducted, most of which have already been submitted to Congress.[23]

Additionally, there is a large amount of evidentiary material concerning minority business enterprise discrimination developed prior to 2000 that exists in the Congressional record. The Tenth Circuit Court of Appeals in its 2000 decision in *Adarand Constructors v. Slater* provided a useful summary of this evidence.[24]

---

[21] 488 U.S. 469 (1989).

[22] Wainwright and Holt (2010, 12, n. 41).

[23] *See* United States Small Business Administration (2010). *See also Kevcon, Inc. v. The United States*, Defendant's Expert Report, Bates ROTHE041702-041794.

[24] *Adarand Constructors, Inc. v. Slater*, 228 F.3d 1147, 1167-1175 (10th Cir. 2000) ("*Adarand VII*") (discussing evidence before Congress of discrimination against minorities in the construction industry in enacting the Disadvantaged Business Enterprise Program for federal-aid transportation contracts, Publ. No. 100-17, 101 Stat. 132 (1987), Publ. No. 102-240, 105 Stat. 1914 (1991) and Publ. No. 105-178, 112 Stat. 107 (1998), and the

Table 1, below, documents 107 recent studies of minority business enterprise, examining procurement for 142 different public entities and/or funding sources. These studies span 35 different states that collectively include over 89 percent of the general population of the U.S.[25] All but 32 of these studies have been submitted to Congress. Those that have not are marked with an asterisk (*). Of the 107 studies in Table 1, 21 were conducted under my direction and supervision. Over the course of these studies, I have personally examined and analyzed tens of billions of dollars worth of public sector spending across tens of thousands of contracts and subcontracts. The balance of the studies in Table 1 represents an even larger number of contracts and public procurement dollars.

implementing regulations at 49 C.F.R. 26 (1999)); *see also* "The Appendix – The Compelling Interest for Affirmative Action in Federal Procurement," 61. Fed. Reg. 26050-26052 and nn. 12-21 (1996); *see also* Enchautegui, et al. (1997).

[25] U.S. Census Bureau (2011d).

Table 1. Selected Disparity and Availability Studies Performed in the United States Since 2000.

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
AL	City of Birmingham	Pendleton, Friedberg, Wilson & Hennessey, P.C.	Disparity	2007	018000	018444
AK	Department of Transportation and Public Facilities	D. Wilson Consulting Group, LLC	Disparity	2007	013677	013910
AZ	Arizona Department of Transportation	MGT of America, Inc.	Disparity	2009	027877	028316
AZ	City of Phoenix	MGT of America, Inc.	Disparity	2005	018445	018755
AZ	City of Tucson	D. Wilson Consulting Group, LLC	Disparity	2008	028317	028628
AZ	Pima County	D. Wilson Consulting Group, LLC	Disparity	2008	028629	028801
CA	Alameda County	Mason Tillman Associates, Ltd.	Disparity	2004	018779	019147
CA	Bay Area Rapid Transit (BART)	Mason Tillman Associates, Ltd.	Disparity	2009	028802	029117
CA	California Department of Transportation	BBC Research & Consulting	Disparity	2007	019148	019686
CA*	City of Oakland and Oakland Redevelopment Agency	Mason Tillman Associates, Ltd.	Disparity	2007	073295	073536
CA	Los Angeles County Metropolitan Transportation Authority	BBC Research & Consulting	Disparity	2010	058434	059204
CA	Metrolink - Southern California Regional Rail Authority	BBC Research & Consulting	Disparity	2009	052079	052834
CA	Orange County Transportation Authority	BBC Research & Consulting	Disparity	2010	053592	054352
CA	San Diego Association of Governments	BBC Research & Consulting	Disparity	2010	054353	055102
CA	San Diego Metropolitan Transit System	BBC Research & Consulting	Disparity	2010	052835	053591
CA	San Mateo County Transit District	CRA International	Disparity	2008	019698	019884
CO	City and County of Denver, Denver International Airport	NERA	Disparity	2006	011083	011351
CO	Colorado Department of Transportation	MGT of America, Inc.	Disparity	2001	019885	019942
CO	Colorado Department of Transportation	D. Wilson Consulting Group, LLC	Disparity	2009	029325	029557
CT*	Metropolitan District Commission	M3C	Disparity	2009	056184	056551

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
FL	Broward County	MGT of America, Inc.	Disparity	2001	011675	012038
FL	Broward County	NERA	Disparity	2010	066606	067020
FL*	City of Tallahassee	MGT of America, Inc.	Disparity	2004	064182	064468
FL	City of Tampa and Hillsborough County Aviation Authority	Mason Tillman Associates, Ltd.	Disparity	2006	020307	020590
FL*	Leon County	MGT of America, Inc.	Disparity	2009	071721	071935
FL*	School District of Hillsborough County	Mason Tillman Associates, Ltd.	Disparity	2007	061067	061236
GA	City of Albany; Dougherty County; Dougherty County School System; Albany Water, Gas & Light Commission	BBC Research & Consulting	Disparity	2008	020591	020929
GA	City of Atlanta	Griffin & Strong	Disparity	2006	072660	072816
GA	Consolidated Government of Augusta-Richmond County	NERA	Disparity	2009	029715	030037
GA	Georgia Department of Transportation	Boston Research Group, Inc.	Disparity	2005	072369	072659
GA*	Georgia Department of Transportation	BBC Research & Consulting	Disparity	2012	056552	057068
HI	Hawai'i Department of Transportation	NERA	Disparity	2010	066171	066605
ID	Idaho Transportation Department	BBC Research & Consulting	Disparity	2007	013927	014442
IL*	Illinois Department of Transportation	Mason Tillman Associates, Ltd.	Disparity	2011	051365	051733
IL	Illinois State Toll Highway Authority	NERA	Disparity	2006	061237	061365
IN	Indiana Department of Administration, Indiana DOT, Ball State Univ., Indiana State Univ., Indiana Univ., Ivy Tech Comm. College, Purdue Univ., Univ. of Southern Indiana, Vincennes Univ.	BBC Research & Consulting	Disparity	2010	069405	070504
IA	City of Davenport	Mason Tillman Associates, Ltd.	Disparity	2009	021048	021290
KS; MO*	City of Kansas City; Kansas City School District, MO; Wyandotte County, KS; Kansas City Area Transit Authority	Mason Tillman Associates, Ltd.	Disparity	2006	063175	063470
KY	State of Kentucky	Griffin & Strong	Disparity	2000	030803	030998
MD*	City of Baltimore	MGT of America, Inc.	Disparity	2000	062068	062372
MD	City of Baltimore	NERA	Disparity	2007	031316	031663
MD	State of Maryland	NERA	Disparity	2006	062373	062695

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
MD	State of Maryland	NERA	Disparity	2011	068503	069107
MD	Washington Suburban Sanitary Commission	BBC Research & Consulting	Disparity	2005	038852	039049
MD	Washington Suburban Sanitary Commission	Mason Tillman Associates, Ltd.	Disparity	2011	058034	058433
MA*	City of Boston	Mason Tillman Associates, Ltd.	Disparity	2003	061366	061501
MA*	Division of Capital Asset Management	NERA	Disparity	2006	061502	061782
MA	Massachusetts Housing Finance Agency	NERA	Disparity	2006	061783	062067
MN	City of Minneapolis	NERA	Disparity	2010	069108	069404
MN	City of St. Paul and the St. Paul Housing Authority	MGT of America, Inc.	Disparity	2008	021968	022705
MN*	Metropolitan Airports Commission	MGT of America, Inc.	Disparity	2009	050765	051017
MN*	Metropolitan Council	MGT of America, Inc.	Disparity	2009	050232	050480
MN*	Metropolitan Mosquito Control District	MGT of America, Inc.	Disparity	2009	073900	074139
MN*	Metropolitan Sports Facilities Commission	MGT of America, Inc.	Disparity	2009	074140	074378
MN*	Minnesota Department of Administration	MGT of America, Inc.	Disparity	2009	050481	050764
MN	Minnesota Department of Transportation	NERA	Availability	2005	014443	014554
MN*	Minnesota Department of Transportation	MGT of America, Inc.	Disparity	2009	050000	050231
MO	Bi-State Development Agency (St. Louis Metro)	NERA	Disparity	2005	031949	032139
MO*	City of St. Louis, The St. Louis Housing Authority, The Metropolitan St. Louis Sewer District	MGT of America, Inc.	Disparity	2001	062696	063174
MO*	Missouri Department of Transportation	NERA	Disparity	2012	071946	072345
MT	Montana Department of Transportation	D. Wilson Consulting Group, LLC	Disparity	2009	032140	032427
NV	Nevada Department of Transportation	BBC Research & Consulting	Disparity	2007	014635	015042

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
NJ	State of New Jersey	Mason Tillman Associates, Ltd.	Disparity	2005	032428	032815
NJ	State of New Jersey	Mason Tillman Associates, Ltd.	Disparity	2006	032816	033005
NY	City of New York	Mason Tillman Associates, Ltd.	Disparity	2005	015043	015336
NY	State of New York	NERA	Disparity	2010	068035	068502
NC*	City of Charlotte	MGT of America, Inc.	Disparity	2003	tbd	tbd[26]
NC	City of Charlotte	MGT of America, Inc.	Disparity	2011	071250	071720
NC*	City of Durham and Durham County	Mason Tillman Associates, Ltd.	Disparity	2000	063471	063626
NC	Durham County	Griffin & Strong	Disparity	2007	063627	063797
NC	North Carolina Department of Transportation	MGT of America, Inc.	Disparity	2004	034043	034464
NC	North Carolina Department of Transportation	EuQuant	Disparity	2009	023010	023033
OH*	City of Cincinnati	Griffin & Strong	Disparity	2002	063798	063906
OH*	City of Cleveland and Greater Cleveland RTA	Mason Tillman Associates, Ltd.	Disparity	2003	074379	074897
OH	City of Dayton	MGT of America, Inc.	Disparity	2008	015337	015743
OH	Northeast Ohio Regional Sewer District	NERA	Disparity	2010	067021	067391
OK	City of Tulsa	MGT of America, Inc.	Disparity	2010	067652	068034
OK	Oklahoma Department of Transportation	BBC Research & Consulting	Disparity	2010	055103	055888
OR*	City of Portland	BBC Research & Consulting	Disparity	2011	057261	058033
OR	Oregon Department of Transportation	MGT of America, Inc.	Disparity	2007	015744	016158
OR*	Oregon Department of Transportation	MGT of America, Inc.	Disparity	2011	073537	073899
OR*	Port of Portland	MGT of America, Inc.	Disparity	2009	067392	067651
OR*	Portland Development Commission	BBC Research & Consulting	Disparity	2011	070505	071249
PA	State of Pennsylvania	Mason Tillman Associates, Ltd.	Disparity	2007	034582	035045
SC	City of Columbia	MGT of America, Inc.	Disparity	2006	035151	035988
TN	City of Memphis	Griffin & Strong	Disparity	2010	063907	064181

[26] The Bates numbers for these documents will be provided to Plaintiff as soon as they are available.

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
TN	Consolidated Government of Nashville and Davidson County	Griffin & Strong	Disparity	2004	035989	036205
TN	Memphis International Airport	NERA	Disparity	2008	036251	036583
TN	Nashville International Airport	Griffin & Strong	Disparity	2007	010860	011082
TN	Tennessee Department of Transportation	Mason Tillman Associates, Ltd.	Disparity	2007	036600	036779
TX	City of Austin	NERA	Disparity	2008	017080	017374
TX	City of Dallas	Mason Tillman Associates, Ltd.	Disparity	2002	037008	037259
TX*	City of Fort Worth; City of Arlington; DFW Airport; Fort Worth Independent School District; Fort Worth Transportation Authority; North Texas Tollway Authority	Mason Tillman Associates, Ltd.	Disparity	2010	064469	065241
TX	City of Houston	Mason Tillman Associates, Ltd.	Disparity	2006	036780	036963
TX*	City of Houston	NERA	Disparity	2012	055889	056183
TX	City of San Antonio, Alamo Regional Mobility Authority, Brooks Development Authority, CPS Energy, Edwards Aquifer Authority, Port Authority of San Antonio, San Antonio Housing Authority, San Antonio Water System, University Health System	MGT of America, Inc.	Disparity	2009	023544	024210
TX*	Dallas Area Rapid Transit Authority (DART)	Mason Tillman Associates, Ltd.	Disparity	2003	065438	065666
TX*	San Antonio Water System	MGT of America, Inc.	Disparity	2009	023544	024210
TX	State of Texas	MGT of America, Inc.	Disparity	2010	037260	037988
TX*	State of Texas	Mason Tillman Associates, Ltd.	Disparity	2007	065667	066082
UT	Salt Lake City International Airport	NERA	Disparity	2009	037989	038365
VA	Commonwealth of Virginia	MGT of America, Inc.	Disparity	2004	038366	038851
VA	Commonwealth of Virginia	MGT of America, Inc.	Disparity	2010	060413	060666
VA*	Virginia DOT	MGT of America, Inc.	Disparity	2004	066083	066170
WA	Washington Department of Transportation	NERA	Availability	2005	016159	016269
WI	City of Milwaukee	Mason Tillman Associates,	Disparity	2007	039050	039255

State	Subdivision	Authors	Type of Study	Year Completed	Bates Start	Bates End
		Ltd.				
WI	City of Milwaukee	D. Wilson Consulting Group, LLC	Disparity	2010	057069	057260

NOTE: Except for those 32 marked with an asterisk (*), all of the studies in Table 1 have been submitted to Congress.

All of the disparity studies in Table 1 examine minority-owned business enterprises. Typically, MBEs include businesses owned by Blacks, Hispanics, Asians and Pacific Islanders, and Native Americans. "African American" or "Black" refers to persons having origins in any of the Black racial groups of Africa; "Hispanic" or "Latino" refers to persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race; "Asian" or "Asian and Pacific Islander" refers to persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, Hong Kong, India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka; "Native American" or "American Indian or Alaska Native" refers to persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians.[27] "White" or "non-minority" means person who are not Hispanic or Latino having origins in Europe, North Africa, or the Middle East.[28]

A wide variety of government types are represented as well in these disparity studies. Some encompass the entire state (*i.e.*, Indiana, Kentucky, Maryland, Minnesota, New Jersey, New York, Pennsylvania, Texas, and Virginia), others are for single state agencies (*i.e.*, Department of Transportation studies in Alaska, Arizona, California, Colorado, Georgia, Hawaii, Idaho, Illinois, Maryland, Minnesota, Missouri, Montana, Nevada, North Carolina, Oklahoma, Oregon, Tennessee, Texas, Virginia, and Washington, and the Division of Capital Asset Management and the Housing Finance Agency in Massachusetts), others are for cities (*i.e.*, Atlanta, Albany, Arlington, Augusta, Austin, Baltimore, Birmingham, Boston, Charlotte, Cincinnati, Cleveland, Columbia, Dallas, Davenport, Dayton, Denver, Durham, Fort Worth, Houston, Kansas City, Memphis, Milwaukee, Minneapolis, Nashville, New York, Oakland, Phoenix, Portland, San Antonio, St. Louis, St. Paul, Tallahassee, Tampa, Tucson, and Tulsa), others cover counties (*i.e.*, Alameda, CA; Broward, FL; Cuyahoga, OH; Davidson, TN; Dougherty, GA; Durham, NC; Leon, FL; Pima, AZ; Richmond, GA; Wyandotte, KS), and still more a variety of special districts including transit agencies, airports, school districts, public utilities, and housing authorities.

All of the 107 studies identified in Table 1 include contracts and procurements for public works in construction, an important focus of the SBA 8(a) Program.[29] Contracts in the construction-related professional services sector (CPS), which includes the plaintiff's line of work in equipment testing and calibration,[30] are included in 86 of the studies. Table 2 shows the types of construction and CPS industries that have been covered by these disparity studies.

---

[27] *See* 49 C.F.R. §26.5. Native Hawaiians are classified as Native American by the U.S. Department of Transportation for purposes of the Disadvantaged Business Enterprise (DBE) Program. However, they are included in the Asian and Pacific Islander category by most other agencies, including the Census Bureau (*see* fn. 28).

[28] Federal Register, Vol. 62, No. 210, pp. 57872-58790 (October 30, 1997), at 58789.

[29] Construction prime contractors and subcontractors also purchase a variety of supplies and materials (*e.g.*, steel, concrete, asphalt), as well as trucking services.

[30] See http://www.rothe.com/er_service.htm.

Table 2. Specific Industry Activities Included in Construction and Construction-Related Professional Services (CPS)

NAICS	Industry Description
23	**Construction**
2361	**Residential Building Construction**
236115	New Single-Family Housing Construction
236116	New Multifamily Housing Construction
236118	Residential Remodelers
2362	**Nonresidential Building Construction**
23621	Industrial Building Construction
23622	Commercial and Institutional Building Construction
237	**Heavy and Civil Engineering Construction**
2371	Utility System Construction
23711	Water and Sewer Line and Related Structures Construction
23713	Power and Communication Line and Related Structures Construction
2373	Highway, Street, and Bridge Construction
2379	Other Heavy and Civil Engineering Construction
238	**Specialty Trade Contractors**
2381	**Foundation, Structure, and Building Exterior Contractors**
23811	Poured Concrete Foundation and Structure Contractors
23812	Structural Steel and Precast Concrete Contractors
23813	Framing Contractors
23814	Masonry Contractors
23815	Glass and Glazing Contractors
23816	Roofing Contractors
23817	Siding Contractors
23819	Other Foundation, Structure, and Building Exterior Contractors
2382	**Building Equipment Contractors**
23821	Electrical Contractors and Other Wiring Installation Contractors
23822	Plumbing, Heating, and Air-Conditioning Contractors
23829	Other Building Equipment Contractors
2383	**Building Finishing Contractors**
23831	Drywall and Insulation Contractors
23832	Painting and Wall Covering Contractors
23833	Flooring Contractors
23834	Tile and Terrazzo Contractors
23835	Finish Carpentry Contractors
23839	Other Building Finishing Contractors
2389	**Other Specialty Trade Contractors**
23891	Site Preparation Contractors
23899	All Other Specialty Trade Contractors
5413	**Architectural, Engineering, and Other Construction Related Services**
54131	Architectural Services
54132	Landscape Architectural Services
54133	Engineering Services
54134	Drafting Services
54135	Building Inspection Services
54136	Geophysical Surveying and Mapping Services
54137	Surveying and Mapping (except Geophysical) Services
54138	Testing Laboratories (including Equipment Calibration and Testing)

Additionally, many of the disparity studies in Table 1 encompass public contracting and purchasing activities in sectors other than construction and CPS, reflecting the fact that government agencies, and their prime contractors and vendors, purchase goods and services from practically every major industry sector, including agriculture, mining, utilities, transportation, wholesale trade, retail trade, finance and insurance, real estate, professional and technical services, administrative and support services, waste management services, educational services, health care and social assistance services, food services, and others. NERA's 2011 disparity study for the State of Maryland, for example, included 530 distinct industries.[31]

Of the 107 studies identified in Table 1, 63 include contracts and procurements for Other Professional Services (OPS), which includes the plaintiff's lines of work in Information Technology and facilities support services. Table 3 shows the industries involved in the plaintiff's other lines of work.

Table 3. Specific Industry Activities for Plaintiff[32]

NAICS	Industry Description
5413	**Architectural, Engineering, and Other Construction Related Services**
54138	Testing Laboratories (including Equipment Calibration and Testing)
5415	**Computer Systems Design and Related Services**
541511	Custom Computer Programming Services
541512	Computer Systems Design Services
541513	Computer Facilities Management Services
541519	Other Computer Related Services
5612	**Facilities Support Services**
561210	Facilities Support Services

In addition to covering construction, CPS, OPS, and other industries, the 107 studies in Table 1 span the country geographically. The Census Bureau divides the country into four regions and nine divisions. The four regions are: Northeast, Midwest, South, and West, and the nine divisions are New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific. As shown in Table 4, these studies and the evidence within them represent all four Census Regions and all nine Census Divisions.

[31] *See* ROTHE068503 at p. 59. However, public sector spending is not typically distributed evenly among industries. In the State of Maryland's case, 134 industries (25 percent) accounted for 95 percent of all spending over the study period.

[32] See Affidavit of Dale Patenaude, p. 3.

Table 4. Regions, Divisions, and States Represented by Disparity Studies in Table 1.

Geographic Location	Studies	Geographic Location	Studies
I. Northeast Region		**III. South Region, cont'd**	
A. New England Division		*A. South Atlantic Division, cont'd*	
1. Connecticut	X*	6. North Carolina	X
2. Maine		7. South Carolina	X
3. Massachusetts	X	8. Virginia	X
4. New Hampshire		9. West Virginia	
5. Rhode Island		*B. East South Central Division*	
6. Vermont		1. Alabama	X
B. Middle Atlantic Division		2. Kentucky	X
1. New Jersey	X	3. Mississippi	
2. New York	X	4. Tennessee	X
3. Pennsylvania	X	*C. West South Central Division*	
II. Midwest Region		1. Arkansas	
A. East North Central Division		2. Louisiana	
1. Illinois	X	3. Texas	X
2. Indiana	X	4. Oklahoma	X
3. Michigan		**IV. West Region**	
4. Ohio	X	*A. Mountain Division*	
5. Wisconsin	X	1. Arizona	X
B. West North Central Division		2. Colorado	X
1. Iowa	X	3. Idaho	X
2. Kansas	X	4. Montana	X
3. Minnesota	X	5. Nevada	X
4. Missouri	X	6. New Mexico	
5. Nebraska		7. Utah	X
6. North Dakota		8. Wyoming	
7. South Dakota		*B. Pacific Division*	
III. South Region		1. Alaska	X
A. South Atlantic Division		2. California	X
1. Delaware		3. Hawaii	X
2. District of Columbia		4. Oregon	X
3. Florida	X	5. Washington	X
4. Georgia	X		
5. Maryland	X		

Note: An asterisk (*) indicates that the study from this state is included in my report but not yet submitted to Congress.

B. There is Strong Evidence of Business Disparities in Recent Disparity Studies

In preparing this report, I reviewed all of the studies identified in Table 1. Typically, these studies include an Executive Summary, a review of existing case law pertaining to MBEs, a review of the government agency's purchasing and contracting policies as they pertain to MBEs, a chapter that estimates the availability of MBEs, a chapter that estimates the utilization of MBEs, a chapter that compares availability and utilization to assess disparities in public contracts, and a chapter detailing anecdotal evidence. Many of these disparity studies also include one or more chapters detailing evidence of disparities and discrimination in the wider

market area, referred to as "economy-wide" or "private-sector" analyses, from the market area within which the government agency under study operates.

The studies listed in Table 1 were prepared by different consultants, for different government entities, in different areas of the country, with differing levels of resources. They examine different periods of time and use a variety of methods for assessing utilization, availability, and disparity, and for gathering anecdotal information.[33] Nevertheless, broad similarities in the findings of these studies emerge despite their differences. Foremost among these is the widespread finding of substantial underutilization of MBEs throughout the United States, in the construction sector, the CPS sector, the OPS sector, and in other industries.

To begin to see this, Table 5 presents some of the specific statistical findings from the studies listed in Table 1. As discussed in the previous section, one function of a disparity study is to gather information on a government agency's prime contracting and subcontracting activity during the time period under study. Since the focus of the SBA 8(a) program is on prime contracting, I have focused my review of the studies in Table 1 on this area of government spending.[34] When I refer to MBE utilization or spending below, I am referring to spending with MBEs as prime contractors or vendors. I do not include spending with MBEs as subcontractors, sub-consultants, or suppliers.[35]

I reviewed each study's findings concerning:

- the percentage utilization of MBEs in construction spending,
- the percentage availability of MBEs for construction spending,
- the percentage utilization of MBEs in CPS spending,
- the percentage availability of MBEs for CPS spending,
- the percentage utilization of MBEs in OPS spending, and

[33] A detailed discussion of the differences in methods employed by different consultants is provided in Wainwright and Holt (2010), pp. 29-53.

[34] Depending on how any given study's statistics were presented, I had to carry out certain additional calculations in order to present the information in Table 5 consistently. For example, a study might show the total number of prime contract dollars accruing to MBEs in a given procurement category in one table, and the total number of overall dollars in that category in another table. Calculating MBE prime contract utilization, therefore required dividing the figure in the first table by the figure in the second table. These figures, in turn, might then be combined with relevant availability figures from one or more other tables to form the resulting disparity index. The final column in Table 5 identifies the specific pages referred to within each study.

[35] Participants in the Section 8(a) program can receive sole-source contracts, up to an annual ceiling of $4 million for goods and services and $6.5 million for manufacturing. The disparity studies examined for this report included a wide range of contract sizes. For the 21 NERA studies in Table 1, for example, the median size in construction was $2.2m. For CPS, the median was $1.1m, and for contracts in the same lines of work as the plaintiff (information technology services and facilities management services), the median was $300,000.

- the percentage availability of MBEs for OPS spending.[36]

Altogether, 107 disparity studies from Table 1 appear in Table 5, 75 of which have been submitted to Congress.[37] Several appear more than once since they provided statistical evidence in more than one usable category. For example, the 2010 study by BBC Research & Consulting for the State of Indiana appears twice since it included usable statistics for more than one group of government agencies in Indiana that participated in that study; and the 2005 NERA study for the Minnesota DOT appears twice because it distinguished federally-funded contracts from state-funded contracts.[38]

Columns (1) and (2) in Table 5 identify the state and political subdivision(s) for which each disparity study was performed. Column (12) indicates the time period examined in the study. Column (13) indicates the starting Bates number (preceded by "ROTHE") and column (14) indicates the document-specific page range where I found the statistical data cited in columns (3) through (11).

The utilization statistics for construction, CPS, and OPS appear in columns (3), (6), and (9), respectively. For the 2010 Commonwealth of Virginia study, for example, these utilization statistics indicate that MBE's earned 1.46 percent of Virginia's construction contracts dollars, 0.46 percent of its CPS contract dollars, and 2.22 percent of its OPS dollars during the 2006-2009 study period.

The availability statistics for construction, CPS, and OPS appear in columns (4), (7), and (10), respectively. Continuing with Virginia as an example, these availability statistics indicate that MBE's made up 7.48 percent of Virginia's construction market, 9.95 percent of its CPS market, and 13.13 percent of its OPS market during the study period.

Finally, columns (5) for construction, column (8) for CPS, and column (11) for OPS show the resulting disparity index, which is formed by dividing the respective MBE utilization percentage by its associated MBE availability percentage, and multiplying the result by 100. A disparity index of 100 or more indicates that MBEs are being utilized at or above their estimated availability level. A disparity index of less than 100 indicates that MBEs are being utilized below their estimated availability level. A disparity index of 80 or lower is commonly taken as a strong indicator that discrimination is adversely affecting MBEs.[39]

---

[36] For the 21 NERA studies identified in Table 1 and included in Table 5, the OPS utilization, availability, and disparity statistics, are restricted specifically to the plaintiff's lines of work in information technology services and facilities management services.

[37] As with Table 1, those studies in the record but not yet submitted to Congress are marked with an asterisk (*).

[38] The disparity studies examined included a wide range of prime contract sizes. For the 21 NERA studies in Table 1, for example, the median contract size in construction was $2.2m. For CPS, the median was $1.1m, and for contracts in the same lines of work as the plaintiff, the median was $300,000.

[39] Although not the same as statistical significance, the "four-fifths rule" says that a disparity index of less than or equal to 80 (on a scale of zero to 100, zero being perfect disparity and 100 being perfect parity), because it is large, or "substantively" significant, indicates the presence of discrimination. *See* 29 C.F.R. § 1607.4(d).

For example, in the Virginia study, when the construction utilization percentage of 1.46 is divided by the availability percentage of 7.48, the quotient is 0.1955. Multiplying this figure by 100, yields a disparity index of 19.55.[40] For CPS, the Virginia figures show that dividing the utilization percentage of 0.46 by the availability percentage of 9.95, and multiplying the result by 100 yields a disparity index of 4.66. Similarly for OPS, dividing the utilization percentage of 2.22 by the availability percentage of 13.13, and multiplying the result by 100 yields a disparity index of 16.88. If MBEs in Virginia's construction, CPS, or OPS markets were being utilized at rates comparable to their availability in the relevant business population, all three of these indexes would approach 100.

[40] Due to rounding, the disparity indexes shown in Table 5 may differ slightly from the quotient arrived at by dividing the availability figure into the utilization figure.

Table 5. MBE Utilization, Availability, and Disparity: Selected Studies Performed in the U.S. Since 2000.

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
AL	City of Birmingham	10.00	18.80	**53.19**	10.10	16.30	**61.96**	13.90	16.60	***83.73***	1990-2005	018000	186-188
AK	Department of Transportation and Public Facilities	2.63	12.50	**21.04**				15.82	26.09	**60.64**	2002-2006	013677	4-11, 5-10
AZ	Arizona Department of Transportation	0.00	6.14	**0.00**	5.12	14.32	**35.76**	4.60	6.02	**76.37**	2002-2007	027877	4-47
AZ	City of Phoenix	2.63	11.61	**22.62**							2000-2004	018445	4-17, 4-33
AZ	City of Tucson	7.99	0.80	998.53				11.27	6.96	161.92	2002-2006	028317	4-9, 5-10, 5-13
AZ	Pima County	2.18	1.14	191.75	12.37	10.64	116.25	9.51	0.95	1001.03	2002-2006	028629	4-9, 5-13, 5-16
CA	Alameda County	16.17	37.64	**42.97**	10.53	40.28	**26.14**	12.03	33.84	**35.54**	2000-2003	018779	7-4, 7-7; 7-10
CA	Bay Area Rapid Transit (BART)	10.77	27.96	**38.53**				7.75	15.63	**49.57**	2002-2007	028802	4-8, 4-16, 7-20, 7-22
CA	California Department of Transportation (Federal Funds)	2.33	8.20	**28.40**	3.55	16.90	**20.98**				2002-2006	019148	E-30, E-33
CA	California Department of Transportation (State Funds)	5.64	10.40	**54.26**	0.00	17.00	**0.00**				2002-2006	019148	E-71, E-73
CA	City of Oakland And Oakland Redevelopment Agency	32.01	46.05	**69.52**	22.62	29.62	**76.38**	9.97	24.97	**39.91**	2002-2005	073295	4-6, 4-8, 4-10, 7-22, 7-24, 7-26
CA	Los Angeles County Metropolitan Transportation Authority (Federal Funds)	4.12	5.41	**76.04**	4.68	14.53	**32.24**	9.54			2003-2007	058434	E-14, E-15, E-23, E-24
CA	Los Angeles County Metropolitan Transportation Authority (Local Funds)	5.39	13.90	**38.77**	4.30	16.00	**26.89**	5.30			2003-2007	058434	E-16, E-25
CA	Metrolink - Southern California Regional Rail Authority (Federal Funds)	3.60	5.16	**69.78**	63.74	12.69	502.13	0.00			2003-2007	052079	E-14, E-15, E-23, E-24

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
CA	Metrolink - Southern California Regional Rail Authority (Local Funds)	0.09	19.30	**0.45**	2.13	22.90	**9.31**	7.08			2003-2007	052079	E-16, E-25
CA	Orange County Transportation Authority (Federal Funds)	10.33	10.50	***98.34***	12.26	16.87	**72.67**	0.00			2003-2007	053592	E-14, E-15, E-23, E-24
CA	Orange County Transportation Authority (Local Funds)	23.65	19.60	120.68	22.88	21.00	108.94	25.20			2003-2007	053592	E-16, E-25
CA	San Diego Association of Governments (Federal Funds)	6.30	13.85	**45.47**	24.15	11.69	206.52	68.19			2003-2007	054353	E-14, E-15, E-23, E-24
CA	San Diego Association of Governments (Local Funds)	0.00	18.80	**0.00**	16.37	16.20	101.04	28.30			2003-2007	054353	E-16, E-25
CA	San Diego Metropolitan Transit System (Federal Funds)	16.35	21.73	**75.27**	0.18	17.27	**1.04**	21.90			2003-2007	052835	E-14, E-15, E-23, E-24
CA	San Diego Metropolitan Transit System (Local Funds)	22.63	25.60	***88.41***	0.00	18.70	**0.00**	26.45			2003-2007	052835	E-16, E-25
CA	San Mateo County Transit District	0.70	15.60	**4.49**				2.90	16.40	**17.68**	2002	019698	38, 104
CO	City and County of Denver, Denver International Airport	1.53	9.12	**16.75**	4.38	4.72	***92.83***				2000-2005	011083	190, plus unpub data
CO	Colorado Department of Transportation	2.23	8.32	**26.80**	1.13	4.69	**24.09**				1996-2000	019885	3-18, 3-19
CO	Colorado Department of Transportation	3.08	12.94	**23.82**	14.64	15.30	***95.71***				2002-2007	029325	4-5, 5-8, 6-6
CT	Metropolitan District Commission	15.79	9.38	168.36	3.25	18.87	**17.23**	3.80	4.76	**79.73**	2005-2008	056184	IV-84, 87, 91; V-112, 114, 116, 119, 121, 123, 126, 128, 130
FL	Broward County	15.79	31.91	**49.47**	4.10	29.50	**13.88**	0.81	31.95	**2.54**	1991-1999	011675	4-18, 4-31, 4-40, 5-7, 5-13, 5-19
FL	Broward County	4.63	13.36	**34.68**	7.25	13.97	**51.88**	4.23	16.77	**25.23**	2005-2009	066606	284, and unpub data

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
FL*	City of Tallahassee	11.16	24.31	**45.90**				0.38	30.55	**1.25**	1996-2000	064182	4-13, 4-19; 4-27, 4-33
FL	City of Tampa and Hillsborough County Aviation Authority	13.56	32.94	**41.16**	6.70	35.05	**19.11**	1.24	28.90	**4.29**	2001-2004	020307	6-5, 6-8, 6-11
FL*	Leon County Board of County Commissioners	3.46	10.27	**33.66**	10.19	14.89	**68.43**	4.05	9.09	**44.53**	2004-2008	071721	4-10, 4-13, 4-14, 4-16, 4-17, 4-19
FL*	School District of Hillsborough County	1.65	33.10	**4.99**	23.03	30.29	**76.03**	4.40	28.76	**15.28**	2001-2004	061067	2-5, 2-7, 2-9, 5-21, 5-23
GA	City of Albany; et al.	6.57	10.10	**65.03**				11.39	6.70	170.07	2004-2007	020591	E-3; E-14
GA	City of Atlanta (City)	12.07	26.89	**44.88**	19.42	23.91	***81.22***	13.22	10.90	121.27	2001-2005	072660	Vol. I, 19, 21, 30, 46, 49
GA	City of Atlanta (Airport, local funds)	18.41	26.89	**68.47**	23.83	23.91	***99.68***	30.70	10.90	281.57	2001-2005	072660	Vol. I, 19, 21, 70, 71, 73, 75, 76
GA	City of Atlanta (Airport, federal funds)	9.85	26.89	**36.64**							2001-2005	072660	Vol. I, 19, 83, 84
GA	City of Atlanta (Watershed Management)	6.04	26.89	**22.47**	5.58	23.91	**23.34**	0.00	10.90	**0.00**	2001-2005	072660	Vol. I, 19, 21, 88, 89, 91, 93
GA	Consolidated Government of Augusta-Richmond County	0.38	19.13	**1.97**	19.94	22.60	***88.24***	0.00	53.56	**0.00**	2003-2007	029715	225, plus unpub data
GA	Georgia Department of Transportation	0.69	4.59	**15.04**							1999-2004	072369	111, 119, 123
GA*	Georgia Department of Transportation (State funds)	0.44	17.60	**2.48**	6.59	19.30	**34.15**				2009-2011	056552	K-16, K-19
GA*	Georgia Department of Transportation (Federal funds)	0.34	16.30	**2.10**	2.94	18.20	**16.18**				2009-2011	056552	K-15, K-18
HI	Hawai'i Department of Transportation	15.59	49.12	**31.74**	38.42	46.35	***82.88***				2003-2008	066171	327, and unpub data

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
ID	Idaho Transportation Department	0.70	2.60	**26.81**	0.93	4.80	**19.34**				2002-2006	013927	E-14, E-23
IL*	Illinois Department of Transportation	0.00	26.14	**0.00**	14.09	26.58	**53.02**				2006-2009	051365	4-8, 4-10, 7-15, 7-17
IL	Illinois State Toll Highway Authority	0.03	6.29	**0.42**	5.40	10.03	**53.80**				2000-2005	061237	3, plus unpub data
IN	Indiana Department of Administration, et al. (IDOA & INDOT)	1.58	1.80	***87.51***				2.55	7.30	**34.90**	2006-2009	069405	O-7; O-8
IN	Indiana Department of Administration, et al. (State Educational Institutions)	0.81	8.00	**10.11**				5.25	9.50	**55.26**	2006-2009	069405	M-7
IA	City of Davenport	0.00	15.66	**0.00**				1.95	15.28	**12.76**	2003-2007	201048	4-7, 4-9, 7-18, 7-20
KS; MO*	City of Kansas City; Kansas City School District, MO, et al. (Kansas City School District)	23.16	15.45	149.88	1.89	17.26	**10.94**	7.61	11.11	**68.48**	2002-2004	063331	3-5, 3-7, 3-9, 6-19, 6-21, 6-23
KS; MO*	City of Kansas City; Kansas City School District, MO, et al. (Kansas City)	7.19	15.45	**46.51**	10.09	17.26	**58.48**	5.44	11.11	**48.94**	2002-2004	063175	3-5, 3-7, 3-9, 6-21, 6-23, 6-25
KY	State of Kentucky	1.20	1.83	**65.75**	0.17	2.64	**6.40**	1.10	2.64	**41.48**	1995-1999	30803	37, 41, 42, 43, 44, 46
MD*	City of Baltimore	2.74	11.96	**22.96**	7.45	9.84	**75.68**				1990-1998	062068	4-17, 4-25, 4-29, 4-33
MD	City of Baltimore	9.21	10.97	***84.00***	6.93	14.92	**46.48**	22.05	25.60	***86.14***	2000-2005	031316	217, plus unpub data; Other is services

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
MD	State of Maryland	0.79	11.75	**6.76**	8.14	16.26	**50.04**	7.79	43.42	**17.94**	2000-2005	062373	206, plus unpub data; Other is IT
MD	State of Maryland	0.56	18.99	**2.96**	2.73	25.78	**10.59**	6.55	32.25	**20.32**	2005-2009	068503	326, and unpub data; Other is IT
MD	Washington Suburban Sanitary Commission	10.92	9.20	118.74	14.03	26.20	**53.55**	17.52	28.90	**60.61**	1999-2004	038852	II-17, III-21, IV-31
MD	Washington Suburban Sanitary Commission	21.24	58.90	**36.07**	8.90	48.82	**18.23**	14.48	51.51	**28.12**	2003-2009	058034	1-15, 1-17, 1-19, 4-21, 4-23, 4-25
MA*	City of Boston	1.81	15.20	**11.90**	3.87	25.01	**15.48**	57.56	15.61	368.74	1999-2001	061366	2-4, 2-6, 2-8, 4-22, 4-24, 4-26
MA*	Division of Capital Asset Management	1.50	3.43	**43.87**	6.05	4.63	130.76				1999-2004	061502	199, and unpub data
MA	Massachusetts Housing Finance Agency	0.88	3.59	**24.49**							2000-2004	061783	5, plus unpub data
MN	City of Minneapolis	1.02	8.78	**11.60**	5.17	7.95	**65.01**	5.05	15.01	**33.62**	2003-2007	069108	233, and unpub; Other is services
MN	City of St. Paul and the St. Paul Housing Authority (City of St. Paul)	8.52	3.29	258.65	1.13	3.95	**28.56**	0.67	2.50	**26.65**	2002-2006	021968	4-21, 4-28, 4-42, 4-43, 4-56, 4-71
MN	City of St. Paul and the St. Paul Housing Authority (St. Paul Housing Authority)	2.11	6.56	**32.17**							2002-2006	021968	6-6, 6-18
MN*	Metropolitan Airports Commission	0.24	5.11	**4.65**	0.00	25.00	**0.00**	0.07	1.61	**4.57**	2004-2007	050765	3-8, 3-12, 3-14, 3-15, 3-16, 3-17

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
MN*	Metropolitan Council	0.11	1.96	**5.82**	0.06	3.08	**1.96**	0.08	1.32	**6.10**	2003-2007	050232	3-8, 3-13, 3-14, 3-16, 3-18
MN*	Metropolitan Mosquito Control District	0.00	0.00	**0.00**	0.00	0.00	**0.00**	1.81	13.33	**13.60**	2002-2007	073900	3-8, 3-9, 3-10, 3-11, 3-12, 3-13
MN*	Metropolitan Sports Facilities Commission	0.00	0.00	**0.00**	0.00	0.00	**0.00**	0.04	1.12	**3.36**	2002-2007	074140	3-8, 3-9, 3-10, 3-11, 3-12, 3-13
MN*	Minnesota Department of Administration	0.86	0.81	105.97				1.60	0.48	332.64	2002-2007	050481	3-8, 3-14, 3-15, 3-16
MN	Minnesota Department of Transportation (Federal funds)	0.02	3.89	**0.55**							2000-2004	014443	69, 70
MN	Minnesota Department of Transportation (State funds)	0.03	3.89	**0.79**							2000-2004	014443	69, 73
MN*	Minnesota Department of Transportation	0.10	2.39	**4.19**							2002-2007	050000	3-7, 3-12
MO	Bi-State Development Agency (St. Louis Metro)	0.04	5.75	**0.64**	2.26	7.49	**30.11**				1997-2003	031949	154 plus unpub data
MO*	City of St. Louis, The St. Louis Housing Authority, The Metropolitan St. Louis Sewer District (City of St. Louis)	5.09	9.24	**55.03**	14.00	14.58	***96.03***	4.93	5.39	***91.55***	1995-1999	062696	Ex. p. 2, Ex. p. 7, Ex. p. 9, Ex. p. 12, Ex. p. 14, Ex. p. 17
MO*	City of St. Louis, The St. Louis Housing Authority, The Metropolitan St. Louis Sewer District (Sewer District)	1.08	9.24	**11.64**	9.13	14.58	**62.62**	0.32	5.42	**5.99**	1995-1999	062696	Ex. p. 84, Ex. p. 89, Ex. p. 91, Ex. p. 94, Ex. p. 96, Ex. p. 99
MO*	Missouri Department of Transportation (Federal funds)	0.37	4.53	**8.17**	0.42	6.46	**6.58**				2005-2009	071946	217, and unpub
MO*	Missouri Department of Transportation (State funds)	0.38	4.41	**8.69**	1.64	6.48	**25.24**				2005-2009	071946	223, and unpub
MT	Montana Department of Transportation	1.08	0.89	121.39	0.24	2.22	**10.90**				2000-2006	032140	4-6, 5-18, 5-29

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
NV	Nevada Department of Transportation (Federal funds)	1.76	11.20	**15.69**	0.27	6.30	**4.36**				2000-2006	014635	E-14, E-23
NV	Nevada Department of Transportation (State funds)	5.14	8.20	**62.64**	1.31	9.80	**13.40**				2000-2006	014635	E-41, E-50
NJ	State of New Jersey	7.04	15.26	**46.12**	9.94	17.36	**57.24**				2000-2002	032428	1-7, 1-9, 4-16, 4-18
NJ	State of New Jersey	5.99	17.40	**34.43**	7.37	18.15	**40.58**				2003-2004	032816	2-7, 2-9, 5-18, 5-20
NY	City of New York	7.27	46.58	**15.60**	4.83	38.19	**12.64**	3.16	25.62	**12.35**	1997-2002	015043	3-7, 3-9, 3-11, 6-22, 6-24, 6-26
NY	State of New York	1.71	14.34	**11.94**	6.75	13.21	**51.08**	5.66	19.58	**28.90**	2004-2008	068035	292, and unpub; Other is services
NC*	City of Charlotte	8.12	6.33	128.21	4.30	7.52	**57.12**	8.69	11.54	**75.31**	1998-2002	tbd	p. 4-127, p. 4-128
NC	City of Charlotte	6.83	19.40	**35.20**	6.58	5.87	112.10	5.88	5.87	100.09	2005-2010	071250	3-16, 3-19, 3-20, 3-23, 3-24, 3-28
NC*	City of Durham and Durham County	5.81	22.53	**25.79**				4.41	14.47	**30.50**	1996-1999	063471	3-4, 3-8, 5-9, 5-13
NC	Durham County	0.00	3.51	**0.00**	6.98	5.51	126.74				2001-2005	063627	76, 82, 83, 85, 86
NC	North Carolina Department of Transportation (Divisionally let)	1.25	5.96	**20.97**							1999-2003	034043	4-16, 4-26
NC	North Carolina Department of Transportation (Centrally let, state funded)	0.00	4.49	**0.00**	8.40	8.94	***93.96***				1999-2003	034043	4-52, 4-70, 4-76, 4-90
NC	North Carolina Department of Transportation (Centrally let, federally funded)	0.00	4.49	**0.00**	1.41	8.94	**15.73**				1999-2003	034043	4-52, 4-70, 4-84, 4-90
NC	North Carolina Department of Transportation	0.87	4.11	**21.26**							2004-2008	023010	90, 138
OH*	City of Cincinnati	11.43	7.54	151.55	5.41	4.96	109.00				1995-2001	063798	39, 44, 49

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
OH*	City of Cleveland, et al. (City of Cleveland)	13.34	31.97	**41.74**	7.56	28.50	**26.52**	1.30	18.61	**7.00**	1999-2000	074379	2-4, 2-6, 2-8, 2-13, 2-15, 2-17, 4-23, 4-25, 4-27
OH*	City of Cleveland, et al. (Greater Cleveland RTA)	6.12	31.97	**19.13**	21.09	28.50	**73.99**	4.11	18.61	**22.11**	1998-2000	074783	2-3, 2-4, 2-5, 4-22, 4-23
OH	City of Dayton	3.31	22.58	**14.64**	0.56	15.20	**3.68**	0.39	17.77	**2.19**	2001-2006	015337	4-11, 4-19, 4-24, 4-28, 4-30, 4-34
OH	Northeast Ohio Regional Sewer District	0.35	5.54	**6.28**	5.80	6.28	***92.39***	6.58	6.47	101.65	2004-2008	067021	263, and unpub; Other is services
OK	City of Tulsa	40.91	8.58	476.94	13.15	10.13	129.89	5.80	6.00	***96.62***	2002-2008	067652	4-8, 4-14, 4-15, 4-22, 4-24, 4-28
OK	Oklahoma Department of Transportation (Federal funds)	2.53	3.10	***81.74***	2.05	16.30	**12.60**				2004-2009	055103	K-15, K-18
OK	Oklahoma Department of Transportation (State funds)	10.37	6.30	164.63	3.63	16.90	**21.45**				2004-2009	055103	K-16, K-19
OR*	City of Portland	0.29	0.70	**41.37**	23.59	7.1	332.20				2004-2009	057261	L-6, M-3
OR	Oregon Department of Transportation	2.51	6.07	**41.38**	2.11	14.21	**14.85**				2000-2007	015744	4-12, 4-25, 4-111, 4-123
OR*	Oregon Department of Transportation	4.59	5.83	**78.87**	1.66	17.87	**9.27**	0.00	4.82	**0.00**	2007-2010	073537	4-13, 4-21, 4-26, 4-36; 4-41, 4-50
OR	Port of Portland	0.35	5.75	**6.03**	2.85	12.17	**23.42**	1.97	7.11	**27.64**	2002-2007	067392	4-11, 4-15, 4-19, 4-23, 4-25, 4-26
OR*	Portland Development Commission	0.48	1.54	**31.19**	4.19	5.06	***82.84***				2004-2009	070505	L-3, L-6; M-3, M-9

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
PA	State of Pennsylvania	1.51	8.32	**18.21**	5.91	18.45	**32.02**				2003-2005	034582	4-5, 4-7, 7-14, 7-16
SC	City of Columbia	0.77	21.38	**3.62**	16.02	14.81	108.13	7.69	4.82	159.45	2002-2005	035151	4-10, 4-16, 4-20, 4-25, 4-28, 4-34
TN	City of Memphis	8.35	15.46	**53.98**	10.61	21.85	**48.58**	3.09	12.62	**24.46**	2002-2007	063907	112, 113, 123, 124, 125
TN	Consolidated Government of Nashville and Davidson County (Metro Purchasing)	0.00	4.17	**0.00**	0.00	1.14	**0.00**				1999-2003	035989	57, 65, 68
TN	Consolidated Government of Nashville and Davidson County (Metro Nashville Public Schools)	0.00	3.66	**0.00**	3.30	6.58	**50.15**				1999-2003	035989	58, 98, 100
TN	Consolidated Government of Nashville and Davidson County (Nashville Electric Services)	8.09	6.41	126.21	10.80	10.00	107.96				1999-2003	035989	59, 94, 96
TN	Consolidated Government of Nashville and Davidson County (Metro Nashville Airport Authority)	12.00	8.30	144.55	0.18	3.16	**5.75**				1999-2003	035989	60, 76, 79
TN	Consolidated Government of Nashville and Davidson County (Metro Development and Housing Authority)	7.19	9.70	**74.12**	21.99	6.07	362.28				1999-2003	035989	61, 85, 88
TN	Consolidated Government of Nashville and Davidson County (Metro Transit Authority)	0.00	0.00	**0.00**	0.00	9.09	**0.00**				1999-2003	035989	62, 107, 108
TN	Memphis International Airport	0.71	13.19	**5.40**	0.17	20.73	**0.80**	0.00	31.05	**0.00**	1999-2005	036251	229 plus unpub data; Other is services
TN	Nashville International Airport	0.02	6.45	**0.38**	0.75	3.48	**21.42**				2003-2006	010860	36, 39, 47, 49
TN	Tennessee Department of Transportation	5.94	21.02	**28.27**	2.00	18.71	**10.68**				2000-2005	036600	1-13, 1-15, 2-10, 2-12, 4-5, 4-9

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TX	City of Austin	8.69	13.85	**62.76**	8.96	15.77	**56.80**				2002-2006	017080	205 plus unpub data
TX	City of Dallas	10.71	42.94	**24.94**	13.29	41.87	**31.75**	5.00	38.87	**12.87**	1997-2000	037008	3-3, 3-4, 3-5, 5-19, 5-20, 5-21
TX*	City of Fort Worth; et al. (City of Arlington)	0.94	47.52	**1.97**	8.49	35.73	**23.77**	19.86	36.79	**53.99**	2002-2007	064469	2-9, 2-11, 2-13, 5-24, 5-26, 5-28
TX*	City of Fort Worth; et al. (City of Fort Worth)	3.14	47.52	**6.62**	7.81	35.73	**21.85**	5.52	36.79	**14.99**	2002-2007	064644	2-9, 2-11, 2-13, 5-26, 5-28, 5-30
TX*	City of Fort Worth; et al. (DFW Airport)	21.32	47.52	**44.87**	18.45	35.73	**51.62**	10.80	36.79	**29.35**	2002-2007	064841	2-9, 2-11, 2-13, 5-26, 5-28, 5-30
TX*	City of Fort Worth; et al. (Ft. Worth Independent School District)	17.66	47.52	**37.17**	18.45	35.73	**51.64**	5.23	36.79	**14.21**	2002-2007	065047	2-9, 2-11, 2-13, 5-26, 5-28, 5-30
TX*	City of Fort Worth; et al. (North Texas Tollway)	0.26	45.80	**0.56**	1.94	35.61	**5.44**	6.09	35.45	**17.19**	2003-2007	065241	2-9, 2-11, 2-13, 5-26, 5-28, 5-30
TX	City of Houston	7.46	38.55	**19.36**	25.61	37.76	**67.81**	12.90	26.41	**48.85**	2003-2006	036780	3-6, 3-8, 3-10, 6-20, 6-22, 6-24
TX*	City of Houston	5.43	23.39	**23.21**							2005-2010	055889	191, and unpub
TX	City of San Antonio, et al.	22.64	26.00	***87.08***	10.48	22.67	**46.22**	11.38	19.58	**58.13**	2004-2007	023544	3-9, 3-16, 3-18, 3-23, 3-24, 3-29
TX*	Dallas Area Rapid Transit Authority (DART)	11.32	50.15	**22.57**	2.92	40.45	**7.21**	22.41	40.45	**55.41**	1996-2001	065438	3-5, 3-7, 3-9, 6-22, 6-24

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
TX*	San Antonio Water System	19.90	11.34	175.38	15.04	27.08	**55.52**	15.40	31.51	**48.87**	2002-2006	023544	3-7, 3-12, 3-13, 3-18, 3-19, 3-24
TX	State of Texas (Texas DOT)	1.38	6.95	**19.92**				10.57	28.39	**37.23**	2006-2008	037260	4-15, 4-19, 4-23
TX	State of Texas (State Agencies)	8.66	13.80	**62.72**				3.91	28.39	**13.78**	2006-2008	037260	4-15, 4-21, 4-22, 4-23
TX	State of Texas (State Universities)	3.97	13.80	**28.78**				5.99	28.39	**21.10**	2006-2008	037260	4-16, 4-21, 4-22, 4-23
TX	State of Texas (Medical Institutions)	2.98	13.80	**21.63**				6.24	28.39	**22.00**	2006-2008	037260	4-16, 4-21, 4-22, 4-23
TX*	State of Texas	3.60	37.99	**9.47**	12.78	38.05	**33.59**	2.95	23.14	**12.73**	2002-2005	065667	3-8, 3-10, 3-12, 6-21, 6-23, 6-25
UT	Salt Lake City International Airport	0.16	4.96	**3.15**	0.27	5.07	**5.34**				2001-2006	037989	257, plus unpub data
VA	Commonwealth of Virginia	0.32	1.71	**19.05**	0.07	3.84	**1.87**	0.58	0.87	**67.06**	1998-2002	038366	4-16, 4-27, 4-32, 4-41, 4-44, 4-57
VA	Commonwealth of Virginia	1.46	7.48	**19.55**	0.46	9.95	**4.66**	2.22	13.13	**16.88**	2006-2009	060413	4-10, 4-12, 4-14, 4-26, 4-27
VA*	Virginia DOT (Federal funds)	0.81	2.34	**34.70**	0.00	5.88	**0.00**				1998-2002	066083	11, 18, 22, 29
VA*	Virginia DOT (State funds)	1.06	2.34	**45.42**	1.79	5.88	**30.41**				1998-2002	066083	34, 41, 45, 52
WA	Washington Department of Transportation (Federal funds)	1.07	7.16	**14.94**	2.53	5.59	**45.26**				1999-2003	016159	63, 64, 70
WA	Washington Department of Transportation (State funds)	0.41	7.16	**5.73**	1.14	5.59	**20.39**				1999-2003	016159	63, 67, 73
WI	City of Milwaukee	2.91	33.77	**8.63**				13.11	17.63	**74.36**	2005	039050	5-11, 5-13, 6-5, 6-7

State	Subdivision	U-CON	A-CON	D-CON	U-CPS	A-CPS	D-CPS	U-OPS	A-OPS	D-OPS	Years	Bates Start	Page Spec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WI	City of Milwaukee	10.24	1.49	688.51				3.82	1.44	265.20	2005-2008	057069	4-7, 5-2, 5-3

Notes: (1) All of the studies in Table 4 have been submitted to Congress, except for those 10 marked with an asterisk (*). (2) Disparity indexes of 80 or lower are highlighted in **boldface** type. Disparity indexes of 100 or lower are highlighted in ***boldface italic*** type.

The vast majority of the disparity studies presented in Table 5 identified large adverse disparities affecting MBEs in construction, CPS, and OPS.[41] Considering just the studies that have been submitted to Congress, there are 225 disparity indexes summarized in Table 5. Of these, 100 are from the construction sector, 77 are from the CPS sector, and 48 are from the OPS.[42]

- In construction, 83 of 100 disparity indexes (83 percent) fall at or below 80, and 89 of 100 (89 percent), are less than 100.

- In CPS, 58 of 77 disparity indexes (75 percent) fall at or below 80, and 66 of 77 (86 percent), are less than 100.

- In OPS, 36 of 48 disparity indexes (74 percent) fall at or below 80, and 39 of 48 (81 percent), are less than 100.

- Combined together, 177 of 225 disparity indexes (79 percent) fall at or below 80, and 194 of 225 (86 percent) are less than 100.

When the additional studies that are in the record, but not yet submitted to Congress, are included, the results are very similar. There are 206 disparity indexes altogether—127 for the construction sector and 79 for the CRS sector.

- In construction, 119 of 142 disparity indexes (84 percent) fall at or below 80, and 125 of 142 (88 percent), are less than 100.

- In CPS, 90 of 114 disparity indexes (79 percent) fall at or below 80, and 100 of 114 (88 percent), are less than 100.

- In OPS, 61 of 76 disparity indexes (80 percent) fall at or below 80, and 65 of 76 (86 percent), are less than 100.

- Combined together, 270 of 332 disparity indexes (81 percent) fall at or below 80, and 290 of 332 (87 percent) are less than 100.

Notably, the general consistency of these results appears despite these studies having been undertaken by different consultants, using differing methods, at different points in time, with different budgets, and for a wide variety of state and local government agencies in a wide variety of geographic locations.

- Of the 52 statewide or state agency (including state DOTs) construction disparity indexes in Table 5, 47 (90 percent) are less than or equal to 80 and 49 (94 percent) are less than or equal to 100.

---

[41] In Table 5, disparity indexes of 80 or lower are highlighted in boldface type, while disparity indexes above 80 but still less than 100 (which would indicate parity with non-MBEs) are highlighted in boldface italicized type.

[42] As I will discuss further below, several of the disparity indices from the OPS sector are specifically from information technology services, one of the sectors in which the plaintiff operates.

- Of the 37 statewide CPS disparity indexes, 33 (89 percent) are less than or equal to 80 and 36 (97 percent) are less than or equal to 100.

- Of the 17 statewide OPS disparity indexes, 16 (94 percent) are less than or equal to 80 and 16 (94 percent) are less than or equal to 100.

- Of the 49 city or county construction disparity indexes, 40 (82 percent) are less than or equal to 80 and 42 (86 percent) are less than or equal to 100.

- Of the 39 city or county CPS disparity indexes, 28 (72 percent) are less than or equal to 80 and 32 (82 percent) are less than or equal to 100.

- Of the 39 city or county OPS disparity indexes, 27 (69 percent) are less than or equal to 80 and 30 (77 percent) are less than or equal to 100.

- Of the 41 special district (*e.g.*, transit agencies, airports, housing authorities, school districts) construction disparity indexes, 32 (78 percent) are less than or equal to 80 and 34 (83 percent) are less than or equal to 100.

- Of the 38 special district CPS disparity indexes, 29 (76 percent) are less than or equal to 80 and 32 (84 percent) are less than or equal to 100.

- Of the 20 special district OPS disparity indexes, 18 (90 percent) are less than or equal to 80 and 19 (95 percent) are less than or equal to 100.

Eleven different consultants produced the studies in Table 5. However, 84 percent of these studies were produced by just four of these firms: BBC Research & Consulting, Mason Tillman Associates, MGT of America, and NERA Economic Consulting.

- Of the 25 construction disparity indexes estimated by BBC Research & Consulting, 18 (72 percent) are less than or equal to 80 and 22 (88 percent) are less than or equal to 100.

- Of the 22 CPS disparity indexes from BBC in Table 4, 16 (73 percent) are less than or equal to 80 and 17 (77 percent) are less than or equal to 100.

- Of the 4 OPS disparity indexes from BBC in Table 4, 3 (75 percent) are less than or equal to 80 and 3 (75 percent) are less than or equal to 100.

- Of the 29 construction disparity indexes estimated by Mason Tillman Associates, 28 (97 percent) are less than or equal to 80 and 28 (97 percent) are less than or equal to 100.

- Of the 25 CPS disparity indexes estimated by Mason Tillman, 25 (100 percent) are less than or equal to 80 and 25 (100 percent) are less than or equal to 100.

- Of the 24 OPS disparity indexes estimated by Mason Tillman, 23 (96 percent) are less than or equal to 80 and 23 (96 percent) are less than or equal to 100.

- Of the 38 construction disparity indexes estimated by MGT of America, 32 (84 percent) are less than or equal to 80 and 33 (87 percent) are less than or equal to 100.

- Of the 28 CPS disparity indexes estimated by MGT, 23 (82 percent) are less than or equal to 80 and 25 (89 percent) are less than or equal to 100.

- Of the 27 OPS disparity indexes estimated by MGT, 22 (81 percent) are less than or equal to 80 and 24 (89 percent) are less than or equal to 100.

- Of the 24 construction disparity indexes estimated by NERA Economic Consulting, 23 (96 percent) are less than or equal to 80 and 24 (100 percent) are less than or equal to 100.

- Of the 20 CPS disparity indexes estimated by NERA, 15 (75 percent) are less than or equal to 80 and 19 (95 percent) are less than or equal to 100.

- Of the 9 OPS disparity indexes estimated by NERA, 7 (78 percent) are less than or equal to 80 and 8 (89 percent) are less than or equal to 100. Moreover, all of the NERA-estimated OPS disparity indexes presented in Table 5 are restricted to the information technology and facilities management industries—those industries within which the plaintiff operates.

- Of the 26 construction disparity indexes estimated by the balance of consulting firms, 18 (69 percent) are less than or equal to 80 and 18 (69 percent) are less than or equal to 100.

- Of the 19 CPS disparity indexes estimated by the balance of consulting firms, 11 (58 percent) are less than or equal to 80 and 14 (74 percent) are less than or equal to 100.

- Of the 12 OPS disparity indexes estimated by the balance of consulting firms, 6 (50 percent) are less than or equal to 80 and 7 (58 percent) are less than or equal to 100.

Some specific results from Table 5 are recounted below, focusing on cases where, although positive levels of MBE availability were estimated, the resulting disparity indexes fell far below even the 80 percent threshold:[43]

- Not a single dollar of construction prime contracts went to MBEs from the Arizona Department of Transportation between 2002-2007, the San Diego Association of Governments between 2003-2007, the Illinois Department of Transportation between 2006-2009, the City of Davenport (IA) between 2003-2007, Durham County (NC) between 2001-2005, the North Carolina Department of Transportation (DOT) between 1999-2003, the Consolidated Government of Nashville and Davidson County between

[43] To be sure, Table 5 also includes instances where MBE utilization met or even exceeded the corresponding estimate of MBE availability. However, these cases are a small fraction of those observed overall—just 17 out of 142 cases in construction (12 percent), 14 out of 114 cases in CPS (12 percent), and 11 out of 76 cases in OPS (14 percent).

1999-2003, or the Metro Nashville Public Schools between 1999-2003. In all of these cases, positive levels of MBE availability were estimated.

- Not a single dollar of CPS prime contracts went to MBEs from the California Department of Transportation (state funds) between 2002-2006, the San Diego Metropolitan Transit System between 2003-2007, the (Minneapolis) Metropolitan Airports Commission between 2003-2007, the Consolidated Government of Nashville and Davidson County between 1999-2003, or the Virginia DOT (federal funds) between 1998-2002. In all of these cases, positive levels of MBE availability were estimated.

- Not a single dollar of OPS prime contracts went to MBEs from the City of Atlanta Watershed Management Division between 2001-2005, the Oregon DOT between 2007-2010, the Consolidated Government of Augusta-Richmond County (GA) between 2003-2007, or the Memphis International Airport between 1999-2005.[44] The OPS contracts for Augusta-Richmond County and the Memphis International Airport refer specifically to the plaintiff's lines of work in information technology services and facilities support services.

- In Alabama:

    - Although almost 19 percent of available construction businesses were estimated to be MBEs, the City of Birmingham awarded only 10 percent of prime construction contract dollars to MBEs.

    - Although over 16 percent of available CPS businesses were estimated to be MBEs, the City of Birmingham awarded only about 10 percent of prime CPS contract dollars to MBEs.

- In Alaska:

    - Although 12.5 percent of available construction businesses were estimated to be MBEs, the Alaska DOT awarded less than 3 percent of prime construction contract dollars to MBEs.

    - Although 26 percent of available OPS businesses were estimated to be MBEs, the Alaska DOT awarded less than 16 percent of prime OPS contract dollars to MBEs.

- In Arizona:

    - Although almost 12 percent of available construction businesses were estimated to be MBEs, the City of Phoenix awarded less than 3 percent of prime construction contract dollars to MBEs.

[44] OPS contracts for Augusta-Richmond County and the Memphis International Airport were restricted to information technology and facilities management services.

- Although over 14 percent of available CPS businesses were estimated to be MBEs, the Arizona DOT awarded only 5 percent of prime CPS contract dollars to MBEs.

- In California:

  - Although almost 38 percent of available construction businesses were estimated to be MBEs, Alameda County awarded only 16 percent of prime construction contract dollars to MBEs.

  - Although 40 percent of available CPS businesses were estimated to be MBEs, Alameda County awarded less than 11 percent of prime CPS contract dollars to MBEs.

  - Although almost 34 percent of available OPS businesses were estimated to be MBEs, Alameda County awarded only 12 percent of prime OPS contract dollars to MBEs.

  - Although almost 28 percent of available construction businesses were estimated to be MBEs, the San Francisco Bay Area Rapid Transit awarded less than 11 percent of prime construction contract dollars to MBEs.

  - Although about 15.5 percent of available OPS businesses were estimated to be MBEs, the San Francisco Bay Area Rapid Transit awarded less than 8 percent of prime OPS contract dollars to MBEs.

  - Although about 25 percent of available OPS businesses were estimated to be MBEs, the City of Oakland and the Oakland Redevelopment Agency awarded only 10 percent of prime OPS contract dollars to MBEs.

  - Although over 8 percent of available construction businesses were estimated to be MBEs, the California DOT awarded only slightly more than 2 percent of state-funded prime construction contract dollars to MBEs.

  - Although almost 10.5 percent of available construction businesses were estimated to be MBEs, the California DOT awarded only about 5.5 percent of federally-funded prime construction contract dollars to MBEs.

  - Although almost 17 percent of available CPS businesses were estimated to be MBEs, the California DOT awarded only 3.5 percent of federally-funded prime CPS contract dollars to MBEs.

  - Although almost 14 percent of available construction businesses were estimated to be MBEs, the Los Angeles County Metropolitan Transportation Authority awarded less than 5.5 percent of locally-funded prime construction contract dollars to MBEs.

- Although almost 15 percent of available CPS businesses were estimated to be MBEs, the Los Angeles County Metropolitan Transportation Authority awarded less than 5 percent of federally-funded prime CPS contract dollars to MBEs.

- Although 16 percent of available CPS businesses were estimated to be MBEs, the Los Angeles County Metropolitan Transportation Authority awarded only about 4 percent of locally-funded prime CPS contract dollars to MBEs.

- Although over 19 percent of available construction businesses were estimated to be MBEs, the Southern California Regional Rail Authority awarded less than one-tenth of 1 percent of prime construction contract dollars to MBEs.

- Although almost 23 percent of available CPS businesses were estimated to be MBEs, the Southern California Regional Rail Authority awarded only about 2 percent of prime CPS contract dollars to MBEs.

- Although almost 14 percent of available construction businesses were estimated to be MBEs, the San Diego Association of Governments awarded just over 6 percent of prime construction contract dollars to MBEs.

- Although over 17 percent of available CPS businesses were estimated to be MBEs, the San Diego Metropolitan Transit System awarded less than two-tenths of 1 percent of prime CPS contract dollars to MBEs.

- Although almost 16 percent of available construction businesses were estimated to be MBEs, the San Mateo County Transit District awarded just seven-tenths of 1 percent of prime construction contract dollars to MBEs.

- Although over 16 percent of available OPS businesses were estimated to be MBEs, the San Mateo County Transit District awarded less than 3 percent of prime OPS contract dollars to MBEs.

- In Colorado:

  - Although over 9 percent of available construction businesses were estimated to be MBEs, the City of Denver awarded only 1.5 percent of prime construction contract dollars to MBEs.

  - Although over 8 percent of available construction businesses were estimated to be MBEs during the 1996-2000 period, the Colorado DOT awarded only about 2 percent of prime construction contract dollars to MBEs. By the 2002-2007 period, MBE availability had grown to almost 13 percent, prime construction contract dollars awarded to MBEs by Colorado DOT grew to only 3 percent.

  - Although almost 5 percent of available CPS businesses were estimated to be MBEs during the 1996-2000 period, the Colorado DOT awarded only about 1 percent of prime CPS contract dollars to MBEs.

- In Connecticut:
    - Although almost 19 percent of available CPS businesses were estimated to be MBEs, the Metropolitan District Commission (Hartford) awarded just over 3 percent of prime CPS contract dollars to MBEs.
- In Florida:
    - Although over 13 percent of available construction businesses were estimated to be MBEs, Broward County awarded just over 4.5 percent of prime construction contract dollars to MBEs.
    - Although almost 14 percent of available CPS businesses were estimated to be MBEs, Broward County awarded only about 7 percent of prime CPS contract dollars to MBEs.
    - Although almost 17 percent of available OPS businesses were estimated to be MBEs, Broward County awarded only about 4 percent of prime OPS contract dollars to MBEs. The OPS statistics here refer specifically to the plaintiff's lines of work in information technology services and facilities support services.
    - Although 24 percent of available construction businesses were estimated to be MBEs, the City of Tallahassee awarded only about 11 percent of prime construction contract dollars to MBEs.
    - Although almost 31 percent of available OPS businesses were estimated to be MBEs, the City of Tallahassee awarded less than four-tenths of 1 percent of prime OPS contract dollars to MBEs.
    - Although over 10 percent of available construction businesses were estimated to be MBEs, Leon County awarded less than 3.5 percent of prime construction contract dollars to MBEs.
    - Although 9 percent of available OPS businesses were estimated to be MBEs, Leon County awarded only 4 percent of prime OPS contract dollars to MBEs.
    - Although 29 percent of available OPS businesses were estimated to be MBEs, the City of Tampa and the Hillsborough County Aviation Authority awarded only about 1 percent of prime OPS contract dollars to MBEs, and the Hillsborough County School District awarded only about 4.5 percent.
- In Georgia:
    - Although almost 27 percent of available construction businesses were estimated to be MBEs, the City of Atlanta awarded just 12 percent of prime construction contract dollars to MBEs, the City's airport awarded less than 10 percent, and the City's Watershed Management Division awarded only 6 percent.

- Although almost 24 percent of available CPS businesses were estimated to be MBEs, the City of Atlanta's Watershed Management Division awarded only about 5.5 percent of prime CPS contract dollars to MBEs.

- Although 19 percent of available construction businesses were estimated to be MBEs, the Government of Augusta-Richmond County awarded less than four-tenths of 1 percent of prime construction contract dollars to MBEs.

- Although over 16 percent of available construction businesses were estimated to be MBEs, the Georgia DOT awarded less than four-tenths of 1 percent of federally-funded prime construction contract dollars to MBEs.

- Although almost 18 percent of available construction businesses were estimated to be MBEs, the Georgia DOT awarded only about four-tenths of 1 percent of state-funded prime construction contract dollars to MBEs.

- Although over 18 percent of available CPS businesses were estimated to be MBEs, the Georgia DOT awarded only less than 3 percent of federally-funded prime construction CPS dollars to MBEs.

- Although over 19 percent of available CPS businesses were estimated to be MBEs, the Georgia DOT awarded only less than 7 percent of state-funded prime construction CPS dollars to MBEs.

- In Hawaii:

  - Although 49 percent of available construction businesses were estimated to be MBEs, the Hawaii DOT awarded less than 16 percent of prime construction contract dollars to MBEs.

- In Idaho:

  - Although more than 2.5 percent of available construction businesses were estimated to be MBEs, the Idaho Transportation Department awarded only seven-tenths of 1 percent of prime construction contract dollars to MBEs.

  - Although almost 5 percent of available CPS businesses were estimated to be MBEs, the Idaho Transportation Department awarded less than 1 percent of prime CPS contract dollars to MBEs.

- In Illinois:

  - Although almost 6.5 percent of available construction businesses were estimated to be MBEs, the Illinois Tollway awarded less than one-tenth of 1 percent of prime construction contract dollars to MBEs.

- Although 10 percent of available CPS businesses were estimated to be MBEs, the Illinois Tollway awarded less than 5.5 percent of prime CPS contract dollars to MBEs.

- Although almost 27 percent of available CPS businesses were estimated to be MBEs, the Illinois DOT awarded only 14 percent of prime CPS contract dollars to MBEs.

- In Indiana:

  - Although 8 percent of available construction businesses were estimated to be MBEs, the Indiana Department of Administration and the Indiana DOT awarded only eight-tenths of 1 percent of prime construction contract dollars to MBEs.

  - Although over 7 percent of available OPS businesses were estimated to be MBEs, the Indiana Department of Administration and the Indiana DOT awarded only 2.5 percent of prime OPS contract dollars to MBEs.

  - Although 9.5 percent of available OPS businesses were estimated to be MBEs, the Indiana State Educational Institutions awarded less than 5.5 percent of prime OPS contract dollars to MBEs.

- In Iowa:

  - Although over 15 percent of available OPS businesses were estimated to be MBEs, the City of Davenport awarded less than 2 percent of prime OPS contract dollars to MBEs.

- In Kentucky:

  - Although almost 2 percent of available construction businesses were estimated to be MBEs, the State of Kentucky awarded only slightly more than 1 percent of prime construction contract dollars to MBEs.

  - Although almost 3 percent of available CPS businesses were estimated to be MBEs, the State of Kentucky awarded less than two-tenths of 1 percent of prime CPS contract dollars to MBEs.

  - Although more than 2.5 percent of available OPS businesses were estimated to be MBEs, the State of Kentucky awarded only about 1 percent of prime OPS contract dollars to MBEs.

- In Maryland:

  - Although 12 percent of available construction businesses were estimated to be MBEs, the City of Baltimore awarded less than 3 percent of prime construction contract dollars to MBEs.

- Although almost 15 percent of available CPS businesses were estimated to be MBEs, the City of Baltimore awarded less than 7 percent of prime CPS contract dollars to MBEs.

- Although almost 12 percent of available construction businesses were estimated to be MBEs during the 2000-2005 period, the State of Maryland awarded less than eight-tenths of 1 percent of prime construction contract dollars to MBEs. By the 2005-2009 period, MBE availability had grown to 19 percent, but prime construction contract dollars awarded to MBEs by Maryland fell to less than six-tenths of 1 percent.

- Although over 16 percent of available CPS businesses were estimated to be MBEs during the 2000-2005 period, the State of Maryland awarded only 8 percent of prime CPS contract dollars to MBEs. By the 2005-2009 period, MBE availability had grown to 26 percent, but prime CPS contract dollars awarded to MBEs fell to less than 3 percent.

- Although over 43 percent of available OPS businesses were estimated to be MBEs during the 2000-2005 period, the State of Maryland awarded less than 8 percent of prime CPS contract dollars to MBEs. By the 2005-2009 period, MBE availability was estimated to be over 32 percent, but prime OPS contract dollars awarded to MBEs were less than 7 percent. The OPS statistics here refer specifically to the plaintiff's lines of work in information technology services and facilities support services.

- Although over 26 percent of available CPS businesses were estimated to be MBEs, the Washington Suburban Sanitary Commission awarded only 14 percent of prime CPS contract dollars to MBEs.

- Although almost 29 percent of available OPS businesses were estimated to be MBEs, the Washington Suburban Sanitary Commission awarded only 17.5 percent of prime OPS contract dollars to MBEs.

- In Massachusetts:

  - Although 15 percent of available construction businesses were estimated to be MBEs, the City of Boston awarded less than 2 percent of prime construction contract dollars to MBEs.

  - Although 25 percent of available CPS businesses were estimated to be MBEs, the City of Boston awarded less than 4 percent of prime CPS contract dollars to MBEs.

  - Although almost 3.5 percent of available construction businesses were estimated to be MBEs, the State Division of Capital Asset Management awarded only 1.5 percent of prime construction contract dollars to MBEs.

- In Minnesota:
    - Although almost 9 percent of available construction businesses were estimated to be MBEs, the City of Minneapolis awarded only 1 percent of prime construction contract dollars to MBEs.
    - Although almost 8 percent of available CPS businesses were estimated to be MBEs, the City of Minneapolis awarded only about 5 percent of prime CPS dollars to MBEs.
    - Although 15 percent of available OPS businesses were estimated to be MBEs, the City of Minneapolis awarded only 5 percent of prime OPS dollars to MBEs. The OPS statistics here refer specifically to the plaintiff's lines of work in information technology services and facilities support services.
    - Although almost 7 percent of available construction businesses were estimated to be MBEs, the St. Paul Housing Authority awarded only about 2 percent of prime construction contract dollars to MBEs.
    - Although almost 4 percent of available CPS businesses were estimated to be MBEs, the City of St. Paul awarded only about 1 percent of prime CPS contract dollars to MBEs.
    - Although 2.5 percent of available OPS businesses were estimated to be MBEs, the City of St. Paul awarded less than seven-tenths of 1 percent of prime OPS contract dollars to MBEs.
    - Although over 5 percent of available construction businesses were estimated to be MBEs, the Minneapolis Metropolitan Airports Commission awarded less than three-tenths of 1 percent of prime construction contract dollars to MBEs.
    - Although almost 2 percent of available OPS businesses were estimated to be MBEs, the Minneapolis Metropolitan Airports Commission awarded less than one-tenth of 1 percent of prime OPS contract dollars to MBEs.
    - Although just under 4 percent of available construction businesses were estimated to be MBEs during the 2000-2004 period, the Minnesota DOT awarded less than one-tenth of 1 percent of prime construction contract dollars to MBEs. By the 2002-2007 period, MBE availability was estimated to be just under 2.5 percent, and prime construction contract dollars awarded to MBEs were just one-tenth of 1 percent.
- In Missouri:
    - Although over 15 percent of available construction businesses were estimated to be MBEs, Kansas City awarded only about 7 percent of prime construction contract dollars to MBEs.

- Although over 17 percent of available CPS businesses were estimated to be MBEs, Kansas City awarded only 10 percent of prime CPS contract dollars to MBEs and the Kansas City School District awarded less than 2 percent.

- Although 11 percent of available OPS businesses were estimated to be MBEs, Kansas City awarded less than 5.5 percent of prime OPS contract dollars to MBEs.

- Although almost 6 percent of available construction businesses were estimated to be MBEs, St. Louis Metro awarded less than one-tenth of 1 percent of prime construction contract dollars to MBEs.

- Although 7.5 percent of available CPS businesses were estimated to be MBEs, St. Louis Metro awarded only about 2 percent of prime CPS contract dollars to MBEs.

- Although over 9 percent of available construction businesses were estimated to be MBEs, the City of St. Louis awarded only 5 percent of prime construction contract dollars to MBEs, and the Metropolitan St. Louis Sewer District awarded only 1 percent.

- Although almost 15 percent of available CPS businesses were estimated to be MBEs, the Metropolitan St. Louis Sewer District awarded only 9 percent of prime CPS contract dollars to MBEs.

- Although almost 5.5 percent of available OPS businesses were estimated to be MBEs, the Metropolitan St. Louis Sewer District awarded less than four-tenths of 1 percent of prime OPS contract dollars to MBEs.

- Although about 4.5 percent of available construction businesses were estimated to be MBEs, the Missouri DOT awarded less than four-tenths of 1 percent of prime construction contract dollars to MBEs.

- Although about 6.5 percent of available CPS businesses were estimated to be MBEs, the Missouri DOT awarded less than one-half of 1 percent of federally-funded prime CPS contract dollars to MBEs and less than 2 percent of state-funded dollars.

- In Montana:

  - Although over 2 percent of available CPS businesses were estimated to be MBEs, the Montana DOT awarded only about two-tenths of one percent of prime CPS contract dollars to MBEs.

- In Nevada:
    - Although over 8 percent of available construction businesses were estimated to be MBEs, the Nevada DOT awarded only about 5 percent of state-funded prime construction contract dollars to MBEs.
    - Although over 11 percent of available construction businesses were estimated to be MBEs, the Nevada DOT awarded less than 2 percent of federally-funded prime construction contract dollars to MBEs.
    - Although over 6 percent of available CPS businesses were estimated to be MBEs, the Nevada DOT awarded less than three-tenths of 1 percent of federally-funded prime CPS contract dollars to MBEs.
    - Although almost 10 percent of available CPS businesses were estimated to be MBEs, the Nevada DOT awarded less than 1.5 percent of state-funded prime CPS contract dollars to MBEs.
- In New Jersey:
    - Although 15 percent of available construction businesses were estimated to be MBEs during the 2000-2002 period, the State of New Jersey awarded only 7 percent of prime construction contract dollars to MBEs. During the 2003-2004 period, availability was estimated at about 17.5 percent, but only 6 percent of prime construction contract dollars were awarded to MBEs.
    - Although over 17 percent of available CPS businesses were estimated to be MBEs during the 2000-2002 period, the State of New Jersey awarded less than 10 percent of prime CPS contract dollars to MBEs. During the 2003-2004 period, availability was estimated at 18 percent, but only about 7.5 percent of prime CPS contract dollars were awarded to MBEs.
- In New York:
    - Although almost 47 percent of available construction businesses were estimated to be MBEs, New York City awarded only about 7 percent of prime construction contract dollars to MBEs.
    - Although over 38 percent of available CPS businesses were estimated to be MBEs, New York City awarded less than 5 percent of prime CPS contract dollars to MBEs.
    - Although almost 26 percent of available OPS businesses were estimated to be MBEs, New York City awarded only about 3 percent of prime OPS contract dollars to MBEs.

- Although 14 percent of available construction businesses were estimated to be MBEs, the State of New York awarded less than 2 percent of prime construction contract dollars to MBEs.

- Although over 13 percent of available CPS businesses were estimated to be MBEs, the State of New York awarded less than 7 percent of prime CPS contract dollars to MBEs.

- Although almost 20 percent of available OPS businesses were estimated to be MBEs, the State of New York awarded less than 6 percent of prime OPS contract dollars to MBEs. The OPS statistics here refer specifically to the plaintiff's lines of work in information technology services and facilities support services.

- In North Carolina:

  - Although over 19 percent of available construction businesses were estimated to be MBEs, the City of Charlotte awarded less than 7 percent of prime construction contract dollars to MBEs.

  - Although 7.5 percent of available CPS businesses were estimated to be MBEs, the City of Charlotte awarded less than 4.5 percent of prime CPS contract dollars to MBEs.

  - Although over 22 percent of available construction businesses were estimated to be MBEs, the City of Durham and Durham County awarded less than 6 percent of prime construction contract dollars to MBEs.

  - Although almost 15 percent of available OPS businesses were estimated to be MBEs, the City of Durham and Durham County awarded less than 4.5 percent of prime OPS contract dollars to MBEs.

  - Although 6 percent of available construction businesses were estimated to be MBEs during the 1999-2003 period, the North Carolina DOT awarded less than 1.5 percent of prime construction contract dollars to MBEs. By 2004-2008, availability was estimated to be about 4 percent, and prime awards to MBEs were less than 1 percent.

  - Although almost 9 percent of available CPS businesses were estimated to be MBEs during the 1999-2003 period, the North Carolina DOT awarded less than 1.5 percent of prime CPS contract dollars to MBEs.

- In Ohio:

  - Although 32 percent of available construction businesses were estimated to be MBEs, the City of Cleveland awarded only 13 percent of prime construction contract dollars to MBEs and the Greater Cleveland Regional Transit Authority awarded just 6 percent.

- Although almost 29 percent of available CPS businesses were estimated to be MBEs, the City of Cleveland awarded only 7.5 percent of prime CPS contract dollars to MBEs.

- Although almost 19 percent of available OPS businesses were estimated to be MBEs, the City of Cleveland awarded less than 1.5 percent of prime OPS contract dollars to MBEs and the Greater Cleveland Regional Transit Authority awarded only about 4 percent.

- Although almost 23 percent of available construction businesses were estimated to be MBEs, the City of Dayton awarded only about 3 percent of prime construction contract dollars to MBEs.

- Although over 15 percent of available CPS businesses were estimated to be MBEs, the City of Dayton awarded less than six-tenths of 1 percent of prime CPS contract dollars to MBEs.

- Although almost 18 percent of available OPS businesses were estimated to be MBEs, the City of Dayton awarded less than four-tenths of 1 percent of prime OPS contract dollars to MBEs.

- In Oklahoma:

  - Although 16 percent of available CPS businesses were estimated to be MBEs, the Oklahoma DOT awarded only 2 percent of federally-funded prime CPS contract dollars to MBEs.

  - Although almost 17 percent of available CPS businesses were estimated to be MBEs, the Oklahoma DOT awarded less than 4 percent of state-funded prime CPS contract dollars to MBEs.

- In Oregon:

  - Although 6 percent of available construction businesses were estimated to be MBEs, the Oregon DOT awarded only 2.5 percent of federally-funded prime construction contract dollars to MBEs.

  - Although over 14 percent of available CPS businesses were estimated to be MBEs, the Oregon DOT awarded only 2 percent of federally-funded prime CPS contract dollars to MBEs.

  - Although just under 6 percent of available construction businesses were estimated to be MBEs, the Port of Portland awarded less than four-tenths of 1 percent of prime construction contract dollars to MBEs.

  - Although over 12 percent of available CPS businesses were estimated to be MBEs, the Port of Portland awarded less than 3 percent of prime CPS contract dollars to MBEs.

- Although over 7 percent of available OPS businesses were estimated to be MBEs, the Port of Portland awarded less than 2 percent of prime OPS contract dollars to MBEs.

- In Pennsylvania:
  - Although over 8 percent of available construction businesses were estimated to be MBEs, the State of Pennsylvania awarded only 1.5 percent of prime construction contract dollars to MBEs.
  - Although over 18 percent of available CPS businesses were estimated to be MBEs, the State of Pennsylvania awarded less than 6 percent of prime CPS contract dollars to MBEs.

- In South Carolina:
  - Although 21 percent of available construction businesses were estimated to be MBEs, the City of Columbia awarded less than eight-tenths of 1 percent of prime construction contract dollars to MBEs.

- In Tennessee:
  - Although over 15 percent of available construction businesses were estimated to be MBEs, the City of Memphis awarded only about 8 percent of prime construction contract dollars to MBEs.
  - Although almost 22 percent of available CPS businesses were estimated to be MBEs, the City of Memphis awarded less than 11 percent of prime CPS contract dollars to MBEs.
  - Although almost 13 percent of available OPS businesses were estimated to be MBEs, the City of Memphis awarded only about 3 percent of prime OPS contract dollars to MBEs.
  - Although 13 percent of available construction businesses were estimated to be MBEs, the Memphis International Airport awarded only seven-tenths of 1 percent of prime construction contract dollars to MBEs.
  - Although 21 percent of available CPS businesses were estimated to be MBEs, the Memphis International Airport awarded less than two-tenths of 1 percent of prime CPS contract dollars to MBEs.
  - Although 6 percent of available construction businesses were estimated to be MBEs, the Nashville International Airport awarded less than one-tenth of 1 percent of prime construction contract dollars to MBEs.
  - Although over 3 percent of available CPS businesses were estimated to be MBEs during the 1999-2003 period, the Nashville International Airport awarded less

than two-tenths of 1 percent of prime CPS contract dollars to MBEs. During the 2003-2006 period, availability was estimated to be 3.5 percent, but less than eight-tenths of 1 percent of prime CPS contract dollars were awarded to MBEs.

- Although about 6.5 percent of available CPS businesses were estimated to be MBEs, the Metro Nashville Public Schools awarded less than 3.5 percent of prime CPS contract dollars to MBEs.

- Although 21 percent of available construction businesses were estimated to be MBEs, the Tennessee DOT awarded less than 6 percent of prime construction contract dollars to MBEs.

- Although almost 19 percent of available CPS businesses were estimated to be MBEs, the Tennessee DOT awarded only 2 percent of prime CPS contract dollars to MBEs.

- In Texas:

  - Although 14 percent of available construction businesses were estimated to be MBEs, the City of Austin awarded less than 9 percent of prime construction contract dollars to MBEs.

  - Although almost 16 percent of available CPS businesses were estimated to be MBEs, the City of Austin awarded less than 9 percent of prime CPS contract dollars to MBEs.

  - Although 43 percent of available construction businesses were estimated to be MBEs, the City of Dallas awarded less than 11 percent of prime construction contract dollars to MBEs.

  - Although 42 percent of available CPS businesses were estimated to be MBEs, the City of Dallas awarded less than 13.5 percent of prime CPS contract dollars to MBEs.

  - Although almost 39 percent of available OPS businesses were estimated to be MBEs, the City of Dallas awarded only 5 percent of prime OPS contract dollars to MBEs.

  - Although over 47 percent of available construction businesses were estimated to be MBEs, the City of Arlington awarded less than 1 percent of prime construction contract dollars to MBEs, the City of Fort Worth about 3 percent, the DFW International Airport about 21 percent, the Fort Worth Independent School District about 18 percent, and the North Texas Tollway less than three-tenths of 1 percent.

  - Although almost 36 percent of available CPS businesses were estimated to be MBEs, the City of Arlington awarded only 8.5 percent of prime CPS contract dollars to MBEs, the City of Fort Worth less than 8 percent, the DFW

International Airport about 18.5 percent, the Fort Worth Independent School District about 18.5 percent, and the North Texas Tollway less than 2 percent.

- Although almost 37 percent of available OPS businesses were estimated to be MBEs, the City of Arlington awarded less than 20 percent of prime OPS contract dollars to MBEs, the City of Fort Worth only about 5.5 percent, the DFW International Airport less than 11 percent, the Fort Worth Independent School District only about 5 percent, and the North Texas Tollway only about 6 percent.

- Although 23 percent of available CPS businesses were estimated to be MBEs, the City of San Antonio awarded only about 10.5 percent of prime CPS contract dollars to MBEs.

- Although almost 20 percent of available OPS businesses were estimated to be MBEs, the City of San Antonio awarded only about 11.5 percent of prime OPS contract dollars to MBEs.

- Although 27 percent of available CPS businesses were estimated to be MBEs, the San Antonio Water System awarded only 15 percent of prime CPS contract dollars to MBEs.

- Although almost 32 percent of available OPS businesses were estimated to be MBEs, the San Antonio Water System awarded only 15.5 percent of prime OPS contract dollars to MBEs.

- Although 23 percent of available construction businesses were estimated to be MBEs, the City of Houston awarded only about 5.5 percent of prime construction contract dollars to MBEs.

- Although 7 percent of available construction businesses were estimated to be MBEs, the Texas DOT awarded less than 1.5 percent of prime construction contract dollars to MBEs.

- Although over 28 percent of available OPS businesses were estimated to be MBEs, the Texas DOT awarded only about 10.5 percent of prime OPS contract dollars to MBEs.

- Although almost 14 percent of available construction businesses were estimated to be MBEs, other Texas State agencies awarded less than 9 percent of prime construction contract dollars to MBEs, state universities less than 4 percent, and state medical institutions less than 3 percent.

- Although over 28 percent of available OPS businesses were estimated to be MBEs, other Texas State agencies awarded less than 4 percent of prime OPS contract dollars to MBEs, state universities less than 6 percent, and state medical institutions only about 6 percent.

- In Utah:
    - Although 5 percent of available construction businesses were estimated to be MBEs, the Salt Lake City International Airport awarded less than two-tenths of once percent of prime construction contract dollars to MBEs.
    - Although 5 percent of available CPS businesses were estimated to be MBEs, the Salt Lake City International Airport awarded less than three-tenths of 1 percent of prime CPS contract dollars to MBEs.
- In Virginia:
    - Although almost 2 percent of available construction businesses were estimated to be MBEs in the 1998-2002 period, the Commonwealth of Virginia awarded only three-tenths of 1 percent of prime construction contract dollars to MBEs. By the 2006-2009 period, availability had increased to almost 7.5 percent, but prime construction contract dollars awarded to MBEs were still less than 1.5 percent.
    - Although almost 4 percent of available CPS businesses were estimated to be MBEs in the 1998-2002 period, the Commonwealth of Virginia awarded less than one-tenth of 1 percent of prime CPS contract dollars to MBEs. By the 2006-2009 period, availability had increased to almost 10 percent, but prime CPS contract dollars awarded to MBEs were still less than five-tenths of 1 percent.
    - Although almost 13 percent of available OPS businesses were estimated to be MBEs in the 2006-2009 period, the Commonwealth of Virginia awarded only about 2 percent of prime OPS contract dollars to MBEs.
    - Although over 2 percent of available construction businesses were estimated to be MBEs, the Virginia DOT awarded only about 1 percent of prime construction contract dollars to MBEs.
    - Although almost 6 percent of available CPS businesses were estimated to be MBEs, the Virginia DOT awarded less than 2 percent of prime CPS contract dollars to MBEs.
- In Washington:
    - Although 7 percent of available construction businesses were estimated to be MBEs, the Washington State DOT awarded only 1 percent of federally-funded prime construction contract dollars and only four-tenths of 1 percent of state-funded prime construction contract dollars to MBEs.
    - Although about 5.5 percent of available CPS businesses were estimated to be MBEs, the Washington State DOT awarded only 2.5 percent of federally-funded prime CPS contract dollars and only about 1 percent of state-funded prime CPS contract dollars to MBEs.

- In Wisconsin:
    - Although almost 34 percent of available construction businesses were estimated to be MBEs, the City of Milwaukee awarded less than 3 percent of prime construction contract dollars to MBEs.

In addition to evidence regarding disparities in public contracting, almost every study presented in Table 5 also included anecdotal evidence of discrimination impacting MBEs. This evidence was collected through a variety of methods, including personal interviews, public hearings, and surveys.[45]

Furthermore, many of these studies included statistical evidence of disparities in the surrounding private sector of a given public jurisdiction—disparities in minority business formation rates, disparities in business owner earnings, and disparities in access to commercial loans and capital. As mentioned earlier, this type of evidence is important since it helps explain why the large and adverse disparities observed for MBEs in Table 5 are more likely explained by discrimination than by other, non-discriminatory, factors. It is to this evidence that I turn next.

C. There is Strong Evidence of Disparities Consistent with Discrimination Throughout the U.S. in the Private Sector

As noted above in Section II.F, even the small number of instances in Table 5 where the disparity index exceeds 100 should not be construed as a lack of evidence of discrimination. This is because the public contracting statistics in question are impacted by the presence, in most instances, of a race-conscious contracting policy. Such policies impact prime contracting and subcontracting activity, not only as a result of participation goals and related demand-side procedures, but also as a result of technical assistance, bonding assistance, financial assistance, contract unbundling, small business set-asides, and other supply-side activities designed to promote the participation of MBEs in public contracting.

Given this, many studies also examine the evidence concerning how MBEs and their owners fare in the private sector, that is, economy-wide, where race- and gender-conscious contracting programs are relatively rare. Indeed a key rationale for the advent of public sector programs was public entities' need to avoid becoming passive participants in economy-wide private sector discrimination. Another reason for examining economy-wide evidence is to help understand that the effects of discrimination are likely to impede the development of MBEs, through, for example, barriers in accessing credit and capital.

There are several publicly available data sources that studies have used to test how MBEs and their owners fare in the absence of affirmative efforts to include them in contracting activity. These include the Census Bureau's SBO, PUMS, and ACS PUMS, as well as the *Survey of Small Business Finances*, produced jointly by the Federal Reserve Board and the SBA.

---

[45] *See also, e.g., Kevcon, Inc. v. The United States*, Defendants Expert Report, ROTHE041702; U.S. Small Business Administration (2010), Aparicio (2009), Asian American Justice Center (2008), Lau (2009), Quon (2008), U.S. Congress (2007), (2008), (2009a), (2009b), and (2009c).

Below, I present evidence from each of these data sources. This evidence summarizes many of the studies I have conducted while at NERA as well as several congressional testimonies I have given. Similar evidence is found in other consultants' disparity studies as well.[46]

1. There is Strong Evidence of Disparities Between Utilization and Availability in the Survey of Business Owners

One important source of study data is the Census Bureau's *Survey of Business Owners* (SBO), performed every five years. The most recent data available from SBO is for 2007 and was released in 2011. According to these results, there are substantial disparities between the share of minorities in the general population and their share of the business population. Specifically:[47]

- Although Blacks comprised 14.0 percent of the population, they accounted for only 7.3 percent of the businesses.
- Although Hispanics comprised 16.3 percent of the population, they accounted for only 8.6 percent of the businesses.
- Although American Indians and Alaska Natives comprised 2.0 percent of the population, they accounted for only 0.9 percent of the businesses.
- Asians and Pacific Islanders comprised 6.2 percent of the population and accounted for only 6.0 percent of the businesses.

Moreover, the share of business sales and receipts accruing to minorities is far lower than their respective shares of the business population.

- Although Blacks comprised 7.3 percent of all U.S. businesses, they earned only 1.25 percent of sales and receipts.
- Although Hispanics comprised 8.6 percent of all businesses, they earned only 3.2 percent of sales and receipts.
- Although American Indians and Alaska Natives comprised 0.9 percent of all businesses, they earned only 0.31 percent of sales and receipts.
- Although Asians and Pacific Islanders comprised 6.0 percent of all businesses, they earned only 4.7 percent of sales and receipts.

These disparities between the size of the MBE population and its share of sales and receipts are very large. They are also statistically significant, meaning they are unlikely to result from chance alone.

[46] See, *e.g.*, certain of the studies in Table 1 by Griffin & Strong, CRA Consulting, BBC Research & Consulting, and MGT of America, Inc.

[47] U.S. Census Bureau (2011a).

While the exact proportions vary, large and statistically significant disparities are observed in the U.S. as a whole, in all 50 states and the District of Columbia, for all minority groups—Blacks, Hispanics, Asians and Pacific Islanders, and Native Americans. These disparities are found in the construction sector, the professional and technical services sector (which includes CPS and OPS), and in the economy as a whole.

The disparities observed in the 2007 SBO are documented below in Appendix A, Tables A.1 through A.15. Similar data from the 2002 SBO is presented in Appendix B, Tables B.1 through B.15. Similar findings from current and past SBO reports appear in a number of the disparity studies identified in Table 1, including my own.

The most noticeable aspect of the statistics presented in Tables A.1 through A.15 is how many of the disparity indexes are large, adverse, and statistically significant.[48] This is true for Blacks, Hispanics, Asians and Pacific Islanders, and Native Americans. It is true in the construction sector, in the professional and technical services sector, and when considering all industries combined. It is true in all 50 states and the District of Columbia. While there is certainly variation by race, industry, and geography, as with the studies recounted in Table 5, the similarities strongly outweigh the differences. Table 6 provides a summary of the findings of disparity from the 2007 SBO for Tables A.1 through A.15.

Table 6. Summary Statistics Showing Prevalence of Disparities in the 2007 SBO (Tables A.1 to A.15).

Table Number	Industry	Number of Disparity Indexes in Table	Race Group	Fraction of Disparity Indexes Less than or Equal to 80	Fraction of Disparity Indexes Less than or Equal to 100	Fraction of Disparity Indexes That Are Statistically Significant
A.1	All Industries	96	Black	93%	97%	90%
A.6	Construction	84	Black	85%	90%	82%
A.11	Professional Services	92	Black	76%	88%	73%
A.2	All Industries	101	Hispanic	82%	90%	86%
A.7	Construction	95	Hispanic	87%	93%	78%
A.12	Professional Services	97	Hispanic	65%	75%	57%
A.3	All Industries	104	Asian	75%	96%	80%
A.8	Construction	84	Asian	71%	77%	54%
A.13	Professional Services	100	Asian	15%	28%	32%
A.5	All Industries	71	NHPI	86%	93%	72%
A.10	Construction	33	NHPI	73%	79%	58%
A.15	Professional Services	31	NHPI	52%	58%	39%
A.4	All Industries	94	AIAN	91%	98%	82%
A.9	Construction	74	AIAN	73%	85%	54%
A.14	Professional Services	79	AIAN	68%	80%	43%

Source and Note: Tables A.1 through A.15, below. "NHPI" stands for Native Hawaiians and Other Pacific Islanders, and "AIAN" stands for American Indians and Alaska Natives.

[48] With the SBO data, I measure statistical significance here using the "two standard deviation" or "5%" level of significance typically used in disparate impact litigation in employment and related areas.

Table 7 provides a similar summary for Tables B.1 through B.15 from the 2002 SBO survey. While the 2007 disparity statistics remain large, adverse, and statistically significant in the vast majority of categories, a comparison of Table 6 with Table 7 shows less disparity in most categories in 2007 compared with 2002.

Table 7. Summary Statistics Showing Prevalence of Disparities in the 2002 SBO (Tables B.1 to B.15).

Table Number	Industry	Number of Disparity Indexes in Table	Race Group	Fraction of Disparity Indexes Less than or Equal to 80	Fraction of Disparity Indexes Less than or Equal to 100	Fraction of Disparity Indexes That Are Statistically Significant
B.1	All Industries	100	Black	98%	100%	98%
B.6	Construction	69	Black	86%	88%	72%
B.11	Professional Services	86	Black	94%	98%	80%
B.2	All Industries	102	Hispanic	100%	100%	100%
B.7	Construction	85	Hispanic	88%	91%	81%
B.12	Professional Services	84	Hispanic	93%	94%	74%
B.3	All Industries	102	Asian	100%	100%	100%
B.8	Construction	58	Asian	74%	90%	53%
B.13	Professional Services	88	Asian	64%	77%	51%
B.5	All Industries	48	NHPI	100%	100%	96%
B.10	Construction	10	NHPI	70%	80%	50%
B.15	Professional Services	13	NHPI	92%	92%	85%
B.4	All Industries	96	AIAN	99%	99%	98%
B.9	Construction	74	AIAN	81%	91%	64%
B.14	Professional Services	71	AIAN	90%	92%	76%

Source and Note: Tables B.1 through B.15, below. "NHPI" stands for Native Hawaiians and Other Pacific Islanders, and "AIAN" stands for American Indians and Alaska Natives.

2. The Effects of Discrimination on Entrepreneurial Success

Large and adverse statistical disparities between minority-owned businesses and non-minority male-owned businesses, such as those shown above in Table 5 and below in Appendix A and Appendix B, have been documented in numerous studies and reports since the *Croson* decision, including those submitted to Congress.[49] Business outcomes, however, can be influenced by multiple factors, and disparity studies often test the likelihood that discrimination, rather than other non-discriminatory factors, is an important contributing factor to observed gross disparities.

One way that the linkage between statistical disparities and discrimination has been established is through the introduction of anecdotal or qualitative evidence. If the thrust of such anecdotal evidence is consistent with the statistical disparities observed, then the case for the linkage is

[49] In addition to Table 1, *see* the sources cited in footnotes 23 and 24.

strengthened accordingly. There are a vast number of anecdotal accounts of discrimination that have been submitted to Congress.[50]

Another way that the linkage between statistical disparities and discrimination has been established is to consider the size of the observed disparities. That is, the larger the disparity, the less likely it is that non-discriminatory factors can account for the entire difference. It is this straightforward observation that underpins the Equal Employment Opportunity Commission's longstanding "four-fifths rule" for triggering employment discrimination investigations.[51]

Many of the studies submitted to Congress have shown that various factors, such as firm age, size, bonding levels, *etc.*, are lower for minority-owned than for similarly situated non-minority male-owned firms. If discrimination has limited the access of MBEs to the tools needed to perform successfully as prime contractors and subcontractors, Congress rightly considers those effects in determining the need for race-conscious relief. At the least, these factors should not be used to limit the reach of the remedy for the discrimination that limits MBEs' ability to compete.

In his September 2008 testimony before Congress, Dr. Thomas Boston, author of two of the disparity studies that appear in Tables 1 and 4 (Georgia DOT and North Carolina DOT), noted:

> [T]here remains a tremendous disparity in the relative capacity and scale of minority owned businesses in comparison to businesses owned by whites. For example, minority groups comprise 32% of the US population but own just 11.6% of all US businesses with employees and earn only about 5% of US business revenue. Further, the average revenue of each business is about one half that of the average revenue of businesses owned by whites. The global nature of the world's economy is forcing upon small and minority-owned businesses the need to increase scale and capacity to compete successfully. Globalization has forced major corporations to reduce the number of firms they use in their supply chain. This means that each supplier must have a larger capacity. Likewise, there continues to be a persistent problem of government organizations bundling contracts. This makes it more difficult for small and minority businesses to gain access; unless they have scale and capacity.
>
> To achieve greater capacity minority businesses must move to the next level. Most often this requires external capital. Yet numerous studies have documented the racially discriminatory barriers minority firms encounter when pursuing debt and equity funding. Ken Cavalluzzo (1999) analyzed credit applications, loan denials and interest rates paid across gender, race and ethnic characteristics of the small business owners. He gathered data on businesses that applied for credit and those that did not apply because they felt their application would have been turned down. He found large unexplained differences in denial rates between Black and White male owned companies that could only be attributed to discrimination. Susan Coleman (2004) examined access to the capital for women and minority owned small firms and found that after controlling for differences in human capital characteristics of owners, minorities were significantly less likely to be

[50] *See, e.g.*, those items cited above at fn. 45.

[51] *See* fn. 39, *supra*.

> approved for loan requests and they were also significantly less likely to apply for loans because they assumed they would be denied. Karlyn Mitchell and Douglas Pearce (2005) found that Black and Hispanic firms are significantly less likely to receive bank loans than are white business owners.[52]

Further to Dr. Boston's point,[53] suppose that race and gender discrimination was ingrained in the nation's construction market. As a result, few if any minority construction employees ever receive an opportunity to gain managerial experience in the business; any minorities who do manage to start construction firms are denied the opportunity to work as subcontractors for non-minority male prime contractors; and non-minority male prime contractors place pressure on unions not to work with minority firms and on bonding companies and banks to prevent minority-owned construction firms from securing needed credit and capital. In this hypothetical example, discrimination has essentially prevented the emergence of a minority construction industry with any "capacity" whatsoever. Excluding firms from the determination of availability based on their capacity in such a discriminatory market would preclude the government from doing anything to rectify the continuing support of such a system with public dollars. There is no recognition that discrimination has prevented the emergence of "qualified, willing and able" minority firms. Without such firms, there can be no statistical disparity, and without a statistical disparity there can be no remedy.[54]

Moreover, in dynamic business environments, and especially in the construction sector, "qualifications" such as past experience, financial status, bonding capacity, *etc.*, can be obtained relatively easily. It is well known that small construction companies can expand rapidly as needs arise by hiring workers and renting equipment. Many general contractors subcontract the majority of a project.[55] Subcontracting is one important source of this elasticity, as has been noted by several academic studies. In their study of construction labor markets, Bourdon and Levitt, for example, observed that:

> One of the unique aspects of the construction industry is the prevalence of subcontracting. Construction projects are undertaken by a multitude of firms assembled for brief periods of time on a site then disbanded. General contractors can undertake projects of considerable scale without large amounts of direct labor or fixed capital; subcontractors can start with one or two employees and bid only on particularly highly specialized contracts.[56]

Eccles also noted the importance of subcontracting in construction.[57] He found that subcontracting could be explained as a response to uncertainty and complexity. He also found

---

[52] *See* ROTHE10787.

[53] *See also* U.S. Department of Commerce, Minority Business Development Agency, *Characteristics of Minority Businesses and Entrepreneurs, An Analysis of the 2002 Survey of Business Owners* (2008).

[54] *See* Wainwright and Holt (2010), pp. 65-67.

[55] Indeed, the plaintiff has done a significant portion of its business with the federal government as a subcontractor to companies such as Raytheon, Lockheed Martin, and RSI . *See* www.rothe.com.

[56] Bourdon and Levitt (1980).

[57] Eccles (1981).

that the larger the project, the more subcontracting took place, and also that the more extensive the market was, the more subcontracting took place. Dowall and Barone draw a similar conclusion regarding the use of subcontractors.[58]

Academic studies have also found that, absent discrimination, entry into the construction industry is not difficult. Bourdon and Levitt attribute this to subcontracting opportunities.[59] Eccles observes that entry is easy based on the large number of small firms and that capital requirements for fixed assets are small.[60] Gould, who followed the careers of six construction contractors, also demonstrates ease of entry.[61] He also notes that there is movement between small and large firms not only via subcontracting, but also by experienced staff at larger firms leaving to form smaller new firms. Dowall and Barone, based on a survey of construction firms, note that there is "considerable diversification into other types of construction activities."[62]

Construction and many other markets are dynamic, facing boom and bust periods. In response, the capacity and qualifications of firms can be highly elastic. Firms can grow quickly when demand increases and shrink quickly when demand decreases. Therefore, focusing on the capacity of businesses in terms of employment, revenue, bonding capacity, pieces of equipment, and so forth, is wrong as a matter of economics and can potentially obscure the existence of discrimination. To see this, consider using revenue as the measure of qualifications. Revenues simply measure the value of contracts that firms are receiving. If minority-owned businesses are subject to market discrimination, their revenues will be smaller than non-minority male-owned businesses because they will be less successful at obtaining work. Using revenues as a measure of MBE availability in contracting is like using pay as a measure of qualifications in an equal-pay case. Revenues, like pay, measure the extent to which a firm has succeeded in the market—it does not measure the ability to succeed.

Further, once a disparity study has demonstrated a disparate impact, the traditional rebuttal would be to show that the gross disparities diminish substantially in size or statistical significance (or both) once other influential factors that are *unlikely to be correlated with discrimination* have been accounted for.[63] As I have already noted, however, most of the other factors are themselves strongly correlated with discrimination. This may help explain why in those cases where the experts for parties opposing race-conscious contracting programs have had

[58] Dowall and Barone (1993).

[59] Bourdon and Levitt (1980).

[60] Eccles (1981).

[61] Gould (1980).

[62] Dowall and Barone (1993).

[63] Connolly, et al. (2001), Chs. 2-3. In the present context, factors that are uncorrelated with discrimination are referred to as *exogenous* variables. Factors that are correlated with discrimination are referred to as *endogenous* variables. Only exogenous variables should be included as explanatory factors in a statistical model testing for disparities.

the opportunity to counter defendants' disparity studies with their own studies regarding capacity and qualifications, they have failed to do so.[64]

Finally, even in cases where qualification-type factors have been controlled for in statistical analyses, results consistent with business discrimination are often still observed. For example, in many of NERA's disparity studies, we demonstrated that large and statistically significant differences in commercial loan denial rates between minority and non-minority firms were evident even when detailed balance sheet and creditworthiness measures were held constant. Similarly, I and other economists have used the various PUMS and ACS PUMS data from the Census Bureau to examine whether disparities in business formation and business owner earnings between MBEs and non-MBEs remain large and statistically significant even after controlling for other factors available in the data including educational achievement, labor market experience, marital status, locational mobility, number of workers in the family, number of children, immigrant status, disability status, veteran status, interest and dividend income, labor market attachment, industry, geographic location, and local labor market variables such as the unemployment rate, population growth rate, government employment rate, and per capita income.[65]

For these reasons, it is improper to exclude firms based on the outcomes of discrimination, that is, based on the current capacity of MBEs to perform particular contracts. Noted labor economist and former U.S. Secretary of Labor Ray Marshall, in partnership with former Federal Reserve Board Governor Andrew Brimmer, conducted one of the first post-*Croson* disparity studies for the City of Atlanta in 1990. Marshall summarizes well the arguments against using the outcomes of discrimination to measure capacity:[66]

> The problem of establishing statistical proof of whether or not minority contractors are "qualified, willing and able" is particularly challenging. *Croson* provides limited guidance on this question.... Unfortunately, this lack of guidance has made it possible for courts and opponents of [race-conscious contracting] programs to argue that the failure to produce perfect statistical evidence—*i.e.*, timely and highly specific, and methodologies that control for everything except discrimination—invalidates these programs despite the fact that the most reliable statistics and the most appropriate methodologies confirm the persistence of discrimination. Our evidence for Atlanta suggests that even highly qualified black contractors are disadvantaged relative to similarly situated white contractors. ... It also is hard to know how to define the qualifications of businesses in dynamic markets where expertise can be purchased in the open market and where "virtual" companies are increasingly common. Once contractors are able to obtain contracts, they usually are able to expand their capacity.

---

[64] I am not aware of any instance where plaintiffs have introduced their own disparity study to counter that submitted by a defendant. See, *e.g.*, *H.B. Rowe Co. v. Tippett*, 615 F.3d 233, at 246-47 (4th Cir. 2010) (acknowledging that plaintiff's expert George La Noue could not provide any statistical evidence to rebut that submitted by the State).

[65] *See, e.g.*, Wainwright (2000), 85-135. *See also* all of the NERA studies cited in Table 1, as well as selected studies from Griffin & Strong, CRA Consulting, BBC Research & Consulting, and MGT of America, Inc.

[66] Marshall (2002), 81-82.

> In a dynamic business environment, it would be difficult to argue, as some critics have, that qualifications are determined mainly by size. ... Moreover, as the Tenth Circuit Court of Appeals observed in *Adarand VII*, there is no credible evidence that minority contractors who have been hired under [race-conscious contracting] programs have lacked adequate qualifications.
>
> Nevertheless, analyses of available data for business owners that enable personal characteristics and other factors to be controlled for [generate results that are] compatible with racial exclusion. There therefore is no credible evidence that the large disparities in the utilization of minority contractors can be explained by the lack of qualifications or the unwillingness to contract. Indeed, strong historical, anecdotal and survey evidence ... demonstrates that minority contractors are more willing than white males to contract with governmental entities, even though they recognize that public contracting is less desirable than the mainstream private sector, where their opportunities are greatly restricted. The greater participation of minorities is compatible with the concept of "crowding" .... This is all the more reason not to use participation in these sectors as a measure of discrimination and why broader market areas are more appropriate.

3. There is Strong Evidence of Disparities Consistent with Discrimination in Minority Business Formation Rates and Business Owner Earnings

It is fair to ask whether the disparities documented in the SBO data or in Table 5 result primarily from discrimination, either past, present or both, or whether they result from other, potentially non-discriminatory, factors. Many disparity studies[67] have put such questions to the test using the PUMS or ACS PUMS. The advantage of these data sources is that they allow us to examine racial disparities while holding other, potentially non-discriminatory, factors constant, such as industry, geography, education, and age.[68]

Like the SBO, these data sources typically show large and statistically significant disparities between the percentage of minorities who choose to form businesses and the percentage of comparable non-minority males who do the same. Such disparities are observed for the nation as a whole and throughout the states, and in the economy as a whole as well as across different industry sectors, including construction, CPS, OPS, and, as we shall see in the next section, in the specific industries within which the plaintiff operates.

In my own studies,[69] I have found that even when other non-discriminatory attributes are held constant using the statistical technique of regression analysis,[70] the disparities in business

[67] In addition to the NERA studies cited in Table 1, *see also* certain of the studies by Griffin & Strong, CRA Consulting, BBC Research & Consulting, and MGT of America, Inc.

[68] I have also tested the hypothesis, with similar results, including additional factors such as marital and family status, immigration status, ability to speak English, military service and veteran status, disability status, and asset levels. *See* Wainwright (2000).

[69] All of the disparity studies represented in Tables 8–13 have been submitted to Congress with the exception of the 2012 studies for the City of Houston and the Missouri DOT and the 2010 study for the State of Massachusetts. All of these studies also appear in Table 5.

formation rates between Blacks, Hispanics, Asians and Pacific Islanders, and Native Americans, on the one hand, and their non-minority male counterparts, on the other, tend to remain large, adverse, and statistically significant.

As shown below in Table 8, which includes all industries, out of the 90 cases included, 68 show statistically significant disparities against MBEs of less than or equal to 80 (76 percent), and 84 show statistically significant disparities against MBEs of less than 100 (93 percent).

The experiment is repeated in Table 9 for business formation rates in construction and CPS. Out of the 90 cases included in Table 9, 79 show statistically significant disparities against MBEs of less than or equal to 80 (88 percent), and 82 show statistically significant disparities against MBEs of less than 100 (91 percent).

Table 10 provides comparable results for business formation rates in goods and other services industries. Out of the 90 cases included in Table 10, 70 show statistically significant disparities against MBEs of less than or equal to 80 (78 percent), and 80 show statistically significant disparities against MBEs of less than 100 (89 percent).

Even for those minority entrepreneurs who manage against the odds to form their own businesses, their earnings from those businesses tend to lag far behind their non-minority male counterparts. As shown below in Table 11, out of the 90 cases examined, 89 exhibited statistically significantly lower earnings for minority business owners (99 percent). Minority business owner earnings across all industries average 23 percent lower than their non-minority male counterparts, again even when other non-discriminatory attributes are held constant.

Table 12 repeats the experiment for construction and CPS. Out of the 90 cases examined, 86 exhibited statistically significantly lower earnings for minority business owners (96 percent). Minority business owner earnings in construction and CPS are, on average, 22 percent lower than their non-minority male counterparts.

Finally, Table 13 provides comparable results for business owner earnings in goods and other services industries. Out of the 90 cases examined, 88 exhibited statistically significantly lower earnings for minority business owners (98 percent). Minority business owner earnings in these industries are, on average, 24 percent lower than their non-minority male counterparts.

In conclusion, the evidence gathered from the PUMS and ACS PUMS data, as documented below in Tables 8-13 and in other consultants' disparity studies as well, strongly suggests that business discrimination is the primary explanation for the disparities observed in Appendix Tables A.1 through B.15 and in Table 5.

---

[70] Regression analysis is a type of statistical analysis that examines the correlation between two variables ("regression") or three or more variables ("multiple regression" or "multivariate regression") in a mathematical model by determining the line of best fit through a series of data points. In simpler terms, regression analysis is a statistical technique allowing the comparison between certain business outcomes, such as business formation, business earnings, or loan denials, and minority status, while holding other, potentially non-discriminatory factors, such as geographic location, industry affiliation, education, age, or balance sheets, constant.

Table 8. Actual and Potential Minority Business Formation Rates, All Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Minneapolis-St. Paul, MN MSA (†)			
Black	4.7	8.9	52.5
Hispanic	5.9	9.1	64.9
Asian	7.2	9.0	80.1
Native American	2.2	4.9	45.1
MBE	5.7	7.8	73.0
Minnesota			
Black	3.2	10.1	31.7
Hispanic	4.1	10.1	40.6
Asian	4.9	9.1	53.8
Native American	5.1	11.6	44.0
MBE	4.0	9.9	40.9
Augusta-Richmond County, GA-SC			
Black	3.5	8.0	43.8
Hispanic	9.1	14.2	64.1
Asian	18.8	20.3	92.6
Native American	6.4	9.8	65.3
MBE	5.1	8.8	58.3
Austin, TX MSA			
Black	4.7	9.4	50.0
Hispanic	6.4	10.0	64.0
Asian	6.7	8.3	80.7
Native American	6.9	10.2	67.6
MBE	6.4	10.1	62.8
Chicago, IL MSA			
Black	4.9	9.4	52.1
Hispanic	4.0	7.5	53.3
Asian	9.0	10.5	85.7
Native American	5.7	9.1	62.6
MBE	5.3	8.4	63.1
Cleveland, OH MSA (†)			
Black	4.6	8.8	52.5
Hispanic	6.6	7.1	92.9
Asian	9.8	8.6	n/a
Native American	8.0	10.7	74.7
MBE	5.6	9.0	62.2
Denver, CO MSA			
Black	6.1	10.6	57.5
Hispanic	4.4	7.9	55.7
Asian	10.9	12.4	87.9
Native American	4.7	8.1	58.0
MBE	5.7	9.3	60.9

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Hawaii (†)			
Black	6.7	10.9	61.3
Hispanic	11.7	14.9	78.6
Asian	10.8	15.7	68.8
Native American	6.3	13.5	46.7
MBE	10.4	15.7	66.2
Houston, TX MSA (†)			
Black	6.1	7.5	81.3
Hispanic	9.8	9.9	99.0
Asian	10.6	10.6	n/a
Native American	15.1	9.3	n/a
MBE	9.0	9.6	93.5
Maryland-DC-N. VA			
Black	5.2	8.1	64.2
Hispanic	7.2	8.8	81.8
Asian	11.2	10.2	n/a
Native American	5.1	8.5	60.0
MBE	7.0	9.0	76.9
Maryland-DC-N. VA (†)			
Black	5.0	9.2	54.2
Hispanic	8.0	12.3	64.9
Asian	10.3	12.1	85.1
Native American	10.8	13.5	80.0
MBE	7.5	11.6	64.4
Massachusetts			
Black	4.0	8.5	47.1
Hispanic	4.4	7.9	55.7
Asian	5.6	8.9	62.9
Native American	9.1	12.5	72.8
MBE	5.0	8.7	58.0
Memphis, TN-MS-AR MSA			
Black	5.3	6.3	84.1
Hispanic	10.7	8.5	n/a
Asian	6.5	8.1	80.2
Native American	6.5	9.8	66.3
MBE	5.7	8.0	71.1
Miami-Ft. Lauderdale, FL (†)			
Black	4.8	9.0	53.2
Hispanic	6.2	9.4	65.8
Asian	9.0	10.8	83.4
Native American	8.2	10.9	75.1
MBE	6.3	9.7	64.9

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Missouri (††)			
Black	4.2	8.2	51.2
Hispanic	7.2	9.3	77.3
Asian	10.9	9.6	n/a
Native American	7.0	9.7	72.0
MBE	6.1	8.9	68.5
New York (†)			
Black	5.4	10.2	52.8
Hispanic	8.7	11.9	73.0
Asian	10.6	12.0	88.3
Native American	8.7	11.4	76.2
MBE	8.0	12.1	65.9
Utah			
Black	4.8	9.3	51.6
Hispanic	4.1	9.2	44.6
Asian	8.0	10.2	78.4
Native American	4.6	10.0	46.0
MBE	5.1	8.7	58.1
Washington State			
Black	5.7	10.4	54.8
Hispanic	5.9	11.4	51.8
Asian	9.3	9.8	94.9
Native American	8.0	11.3	70.8
MBE	7.4	10.4	71.8

Notes: Universe is all private sector labor force participants between age 16 and 64. All results are statistically significant at a 5 percent level or better. The figure in column (1) is the average self-employment rate weighted using population-based person weights. The figure in column (2) is derived by inflating the figure in column (1) according to the corresponding coefficient from the business formation regression analysis, which is derived holding constant industry, geography, education, and age. The coefficient represents the percentage point probability difference in business formation rates between a given group and non-minority males, evaluated at the mean business ownership rate for the estimation sample. Column (3) is column (1) divided by column (2), before rounding. "n/a" indicates no adverse disparity was observed. If there is parity in the relevant market, then the Disparity Index will equal 100, because the expected business formation rate (that is, the business formation rate that would be observed in a non-discriminatory market) will be equivalent to the actual business formation rate. In cases where adverse disparities are present in the relevant market, the Disparity Index will be less than 100, because expected business formation rates will exceed actual business formation rates. "MSA" stands for Metropolitan Statistical Area. Source: 2000 Decennial Census Five Percent PUMS, unless otherwise indicated. (†): Source is 2006-2008 ACS PUMS. (††): Source is 2006-2010 ACS PUMS.

Table 9. Actual and Potential Minority Business Formation Rates, Construction and CPS Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Minneapolis-St. Paul, MN MSA (†)			
Black	0.0	9.2	0.0
Hispanic	20.0	27.8	71.9
Asian	10.5	16.7	62.9
Native American	0.0	7.9	0.0
MBE	15.1	23.1	65.4
Minnesota			
Black	4.6	14.3	32.2
Hispanic	11.5	19.1	60.2
Asian	16.1	21.8	73.9
Native American	6.5	14.5	44.8
MBE	10.7	18.7	57.3
Augusta-Richmond County, GA-SC			
Black	6.9	16.6	41.6
Hispanic	36.7	50.7	72.4
Asian	0.0	5.7	0.0
Native American	0.0	8.0	0.0
MBE	10.9	24.4	44.5
Austin, TX MSA			
Black	17.7	27.4	64.6
Hispanic	10.8	18.4	58.7
Asian	18.6	24.2	76.9
Native American	39.3	46.9	83.8
MBE	11.5	19.4	59.2
Chicago, IL MSA			
Black	20.2	16.0	n/a
Hispanic	10.5	18.1	58.0
Asian	9.9	15.6	63.5
Native American	8.0	16.0	50.0
MBE	12.6	16.5	76.8
Cleveland, OH MSA (†)			
Black	21.0	30.2	69.5
Hispanic	39.2	17.8	n/a
Asian	10.1	16.3	61.9
Native American	50.7	58.6	86.5
MBE	22.3	30.3	73.6
Denver, CO MSA			
Black	30.3	23.4	n/a
Hispanic	7.3	19.8	36.9
Asian	12.4	18.1	68.5
Native American	3.3	11.3	29.2
MBE	9.2	17.1	53.7

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Hawaii (†)			
Black	29.6	38.8	76.3
Hispanic	23.4	31.2	75.0
Asian	11.8	28.7	41.2
Native American	12.9	34.5	37.4
MBE	15.3	32.0	47.8
Houston, TX MSA (†)			
Black	12.1	21.2	57.0
Hispanic	15.9	14.3	n/a
Asian	14.2	20.2	70.3
Native American	19.6	27.5	71.3
MBE	15.5	13.9	n/a
Maryland-DC-N. VA			
Black	11.3	21.1	53.6
Hispanic	7.1	14.7	48.3
Asian	16.8	14.6	n/a
Native American	7.2	15.2	47.4
MBE	10.3	18.3	56.3
Maryland-DC-N. VA (†)			
Black	22.2	31.4	70.7
Hispanic	12.3	24.0	51.2
Asian	13.4	19.6	68.4
Native American	14.2	22.1	64.3
MBE	13.3	24.1	55.2
Massachusetts			
Black	14.0	23.7	59.1
Hispanic	14.9	22.5	66.2
Asian	21.0	26.7	78.7
Native American	23.8	31.8	74.8
MBE	18.4	26.4	69.7
Memphis, TN-MS-AR MSA			
Black	14.6	24.3	60.1
Hispanic	12.6	20.2	62.4
Asian	0.0	5.6	0.0
Native American	28.8	36.4	79.1
MBE	13.4	21.3	62.9
Miami-Ft. Lauderdale, FL (†)			
Black	0.0	9.2	0.0
Hispanic	19.1	26.9	71.0
Asian	10.0	16.2	61.7
Native American	0.0	7.9	0.0
MBE	16.0	24.0	66.9

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Missouri (††)			
Black	21.5	30.3	71.0
Hispanic	12.1	19.2	63.0
Asian	21.9	10.0	n/a
Native American	27.6	22.2	n/a
MBE	18.1	20.5	88.4
New York (†)			
Black	16.6	25.8	64.4
Hispanic	14.6	22.4	65.2
Asian	17.7	24.0	73.7
Native American	18.1	26.0	69.6
MBE	15.4	23.4	65.9
Utah			
Black	15.9	25.7	61.9
Hispanic	6.4	20.4	31.4
Asian	8.9	14.6	61.0
Native American	5.7	13.6	41.9
MBE	7.0	20.6	34.2
Washington State			
Black	5.5	25.5	21.6
Hispanic	10.5	18.1	58.0
Asian	13.4	19.0	70.5
Native American	13.3	20.9	63.6
MBE	10.7	18.7	57.5

Notes and Sources: See Table 8.

Table 10. Actual and Potential Minority Business Formation Rates, Other Services and Goods Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Minneapolis-St. Paul, MN MSA (†)			
Black	4.8	10.1	47.3
Hispanic	4.5	7.5	60.1
Asian	7.2	9.9	72.6
Native American	2.3	5.1	44.7
MBE	5.2	6.7	77.7
Minnesota			
Black	3.2	9.4	34.0
Hispanic	3.6	9.3	39.0
Asian	4.8	8.8	54.2
Native American	4.9	10.7	46.1
MBE	4.0	9.5	42.7
Augusta-Richmond County, GA-SC			
Black	3.4	7.5	44.8
Hispanic	5.8	9.0	64.7
Asian	20.1	21.4	93.7
Native American	7.0	10.0	70.0
MBE	4.8	8.1	58.9
Austin, TX MSA			
Black	4.2	8.5	49.5
Hispanic	5.6	7.4	75.3
Asian	6.5	7.9	81.9
Native American	3.6	6.6	54.9
MBE	5.7	7.9	71.7
Chicago, IL MSA			
Black	4.4	7.8	55.7
Hispanic	3.5	6.6	52.3
Asian	8.9	10.3	86.9
Native American	5.4	8.4	64.3
MBE	4.9	8.2	59.7
Cleveland, OH MSA (†)			
Black	4.0	7.4	53.9
Hispanic	4.9	7.9	62.0
Asian	9.8	8.8	n/a
Native American	6.7	9.4	70.1
MBE	4.9	7.9	62.1
Denver, CO MSA			
Black	5.0	9.1	54.5
Hispanic	3.8	8.3	45.5
Asian	10.8	10.4	n/a
Native American	4.9	7.9	62.0
MBE	5.2	8.5	60.9

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Hawaii (†)			
Black	5.3	10.6	49.8
Hispanic	9.4	12.4	75.8
Asian	10.7	17.1	62.5
Native American	4.7	13.0	36.0
MBE	9.8	14.3	68.4
Houston, TX MSA (†)			
Black	5.7	7.3	78.2
Hispanic	8.2	7.2	n/a
Asian	10.3	9.2	n/a
Native American	14.5	8.0	n/a
MBE	7.8	8.9	87.7
Maryland-DC-N. VA			
Black	4.8	7.6	63.2
Hispanic	7.2	7.8	92.1
Asian	10.9	10.1	n/a
Native American	4.8	7.8	61.3
MBE	6.6	8.5	77.9
Maryland-DC-N. VA (†)			
Black	4.2	9.5	44.4
Hispanic	6.9	11.1	62.3
Asian	10.1	12.8	79.0
Native American	10.2	13.0	78.4
MBE	6.6	10.1	65.5
Massachusetts			
Black	3.6	7.8	46.5
Hispanic	4.0	7.2	55.8
Asian	5.1	8.0	63.5
Native American	7.2	5.7	n/a
MBE	4.5	7.8	57.5
Memphis, TN-MS-AR MSA			
Black	4.9	4.9	n/a
Hispanic	10.0	6.0	n/a
Asian	6.7	8.1	82.4
Native American	0.0	3.0	0.0
MBE	5.3	6.5	80.2
Miami-Ft. Lauderdale, FL (†)			
Black	4.9	10.2	48.0
Hispanic	5.1	8.2	62.2
Asian	9.0	11.7	76.9
Native American	8.2	11.0	74.5
MBE	5.8	7.5	77.0

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Missouri (††)			
Black	3.6	8.7	41.0
Hispanic	6.6	9.6	68.7
Asian	10.6	9.6	n/a
Native American	4.7	7.6	61.8
MBE	5.4	8.2	77.9
New York (†)			
Black	4.8	10.1	47.6
Hispanic	7.7	10.8	71.2
Asian	10.3	12.0	85.8
Native American	7.4	10.2	72.5
MBE	7.2	10.2	70.6
Utah			
Black	4.0	8.1	48.9
Hispanic	3.7	6.9	54.1
Asian	6.9	8.3	83.7
Native American	4.4	7.4	59.4
MBE	4.8	8.1	59.2
Washington State			
Black	5.7	8.3	69.0
Hispanic	5.6	10.8	51.5
Asian	9.1	9.6	94.8
Native American	7.4	10.4	71.6
MBE	7.2	10.0	72.5

Notes and Sources: See Table 8.

Table 11. Minority Business Owner Earnings Disparities, All Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Earnings Deficit (%)
	(1)
Minneapolis-St. Paul, MN MSA (†)	
Black	-40.0
Hispanic	-23.1
Asian	-9.3
Native American	-35.8
MBE	-26.8
Minnesota	
Black	-28.0
Hispanic	-18.7
Asian	-3.5
Native American	-38.0
MBE	-26.1
Augusta-Richmond County, GA-SC	
Black	-27.9
Hispanic	-18.6
Asian	-3.5
Native American	-38.0
MBE	-19.9
Austin, TX MSA	
Black	-30.0
Hispanic	-19.0
Asian	-4.1
Native American	-38.4
MBE	-20.9
Chicago, IL MSA	
Black	-28.4
Hispanic	-19.0
Asian	n/a
Native American	-38.1
MBE	-20.3
Cleveland, OH MSA (†)	
Black	-40.0
Hispanic	-23.0
Asian	-9.3
Native American	-35.8
MBE	-26.7
Denver, CO MSA	
Black	-28.0
Hispanic	-18.7
Asian	-3.6
Native American	-38.0
MBE	-3.5

Race, Location	Business Earnings Deficit (%)
	(1)
Hawaii (†)	
Black	-40.0
Hispanic	-23.0
Asian	-28.5
Native American	-82.3
MBE	-26.7
Houston, TX MSA (†)	
Black	-40.1
Hispanic	-23.2
Asian	-9.5
Native American	-35.8
MBE	-26.8
Maryland-DC-N. VA	
Black	-27.9
Hispanic	-18.8
Asian	-3.8
Native American	-38.0
MBE	-19.9
Maryland-DC-N. VA (†)	
Black	-40.0
Hispanic	-23.0
Asian	-9.3
Native American	-35.8
MBE	-26.7
Massachusetts	
Black	-28.0
Hispanic	-18.7
Asian	-3.5
Native American	-38.0
MBE	-19.9
Memphis, TN-AR-MS MSA	
Black	-30.1
Hispanic	-19.0
Asian	-4.1
Native American	-38.4
MBE	-21.0
Miami-Ft. Lauderdale, FL MSA (†)	
Black	-40.0
Hispanic	-23.1
Asian	-9.3
Native American	-35.8
MBE	-26.8

Race, Location	Business Earnings Deficit (%)
	(1)
Missouri (††)	
Black	-39.0
Hispanic	-22.5
Asian	-10.3
Native American	-38.7
MBE	-26.4
New York (†)	
Black	-40.1
Hispanic	-32.2
Asian	-9.3
Native American	-35.8
MBE	-26.9
Utah	
Black	-28.0
Hispanic	-18.7
Asian	-3.5
Native American	-38.0
MBE	-19.9
Washington State	
Black	-30.0
Hispanic	-19.0
Asian	-4.1
Native American	-38.4
MBE	-21.2

Notes: Universe is all persons in the private sector between age 16 and 64 with positive annual business earnings. The reported number is the percentage difference in annual business earnings between a given group and non-minority males, holding constant industry, geography, education, and age. All results are statistically significant at a 5 percent level or better. "n/a" indicates no adverse disparity was observed. Source: 2000 Decennial Census Five Percent PUMS, unless otherwise indicated. (†): Source is 2006-2008 ACS PUMS. (††): Source is 2006-2010 ACS PUMS.

Table 12. Minority Business Owner Earnings Disparities, Construction and CPS Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Earnings Deficit (%)
	(1)
Minneapolis-St. Paul, MN MSA (†)	
Black	-43.2
Hispanic	-15.9
Asian	-17.3
Native American	-31.2
MBE	-24.3
Minnesota	
Black	-29.0
Hispanic	-14.5
Asian	-5.6
Native American	-36.7
MBE	-18.4
Augusta-Richmond County, GA-SC	
Black	-28.8
Hispanic	-14.3
Asian	-5.5
Native American	-36.8
MBE	-18.5
Austin, TX MSA	
Black	-33.8
Hispanic	n/a
Asian	-6.9
Native American	-35.3
MBE	-20.0
Chicago, IL MSA	
Black	-29.2
Hispanic	-14.7
Asian	-5.7
Native American	-36.8
MBE	-18.7
Cleveland, OH MSA (†)	
Black	-43.3
Hispanic	-15.9
Asian	-17.3
Native American	-31.9
MBE	-24.3
Denver, CO MSA	
Black	-29.0
Hispanic	n/a
Asian	-5.7
Native American	-36.8
MBE	n/a

Race, Location	Business Earnings Deficit (%)
	(1)
Hawaii (†)	
Black	-43..2
Hispanic	-15.9
Asian	-15.3
Native American	-31.2
MBE	-24.0
Houston, TX MSA (†)	
Black	-43.3
Hispanic	-16.0
Asian	-17.5
Native American	-31.2
MBE	-24.8
Maryland-DC-N. VA	
Black	-28.8
Hispanic	-14.6
Asian	-6.0
Native American	-36.7
MBE	-18.6
Maryland-DC-N. VA (†)	
Black	-43.2
Hispanic	-15.9
Asian	-17.3
Native American	-31.2
MBE	-24.5
Massachusetts	
Black	-29.0
Hispanic	-14.4
Asian	-5.5
Native American	-36.7
MBE	-18.4
Memphis, TN-AR-MS MSA	
Black	-34.0
Hispanic	-14.8
Asian	-6.9
Native American	-35.4
MBE	-19.7
Miami-Ft. Lauderdale, FL MSA (†)	
Black	-43.2
Hispanic	-15.9
Asian	-17.3
Native American	-31.2
MBE	-24.3

Race, Location	Business Earnings Deficit (%)
	(1)
Missouri (††)	
Black	-41.6
Hispanic	-17.4
Asian	-16.5
Native American	n/a
MBE	-24.2
New York (†)	
Black	-43.4
Hispanic	-14.3
Asian	-13.5
Native American	-31.1
MBE	-35.6
Utah	
Black	-29.0
Hispanic	-14.5
Asian	-5.6
Native American	-36.7
MBE	-18.5
Washington State	
Black	-33.8
Hispanic	-14.7
Asian	-6.9
Native American	-35.4
MBE	-20.2

Notes and Sources: See Table 11.

Table 13. Minority Business Owner Earnings Disparities, Other Services and Goods Industries, Selected Disparity Studies from Table 1.

Race, Location	Business Earnings Deficit (%)
	(1)
Minneapolis-St. Paul, MN MSA (†)	
Black	-39.7
Hispanic	-25.1
Asian	-8.9
Native American	-36.8
MBE	-27.4
Minnesota	
Black	-31.5
Hispanic	-23.1
Asian	-5.7
Native American	-42.0
MBE	-23.3
Augusta-Richmond County, GA-SC	
Black	-27.5
Hispanic	-19.5
Asian	-3.3
Native American	-38.4
MBE	-19.9
Austin, TX MSA	
Black	-29.3
Hispanic	-38.6
Asian	-3.7
Native American	-39.0
MBE	-20.9
Chicago, IL MSA	
Black	-27.6
Hispanic	-20.1
Asian	n/a
Native American	-37.9
MBE	-20.4
Cleveland, OH MSA (†)	
Black	-39.7
Hispanic	-25.0
Asian	-8.7
Native American	-36.9
MBE	-27.2
Denver, CO MSA	
Black	-27.7
Hispanic	-19.6
Asian	-3.4
Native American	-38.1
MBE	-20.0

Race, Location	Business Earnings Deficit (%)
	(1)
Hawaii (†)	
Black	-39.6
Hispanic	-25.0
Asian	-30.3
Native American	-37.8
MBE	-27.2
Houston, TX MSA (†)	
Black	-39.4
Hispanic	-25.2
Asian	-8.5
Native American	-37.1
MBE	-27.2
Maryland-DC-N. VA	
Black	-26.7
Hispanic	-19.8
Asian	-3.8
Native American	-38.4
MBE	-19.9
Maryland-DC-N. VA (†)	
Black	-43.5
Hispanic	-29.6
Asian	-12.0
Native American	-40.1
MBE	-27.2
Massachusetts	
Black	-27.5
Hispanic	-19.7
Asian	-3.1
Native American	-38.4
MBE	-20.0
Memphis, TN-AR-MS MSA	
Black	-29.5
Hispanic	-19.8
Asian	-3.7
Native American	-39.0
MBE	-21.0
Miami-Ft. Lauderdale, FL MSA (†)	
Black	-39.6
Hispanic	-25.1
Asian	-8.7
Native American	-37.0
MBE	-27.3

Race, Location	Business Earnings Deficit (%)
	(1)
Missouri (††)	
Black	-38.9
Hispanic	-24.1
Asian	n/a
Native American	-51.0
MBE	-26.9
New York (†)	
Black	-42.7
Hispanic	-28.9
Asian	-13.1
Native American	-44.2
MBE	-27.6
Utah	
Black	-27.5
Hispanic	-19.5
Asian	-3.3
Native American	-38.4
MBE	-19.9
Washington State	
Black	-29.2
Hispanic	-20.0
Asian	-4.0
Native American	-39.0
MBE	-21.1

Notes and Sources: See Table 11.

4. There is Strong Evidence of Disparities Consistent with Discrimination in Minority Business Formation Rates and Business Owner Earnings in the Information Technology Services and Facilities Management Industries

In this section, I repeat the statistical analyses of minority business formation and minority business owner earnings for the information technology services and facilities management services industries, which the plaintiff identifies as being their primary lines of work.[71]

For this analysis, I relied on the recently released ACS PUMS for 2007-2011,[72] supplemented with the previously released ACS PUMS data for 2005-2006. I restricted the observations in the dataset I prepared to those with a Census industry code of 7380 ("Computer Systems Design and Related Services"), corresponding to NAICS industry group 5415 ("Computer Systems Design

[71] As noted above, although not mentioned in Mr. Patenaude's affidavit, another significant line of work for the plaintiff, judging from their website, appears to be equipment calibration and testing, which is included in the CPS sector. See fn. 30, above, and the accompanying discussion.

[72] The data were released in December 2012.

and Related Services"), and Census industry code of 7780 ("Other administrative and other support services"), corresponding to NAICS sub-sector 561 ("Administrative and support services"), which includes NAICS industry group 5612 ("Facilities Support Services)".

a. Business Formation Analysis

To assess the extent of business formation disparities in the plaintiff's lines of work, I ran three sets of regression analyses. In the first analysis, the only independent variables included in the analysis were indicators for race and sex. Such a model yields the raw differences in business formation rates between minorities and non-minority males, holding nothing else constant. These are reported below in Table 14, under the heading "Regression Model A."[73]

The results for Model A show that large, adverse, and statistically significant disparities in business formation rates are observed in the plaintiff's lines of work in recent years for all minority groups with the exception of Native Americans.[74]

- For Blacks, the observed self-employment rate is 8.33 percent and the model predicts that it would be 7.1 percentage points higher—15.47 percent—if Blacks faced the same market outcomes as non-minority males. This yields a disparity index of 53.9.

- For Hispanics, the observed self-employment rate is 9.92 percent and the model predicts that it would be 4.5 percentage points higher—14.42 percent—if Hispanics had faced the same market outcomes as non-minority males. This yields a disparity index of 68.8.

- For Asians, the observed self-employment rate is 6.87 percent and the model predicts that it would be 8.1 percentage points higher—14.97 percent—if Asians faced the same market outcomes as non-minority males. This yields a disparity index of 45.9.

- For minorities as a group, the observed self-employment rate is 8.19 percent and the model predicts that it would be 7.4 percentage points higher—15.57 percent—if minorities faced the same market outcomes as non-minority males. This yields a disparity index of 52.6.

In Model B, I add several indicators of qualifications and capacity to the regression equation, including educational attainment, state of residence, and the age (which is a proxy for labor market experience). The results for Model B show that large, adverse, and statistically significant disparities in business formation rates remain even when we compare individuals that are similarly-situated in terms of their educational attainments, their geographic location, and their labor market experience.

[73] Except as noted, all the results discussed below were statistically significant.

[74] The results for Native Americans are not statistically significant in any of the models. The number of observations in the dataset for Native Americans is very small compared with those for Blacks, Hispanics, Asians, and non-minority males.

- For Blacks, model B still predicts a self-employment rate that would be 6.0 percentage points higher—14.37 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 58.0.

- For Hispanics, model B still predicts a self-employment rate that would be 4.0 percentage points higher—14.37 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 71.3.

- For Asians, model B still predicts a self-employment rate that would be 7.2 percentage points higher—14.06 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 48.9.

- For minorities as a group, model B still predicts a self-employment rate that would be 6.3 percentage points higher—14.52 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 56.4.

- In Model C, I include numerous additional factors in the regression equation, including the dollar value of interest and dividend income from the prior year, whether the person is married with their spouse present, whether they lived in the same house one year prior (non-movers), the number of workers in their family, the number of children present in the household, whether their home is owned free and clear, their home's property value (zero for renters), whether they are foreign born, whether they speak English well, and whether they are a veteran. I also include four variables measuring local macroeconomic conditions by state—the general population level, the unemployment rate, the number of full-time government employees, and per capita personal income.[75]

The results for Model C show:

- For Blacks, model C predicts a self-employment rate that would be 5.7 percentage points higher—14.07 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 59.2.

- For Hispanics, model C predicts a self-employment rate that would be 3.77 percentage points higher—13.69 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 72.4.

- For Asians, model C predicts a self-employment rate that would be 6.81 percentage points higher—13.68 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 50.2.

- For minorities as a group, model C predicts a self-employment rate that would be 5.61 percentage points higher—13.80 percent—if they faced the same market outcomes as non-minority males, yielding a disparity index of 59.4.

[75] Interest and dividend income and per capita personal income are included in the model in their logarithmic forms.

Table 14. Actual and Potential Minority Business Formation Rates, Information Technology Services and Administrative and Other Support Services.

Race, Location	Business Formation Rate (%)	Expected Business Formation Rate (%)	Disparity Index
	(1)	(2)	(3)
Regression Model A			
Black	8.33	15.47	53.9
Hispanic	9.92	14.42	68.8
Asian	6.87	14.97	45.9
Native American	11.73	11.87	98.8
MBE	8.19	15.57	52.6
Regression Model B			
Black	8.33	14.37	58.0
Hispanic	9.92	13.91	71.3
Asian	6.87	14.06	48.9
Native American	11.73	11.93	98.3
MBE	8.19	14.52	56.4
Regression Model C			
Black	8.33	14.07	59.2
Hispanic	9.92	13.69	72.4
Asian	6.87	13.68	50.2
Native American	11.73	11.60	101.2
MBE	8.19	13.80	59.4

Notes: Universe is all private sector labor force participants between age 16 and 64. All results are statistically significant at a 5 percent level or better. The figure in column (1) is the average self-employment rate weighted using population-based person weights. The figure in column (2) is derived by inflating the figure in column (1) according to the corresponding coefficient from the business formation regression analysis, which is derived holding constant the variables described regression model A, B, or C. The coefficient represents the percentage point probability difference in business formation rates between a given group and non-minority males, evaluated at the mean business ownership rate for the estimation sample. Column (3) is column (1) divided by column (2), before rounding. If there is parity in the relevant market, then the Disparity Index will equal 100, because the expected business formation rate (that is, the business formation rate that would be observed in a non-discriminatory market) will be equivalent to the actual business formation rate. In cases where adverse disparities are present in the relevant market, the Disparity Index will be less than 100, because expected business formation rates will exceed actual business formation rates. Source: ACS PUMS, 2005-2011.

Despite the inclusion of numerous additional controls, large, adverse, and statistically significant disparities in business formation rates persist between minorities and non-minority males in the lines of work in which the plaintiff operates.

b. Business Owner Earnings Analysis

Next, I examined deficits in business owner earnings between minorities and non-minority males in the plaintiff's lines of work using the same framework as above. Model A included only the race and sex indicators, thus showing the raw disparities in earnings between the groups. Model B included our standard set of controls, which include educational attainment, geographic location, and labor market experience, or age. Finally, Model C includes all the controls in

Model B plus interest and dividend income, marital status, non-mover status, number of workers, number of children, home ownership and property value, nativity, English proficiency, veteran status, and four local macroeconomic indicators.

For Model A, the results show a 47.4 percent earnings gap between Black business owners and non-minority male business owners. For Hispanics, the gap is 16.0 percent. For Native Americans, the gap is 56.7 percent. For minorities as a group, the gap is 20.8 percent. For Asians, no gap was observed.[76]

When the first set of controls is added, in Model B, we find that the business owner earnings deficits observed for Blacks, Hispanics, and Native Americans fall only slightly, to 46.1 percent, 16.8 percent, and 51.0 percent, respectively. Moreover, Model B shows a substantial gap for Asians as well, of 9.4 percent.[77] This result indicates that Asians, on average, actually have more of the attributes that contribute positively to business owner earnings[78]—education for example—than do non-minority males, and yet the market does not remunerate Asians for these attributes as strongly as it does non-minority males. As a result, the business owner earnings gap for minorities as a group is actually larger in Model B—23.5 percent—than in Model A.

Table 15. Minority Business Owner Earnings Disparities, Information Technology Services and Administrative and Other Support Services.

Race, Location	Business Earnings Deficit (%)
	(1)
Regression Model A	
Black	-47.4
Hispanic	-16.0
Asian	0.0
Native American	-56.7
MBE	-20.8
Regression Model B	
Black	-46.1
Hispanic	-16.8
Asian	-9.4
Native American	-51.0
MBE	-23.5
Regression Model C	
Black	-41.7
Hispanic	-16.6
Asian	-15.7
Native American	-45.3
MBE	-26.7

Source: ACS PUMS, 2005-2011, and calculations by the author.

[76] The Asian result was not statistically significant.

[77] The coefficient for Asians in Model B is still not statistically significant, but it is close, with a p-value of .119. The cutoff for significance is a p-value of .05.

[78] And/or less of the attributes that contribute negatively.

Finally, in Model C, I include the complete set of control variables. Once again, the results show only slight decreases in the gap for Blacks, Hispanics, and Native Americans, compared to Model B, and once again actually show a large increase in the gap for Asians.[79] The resulting gap for minorities as a group—at 26.7 percent— is also larger in Model C compared to Model B.

In addition to the analyses just discussed, we also ran comparable analyses on the annual earnings of wage and salary workers—as opposed to business owners—in the plaintiff's lines of work. Though not reported here, the results look very similar to those in Table 15—large, adverse, and statistically significant deficits were observed for Blacks, Hispanics, Asians, Native Americans, and for minorities as a group.[80]

In conclusion, when we examine the status of MBEs compared to non-MBEs in the lines of work within which the plaintiff operates, the results look very similar to what we observe elsewhere in the economy—in construction, in CPS, in OPS, and in other industries. Even when compared to non-minority males that are similarly situated in terms of educational qualifications, labor market experience, assets, and other factors, minorities still tend to have lower business formation rates, lower wages, and lower entrepreneurial earnings than non-minority males. These results are consistent with the effects of discrimination in these industries.

5. There is Strong Evidence of Credit Discrimination Against MBEs from the Survey of Small Business Finances

A frequently noted manifestation of business discrimination is denial of access to credit. Disproportionate difficulty accessing commercial capital and credit is among the primary concerns voiced by minority entrepreneurs.[81] If such credit discrimination exists, not only would it hamper the ability of minority entrepreneurs to succeed, it could also prevent them from starting their own businesses in the first place. Both phenomena would be consistent with the

[79] The coefficient for Asians in Model C is statistically significant.

[80] In the wage and salary regressions, however, there is also a statistically significant adverse gap for Asians in Model A as well as in Models B and C.

[81] *See, e.g., The Department of Transportation's Disadvantaged Business Enterprise Programs: Hearing Before the H. Comm. on Transportation and Infrastructure,* 111th Cong. (2009); *Doing Business with the Government: The Record and Goals for Small, Minority and Disadvantaged Businesses: Hearing Before the H. Comm. On Transportation and Infrastructure,* 111th Cong. (2009); *Diversity in the Financial Services Sector: Hearing Before the H. Subcomm. on Oversight and Investigations of the H. Comm. on Financial Services,* 110th Cong. (2008); *Landrieu Statement at Minority Entrepreneurship: Evaluating Small Business Resources and Programs: Hearing Before the S. Comm. on Small Business and Entrepreneurship,* 111th Cong. (2009); *Federal Contracting: Removing Hurdles for Minority-Owned Small Businesses: Hearing Before the H. Subcomm. on Government Management, Organization, and Procurement of the H. Comm. on Oversight and Government Reform,* 110th Cong. (2007); *Minority Entrepreneurship: Assessing the Effectiveness of SBA's Programs for the Minority Business Community: Hearing Before the S. Comm. on Small Business and Entrepreneurship,* 110th Cong. (2007); *Reauthorization of Small Business Administration Financing and Entrepreneurial Development Programs: Hearing Before the S. Comm. on Small Business and Entrepreneurship,* 109th Cong. (2006); *Full Committee Hearing on the State of the SBA's Entrepreneurial Development Programs and Their Role in Promoting an Economic Recovery: Hearing Before the H. Comm. on Small Business,* 111th Cong. (2009); 152 Cong Rec S10302; S. Rep. 111-2.

patterns of disparity observed above in Table 5 and Tables 8-13 and below in Appendix Tables A.1 through B.15.

Several disparity studies in Table 1 have used the *National Survey of Small Business Finances* (SSBF), a joint effort of the Federal Reserve Board and the Small Business Administration, to test for the presence of discrimination in the small business credit market during the 1993 to 2003 period.[82] These surveys are based on a large representative sample of firms with fewer than 500 employees.[83] Several other disparity studies have also examined this evidence.

The SSBF data provide qualitative and quantitative evidence consistent with the presence of discrimination against MBEs in the credit market for small businesses. Using the SSBF, I find that after controlling for a large number of financial and other characteristics of the firms, Black-owned firms, Hispanic-owned firms, and to a lesser extent other minority-owned firms are substantially and statistically significantly more likely to be denied credit than are non-minority-owned firms. The principal findings from the SSBF, documented in a number of the studies and other reports submitted to Congress, are as follows:[84]

- A larger proportion of minority-owned firms than non-minority-owned firms report that credit market conditions are a serious concern.

- A larger share of minority-owned firms than non-minority-owned firms believes that the availability of credit is the most important issue likely to confront them in the upcoming year.

- Minority-owned firms were more likely to report that they did not apply for a loan over the preceding three years because they feared the loan would be denied.

- When minority-owned firms did apply for a loan, their loan requests were substantially more likely to be denied than non-minorities, even when differences like firm size and credit history are accounted for.

- When minority-owned firms did receive a loan, they were often obligated to pay higher interest rates on the loans than was true of comparable non-minority-owned firms.

- There is no evidence that discrimination in the market for credit is significantly different in different regions of the country or in the construction industries than it is in the nation or the economy as a whole.

---

[82] The most recent wave of the SSBF, from 2003, was made available by the Federal Reserve Board in 2007. The Federal Reserve Board then cancelled all future surveys in this series, ostensibly for financial reasons. *See* Robb (2010).

[83] The 1993 and 1998 surveys deliberately oversampled minority-owned and women-owned firms but the 2003 survey unfortunately did not. The 2003 survey took other steps, however, to increase the likelihood that minority-owned and women-owned firms were captured in the sampling frame. For more details, *see* National Opinion Research Center (2005).

[84] *See, e.g., Kevcon, Inc. v. The United States*, Defendant's Expert Report, (ROTHE041702-041794), and studies and hearings cited in Table 1 and at fn. 81.

- There is no evidence that the level of discrimination in the market for credit has diminished between 1993 and 2003, the most recent year for which data are available.

The SSBF was designed to produce estimates for the U.S. as a whole and for nine multi-state census divisions. As a check on the findings above, and in order to produce results for specific states and metropolitan areas, I have in the past conducted my own surveys—closely following the SSBF survey instrument—to supplement to national SSBF.

I conducted these state and local credit market surveys on nine occasions between 1999 and 2007. Locations included the Chicago metropolitan area (1999), the State of Maryland (2000), the Jacksonville, Florida metropolitan area (2002), the Baltimore-Washington, DC metropolitan area (2003), the St. Louis metropolitan area (2004), the Denver metropolitan area (2005), the State of Maryland (2005), the State of Massachusetts (2005), and the Memphis, TN-MS-AR metropolitan area (2007). The Chicago, Jacksonville, Baltimore, St. Louis, and Denver surveys focused on construction and construction-related industries, while the two Maryland surveys, the Massachusetts surveys, and the Memphis survey included other services and goods as well.[85] These results have all been submitted to Congress.

In Table 14 below, I have combined the results of these nine surveys together in a consistent format and re-estimated the basic loan denial regression model on this larger file. These results are remarkably similar to results seen in the national SSBF. For example, loan denial probabilities for Black-owned firms compared to non-minority male-owned firms are about 29 percentage points higher—even when assets, liabilities, creditworthiness measures such as bankruptcies, judgments, and delinquencies, and other firm and owner characteristics, are held constant.

These surveys found statistically significant loan denial disparities for Hispanic-owned firms as well. Denial rates were about 18-24 percentage points higher for Hispanic-owned firms than for their non-minority male-owned counterparts.[86]

[85] The Chicago, Maryland I, and Jacksonville survey questionnaires followed the format of the 1993 SSBF, while our Baltimore, St. Louis, Denver, Maryland II, Massachusetts, and Memphis surveys followed the format of the 1998 SSBF questionnaire.

[86] Statistically significant loan denial disparities were also observed for Native American-owned firms when considering applications over the prior three years (about 19 percentage points higher), but not for the most recent application. The results for Asians were not statistically significant.

Table 14. Excess Loan Denial Rates–Nine Jurisdictions

Race/Gender	Most Recent Application (%)	Last Three Years (%)
	(1)	(2)
Black	28.9	29.3
Hispanic	17.8	24.4
Asian and Pacific Islander	4.2	0.3
Native American	8.7	18.8

Source: NERA Credit Market Surveys, 1999-2007.

Finally, as shown in Table 15, I modeled the rate of interest charged, conditional upon receiving loan approval, using NERA's nine-jurisdiction dataset. Once again, the results are similar to what is observed in the national SSBF. The results for Blacks were statistically significant and indicate that they pay approximately 1.7 percentage points more, on average, for their business credit than do non-minority males, declining slightly to 1.5 percentage points when creditworthiness and other firm and owner controls are accounted for. The result for Asians was also significant when considering the most recent loan application, but not when considering all applications over the prior three years.[87]

Table 15. Excess Cost of Credit–Nine Jurisdictions

Race/Gender	Most Recent Application (Int. Rate % Points)	Last Three Years (Int. Rate % Points)
	(1)	(2)
Black	1.683	1.491
Hispanic	0.820	0.895
Asian and Pacific Islander	1.221	0.789
Native American	1.241	1.008

Source: NERA Credit Market Surveys, 1999-2007.

On the basis of the foregoing, I conclude that the evidence of credit discrimination collected throughout the nation between 1999-2007, and in other studies submitted to Congress,[88] is entirely consistent with the results obtained using the national SSBF data from the 1993-2003 SSBF files.

[87] The results for Hispanics and Native Americans were not statistically significant.

[88] *See* U.S. Small Business Administration (2010).

IV. Conclusions

I was asked to review the MBE disparity studies submitted to Congress as well as other related studies and data sources. These disparity studies were conducted by myself and by others and examined statistical evidence of MBE participation in public sector contracting and procurement activity, MBE representation in the relevant business populations, and explanations for the disparities observed between these factors. Many of these studies also examined private sector or economy-wide evidence of disparities business formation rates, business owner earnings, and commercial loan denials. Almost all of these studies also included qualitative, or anecdotal, accounts from both MBEs and non-MBEs concerning these disparities.

After reviewing this material, I conclude that the studies submitted to Congress, taken as a whole, provide strong evidence of large, adverse, and often statistically significant disparities between minority participation in business enterprise activity and the availability of those businesses. Based upon the studies as well as upon the additional analyses I conducted for this report, I further conclude that these disparities are not explained solely, or even largely, by differences in factors other than race and sex that are untainted by discrimination, and that these disparities therefore are consistent with the presence discrimination in the business market. I find this to be the case in construction markets, construction-related professional services markets, and other professional services markets, including those in which the plaintiff operates. When I also include the smaller number of studies in the record that have not yet been submitted to Congress, I reach the same general conclusions.

Jon Wainwright

Jon Wainwright, Ph.D.

March 8, 2013

This report is subject to revision upon access to additional data or testimony.

My rate for work done on this matter is $425 per hour. My qualifications are documented above in Section I and in my curriculum vitae, which is attached as Exhibit A. At this time I have not prepared any exhibits that I expect to use as summary of or support for my positions other than those contained herein. I may prepare such exhibits in the future as part of the trial preparation process.

V. References

Aparicio, Ana. 2009. *Hispanic-Owned Business Enterprises in the Construction Industry of Greater Chicago: Responses and Personal Perspectives.* For the City of Chicago M/WBE Program.

Asian American Justice Center. 2008. *Equal Access: Unlocking Government Doors for Asian Americans: Public Contracting Laws and Policies.*

Bourdon, Clinton C. and Raymond E. Levitt. 1980. *Union and open-shop construction, compensation, work practices, and labor markets.* Lexington Books: Lexington, Massachusetts.

Bureau of Labor Statistics. 2012a. Employment status of the civilian population by race, sex, and age. <http://www.bls.gov/news.release/empsit.t02.htm> . Viewed November 18, 2012.

Bureau of Labor Statistics. 2012b. Employment status of the Hispanic population by sex and age. <http://www.bls.gov/news.release/empsit.t03.htm> . Viewed November 18, 2012.

Cavalluzzo, K. S., L. C. Cavalluzzo, and J. Wolken (1999), "Competition, Small Business Financing, and Discrimination, Evidence from a New Survey," unpublished manuscript, Georgetown University, February.

Coleman, Susan. 2004. Access to Development Capital for Women and Minority Owned Small Firms: Does Educational Attainment Have an Impact? *Journal of Developmental Entrepreneurship.* Vol. 9, No. 2.

Connolly, Walter B., Jr., and David W. Peterson, and Michael J. Connolly. 2001. *Use of Statistics in Equal Employment Opportunity Litigation (Release 16)*, New York: Law Journal Press.

Dowall, David E. and Lawrence C. Barone. 1993. "Improving Construction Industry Performance: Issues and Opportunities," U.C. Berkeley, prepared for the United Nations Industrial Development Organization, May.

Eccles, Robert G. 1981. "Bureaucratic versus Craft Administration: The Relationship of Market Structure to the Construction Firm." *Administrative Science Quarterly.* 26.

Enchautegui, Maria E., Michael Fix, Pamela Loprest, Sarah von der Lippe, and Douglas Wissoker. 1996. *Do minority-owned businesses get a fair share of government contracts?* Washington, D.C.: The Urban Institute.

Gould, Frederick Elliot. 1980. "Investigation in Construction Entrepreneurship," Masters Thesis, MIT, May.

Lau, Yvonne M. 2009. *Profiles on Asian Americans in Construction—A Study for the City of Chicago M/WBE Sunset Project.* For the City of Chicago M/WBE Program.

Lowrey, Ying. 2007. "Minorities in Business: A Demographic Review of Minority Business Ownership," *SBA Small Business Research Summary*, No. 298. April.

Lowrey, Ying. 2010. "Race/Ethnicity and Establishment Dynamics, 2002-2006," *SBA Office of Advocacy*. November.

Marshall, Ray. 2002. "The economics of discrimination as applied to business development," in Horowitz, Irving Louis, ed., *Eli Ginzberg: The Economist as a Public Intellectual*. New Brunswick, NJ: Transaction Publishers, 67-106.

Mitchell, Karlyn and Douglas K. Pearce. 2005. "Availability of Financing to Small Firms Using the Survey of Small Business Finances." SBA Office of Advocacy, under Contract Number SBAHQ-03-Q-0016.

Quon, Myron. 2008. "Discrimination Against Asian American Business Enterprises: The Continuing Need for Affirmative Action in Public Contracting," *Asian American Policy Review* 41.

Robb, Alicia. 2010. "Beyond the Late, Lamented Survey of Small Business Finances," *Newsletter of the Association of Public Data Users*, 33, no. 2, March/April.

U.S. Census Bureau. 2010a. "Income Distribution to $250,000 or More for Households: 2009," Current Population Survey, 2010 Annual Social and Economics Supplement. <http://www.census.gov/hhes/www/cpstables/032009/rdcall/1_000.htm>. Viewed November 18, 2012.

U.S. Census Bureau. 2011a. "SB0700CSA01 - Statistics for All U.S. Firms by Industry, Gender, Ethnicity, and Race for the U.S., States, Metro Areas, Counties, and Places: 2007. Washington, D.C.: U.S. Census Bureau.

U.S. Census Bureau. 2011b. "SB0700CSA10 - Statistics for All U.S. Firms With Paid Employees by Industry, Ethnicity, and Employment Size of Firm for the U.S. and States: 2007. Washington, D.C.: U.S. Census Bureau.

U.S. Census Bureau. 2011c. "SB0700CSA11 - Statistics for All U.S. Firms With Paid Employees by Industry, Race, and Employment Size of Firm for the U.S. and States: 2007. Washington, D.C.: U.S. Census Bureau.

U.S. Census Bureau. 2011d. "Cumulative Estimates of Resident Population Change for the United States, Regions, States, and Puerto Rico and Region and State Rankings: April 1, 2010 to July 1, 2011 (NST-EST2011-02)."
<http://www.census.gov/popest/data/state/totals/2011/tables/NST-EST2011-02.xls>. Viewed November 26, 2012.

U.S. Census Bureau. 2012. "Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2010 to July 1, 2011 (NC-EST2011-03)." <http://www.census.gov/popest/data/national/asrh/2011/tables/NC-EST2011-03.xls>. Viewed November 18, 2012.

U.S. Congress. 2007. *Access to Federal Contracts: How to Level the Playing Field,* 110th Cong. (October 29), Serial No. 110-373.

U.S. Congress. 2008. *Business Start-Up Hurdles in Underserved Communities: Access to Venture Capital and Entrepreneurship Training*, Hearing Before the Committee on Small Business and Entrepreneurship (Sept. 11).

U.S. Congress. 2009a. *DOT's Disadvantaged Business Enterprises Programs Before the H. Comm. on Transportation and Infrastructure*, 111th Cong. (March 26), Serial No. 111-1.

U.S. Congress. 2009b. *The Federal Aviation Administration Reauthorization Act of 2009*: Hearing Before the H. Subcomm. on Aviation of the H. Comm. on Transportation and Infrastructure, 111th Cong. (February 11), Serial No. 111-8.

U.S. Congress. 2009c. *Infrastructure Investment: Ensuring an Effective Economic Recovery Program:* Hearing Before the H. Comm. on Transportation and Infrastructure, 111th Cong. (January 22), Serial No. 111-2.

U.S. Department of Commerce, Minority Business Development Agency. 2006. *The State of Minority Business Enterprises: An Overview of the 2002 Survey of Business Owners*. Washington, D.C.: Minority Business Development Agency.

U.S. Small Business Administration. 2010. "Compelling Interest for Race- and Gender-Conscious Federal Contracting Programs: An Update to the May 23, 1996 Review of Barriers for Minority- and Women-Owned Businesses" report submitted to the U.S. Senate Committee on Small Business and Entrepreneurship (June 2). Submitted to Congress: "Assessing Access: Obstacles and Opportunities for Minority Small Business Owners in Today's Capital Markets," U.S. Senate Committee on Small Business and Entrepreneurship, supplementing the testimony provided by Mr. Grady Hedgespeth, Director of Financial Assistance, Office of Capital Access, SBA, April 15, 2010. "Minority Contracting: Opportunities and Challenges for Current and Future Minority-Owned Businesses," U.S. House Committee on Oversight and Government Reform, Subcommittee on Government Management, Organization, and Procurement, supplementing the testimony of David Hinson, National Director, Minority Business Development Agency, U.S. Department of Commerce, September 22, 2010.

Wainwright, Jon and Colette Holt. 2010. *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*. National Cooperative Highway Research Program Report 644. Washington, D.C.: Transportation Research Board.

VI. Appendix A

Table A.1. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, All Industries, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	7.31	1.24	2.05	0.97	*0.17*	*0.47*
Alabama	15.28	1.38	3.14	0.88	*0.09*	*0.28*
Alaska	1.58	0.48	0.85	0.42	*0.30*	*0.50*
Arizona	2.12	0.34	0.79	0.23	*0.16*	*0.30*
Arkansas	5.74	0.82	1.93	0.62	*0.14*	*0.32*
California	4.15	1.32	1.52	1.19	*0.32*	*0.78*
Colorado	1.74	0.53	0.69	0.46	*0.31*	*0.67*
Connecticut	4.63	0.58	1.34	0.40	*0.12*	*0.30*
Delaware	9.34	0.89	2.27	0.45	*0.10*	*0.20*
District of Columbia	30.65	9.87	13.72	9.04	*0.32*	*0.66*
Florida	9.32	1.70	2.84	1.23	*0.18*	*0.43*
Georgia	20.99	2.56	5.14	1.67	*0.12*	*0.32*
Hawaii	0.92	0.85	0.61	0.87	0.92	1.44
Idaho	0.24	0.09	0.08	0.07	*0.38*	0.85
Illinois	9.83	1.37	1.79	1.09	*0.14*	*0.61*
Indiana	4.74	0.98	1.30	0.88	*0.21*	*0.68*
Iowa	0.88	0.23	0.31	0.22	*0.27*	0.70
Kansas	2.47	0.39	0.80	0.30	*0.16*	*0.38*
Kentucky	3.18	0.76	1.04	0.66	*0.24*	*0.64*
Louisiana	16.46	1.71	3.37	1.14	*0.10*	*0.34*
Maine	0.51	0.09			*0.17*	
Maryland	20.06	3.44	5.43	2.58	*0.17*	*0.48*
Massachusetts	3.56	0.67	1.26	0.50	*0.19*	*0.40*
Michigan	9.18	1.57	1.77	1.30	*0.17*	*0.73*
Minnesota	2.60	0.42	0.60	0.33	*0.16*	*0.55*
Mississippi	18.53	1.97	4.16	1.10	*0.11*	*0.26*
Missouri	5.12	1.16	2.23	1.03	*0.23*	*0.46*
Montana	0.21	0.08	0.10	0.06	*0.38*	0.64
Nebraska	1.87	0.24	0.57	0.19	*0.13*	*0.34*
Nevada	4.11	1.00	1.50	0.90	*0.24*	*0.60*
New Hampshire	0.56	0.13	0.12	0.09	*0.22*	0.75
New Jersey	7.99	1.16	2.38	0.86	*0.15*	*0.36*
New Mexico	1.28	0.84	0.44	0.83	*0.65*	*1.89*
New York	10.79	1.64	3.01	1.22	*0.15*	*0.41*
North Carolina	10.84	1.80	3.74	1.40	*0.17*	*0.37*
North Dakota	0.28	0.45	0.06		1.62	
Ohio	6.00	1.22	1.69	1.05	*0.20*	*0.62*
Oklahoma	3.23	0.51	1.04	0.41	*0.16*	*0.39*
Oregon	1.21	0.42	0.51	0.39	*0.35*	0.76
Pennsylvania	4.69	0.78	1.38	0.63	*0.17*	*0.45*
Rhode Island	3.48	0.53	0.74	0.33	*0.15*	*0.45*
South Carolina	12.58	1.63	3.56	1.02	*0.13*	*0.29*
South Dakota	0.28	0.10	0.11	0.09	*0.35*	0.81
Tennessee	8.61	1.47	2.36	1.09	*0.17*	*0.46*
Texas	7.31	1.08	2.13	0.79	*0.15*	*0.37*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Utah	0.49	0.31	0.30	0.29	*0.63*	0.97
Vermont						
Virginia	10.28	2.16	3.79	1.75	*0.21*	*0.46*
Washington						
West Virginia						
Wisconsin	2.70	0.44	1.15	0.39	*0.16*	*0.34*

Notes: The Disparity Index is derived by dividing the percentage of sales by the corresponding percentage of firms. A Disparity Index of zero indicates complete disparity while a value of 1 indicates parity. Disparity Indexes in italics are statistically significant at a 1-in-20 probability level or better.

Table A.2. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, All Industries, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	8.60	3.20	4.79	2.79	*0.37*	*0.58*
Alabama	1.20	0.65	1.02	0.60	*0.55*	*0.59*
Alaska						
Arizona	11.15	4.25	6.84	3.75	*0.38*	*0.55*
Arkansas	2.36	0.88	1.01	0.75	*0.37*	0.74
California	17.06	5.76	9.06	4.91	*0.34*	*0.54*
Colorado	6.42	3.46	4.05	3.27	*0.54*	*0.81*
Connecticut	4.41	1.45	2.28	1.31	*0.33*	*0.57*
Delaware	2.20	1.08	1.76	0.95	*0.49*	*0.54*
District of Columbia	6.66	4.44	5.04	4.46	0.67	0.89
Florida	23.11	11.71	14.47	10.76	*0.51*	*0.74*
Georgia	3.72	1.72	2.09	1.48	*0.46*	*0.71*
Hawaii	3.79	1.76	1.74	1.62	0.46	0.93
Idaho	2.65	0.87	2.14	0.76	*0.33*	*0.36*
Illinois	5.21	2.06	3.41	1.90	*0.40*	*0.56*
Indiana	1.83	0.73	1.29	0.66	*0.40*	*0.51*
Iowa	0.98	0.43	0.77	0.39	*0.44*	*0.51*
Kansas	2.53	1.16	1.96	1.02	*0.46*	*0.52*
Kentucky	1.12	0.71	0.96	0.70	*0.64*	*0.73*
Louisiana	3.04	1.59	1.75	1.43	0.52	0.82
Maine	0.67	0.39			0.57	
Maryland	5.06	2.19	3.32	1.91	*0.43*	*0.57*
Massachusetts	3.36	0.93	1.54	0.80	*0.28*	*0.52*
Michigan	1.36	1.30	0.96	1.31	0.95	*1.36*
Minnesota	1.04	0.73	0.72	0.73	*0.70*	1.01
Mississippi	0.83	0.37	0.71	0.32	*0.45*	*0.45*
Missouri	1.28	0.67	1.24	0.63	*0.52*	*0.51*
Montana	1.03	0.48	1.37	0.45	*0.46*	*0.33*
Nebraska	2.00	1.11	1.33	1.07	*0.55*	*0.80*
Nevada	8.57	2.95	5.42	2.62	*0.34*	*0.48*
New Hampshire	1.09	0.35	0.50	0.27	*0.32*	*0.54*
New Jersey	9.05	2.72	4.64	2.34	*0.30*	*0.50*
New Mexico	24.53	12.60	18.55	11.61	*0.51*	*0.63*
New York	10.22	2.36	4.67	2.04	*0.23*	*0.44*
North Carolina	2.75	1.39	1.60	1.18	*0.50*	*0.74*
North Dakota	0.49	0.08	0.19	0.07	*0.16*	*0.37*
Ohio	1.12	0.59	0.78	0.55	*0.53*	*0.70*
Oklahoma	2.37	1.30	1.87	1.21	*0.55*	*0.65*
Oregon	3.38	1.21	2.41	1.09	*0.36*	*0.45*
Pennsylvania	2.39	0.72	1.14	0.64	*0.30*	*0.56*
Rhode Island	6.23	1.29	1.82	0.96	*0.21*	*0.53*
South Carolina	1.71	1.37	1.29	1.31	*0.80*	1.01
South Dakota	0.81	0.93	0.87	0.95	1.15	1.09
Tennessee	1.64	0.87	1.28	0.77	*0.53*	*0.60*
Texas	21.20	7.21	12.20	5.89	*0.34*	*0.48*
Utah	3.93	1.33	2.38	1.17	*0.34*	*0.49*
Vermont	0.62	0.82	0.20	0.86	1.32	*4.28*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	4.63	2.36	2.56	2.18	*0.51*	*0.85*
Washington	3.35	3.99	2.39	4.10	*1.19*	*1.71*
West Virginia	0.78	0.39	0.42	0.35	*0.50*	0.84
Wisconsin	1.34	1.10	0.97	1.09	*0.82*	1.12
Wyoming	2.97	0.74	1.64	0.64	*0.25*	*0.39*

Notes: See Table A.1.

Table A.3. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, All Industries, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	5.89	4.62	7.66	4.53	*0.78*	*0.59*
Alabama	1.86	1.68	3.67	1.67	0.90	*0.46*
Alaska	3.23	1.86	4.18	1.78	*0.58*	*0.43*
Arizona	3.46	2.40	4.60	2.32	*0.70*	*0.50*
Arkansas	1.44	0.91	2.43	0.86	*0.63*	*0.35*
California	15.32	12.99	18.62	12.84	*0.85*	*0.69*
Colorado	2.75	1.80	3.38	1.73	*0.65*	*0.51*
Connecticut	3.47	1.87	5.24	1.77	*0.54*	*0.34*
Delaware	4.29	4.13	7.19	4.19	0.96	*0.58*
District of Columbia	6.37	8.37	15.44	8.84	*1.31*	*0.57*
Florida	3.33	2.80	4.85	2.77	*0.84*	*0.57*
Georgia	5.28	4.21	9.28	4.22	*0.80*	*0.45*
Hawaii	49.28	47.49	52.72	47.83	0.96	*0.91*
Idaho	0.87	0.92	1.15	0.95	1.06	0.83
Illinois	5.47	3.69	7.16	3.56	*0.67*	*0.50*
Indiana	1.88	1.47	2.88	1.44	*0.78*	*0.50*
Iowa	1.13	0.75	1.91	0.73	*0.66*	*0.38*
Kansas	2.12	1.25	2.69	1.21	*0.59*	*0.45*
Kentucky	1.70	1.63	2.93	1.63	0.96	*0.56*
Louisiana	2.85	1.63	4.14	1.53	*0.57*	*0.37*
Maine	0.76	0.66	1.42	0.67	0.87	*0.47*
Maryland	7.05	5.75	9.85	5.70	*0.82*	*0.58*
Massachusetts	4.60	2.58	5.36	2.46	*0.56*	*0.46*
Michigan	2.73	2.59	4.04	2.55	0.95	*0.63*
Minnesota	2.37	1.08	2.56	1.02	*0.45*	*0.40*
Mississippi	1.83	1.62	3.60	1.57	0.89	*0.44*
Missouri	2.02	1.76	3.08	1.75	0.87	*0.57*
Montana	0.59	0.42	0.66	0.42	0.72	0.65
Nebraska	1.49	0.68	1.88	0.64	*0.46*	*0.34*
Nevada	8.33	3.59	7.10	3.20	*0.43*	*0.45*
New Hampshire	1.67	1.34	2.58	1.35	0.81	*0.52*
New Jersey	8.97	8.00	12.18	8.01	*0.89*	*0.66*
New Mexico	2.19	2.14	3.69	2.19	0.98	*0.59*
New York	10.41	6.56	11.54	6.40	*0.63*	*0.55*
North Carolina	2.60	1.95	3.99	1.89	*0.75*	*0.47*
North Dakota	0.71	0.60	1.09	0.61	0.84	*0.56*
Ohio	2.09	1.76	3.68	1.74	*0.84*	*0.47*
Oklahoma	2.09	1.41	3.21	1.31	*0.67*	*0.41*
Oregon	3.77	2.33	4.42	2.22	*0.62*	*0.50*
Pennsylvania	3.29	2.58	4.72	2.55	*0.79*	*0.54*
Rhode Island	2.16	1.64	3.08	1.62	*0.76*	*0.52*
South Carolina	1.91	1.97	3.74	1.97	1.03	*0.53*
South Dakota	0.61	0.59	1.24	0.59	0.97	*0.47*
Tennessee	2.10	1.75	4.10	1.73	*0.83*	*0.42*
Texas	5.41	4.68	8.62	4.67	*0.87*	*0.54*
Utah	1.97	1.37	2.24	1.36	*0.69*	*0.60*
Vermont	0.86	1.18	1.60	1.26	1.37	0.79

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	7.23	5.31	8.94	5.13	*0.73*	*0.57*
Washington	7.04	5.07	8.28	4.95	*0.72*	*0.60*
West Virginia	1.32	1.21	2.52	1.23	0.91	*0.49*
Wisconsin	1.62	1.06	2.14	1.01	*0.65*	*0.47*
Wyoming	0.68	0.49	1.09	0.48	0.71	*0.44*

Notes: See Table A.1.

Table A.4. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, All Industries, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.90	0.31	0.46	0.27	*0.35*	*0.60*
Alabama	0.83	0.42	0.63	0.39	*0.50*	*0.61*
Alaska	10.31	3.53	2.98	3.05	*0.34*	1.02
Arizona	1.93	0.44	0.53	0.36	*0.23*	*0.68*
Arkansas	1.15	0.44	0.75	0.39	*0.38*	*0.52*
California	1.37	0.33	0.60	0.24	*0.24*	*0.40*
Colorado	0.88	0.37	0.57	0.34	*0.42*	*0.59*
Connecticut	0.51	0.08	0.14	0.04	*0.16*	*0.31*
Delaware						
District of Columbia	0.99	0.27	0.32	0.16	*0.27*	*0.51*
Florida	0.50	0.17	0.24	0.14	*0.34*	*0.60*
Georgia	0.68	0.25	0.31	0.21	*0.37*	*0.67*
Hawaii	1.34	0.83	0.61	0.83	*0.62*	1.36
Idaho	0.94	0.38	0.58	0.36	*0.41*	*0.62*
Illinois	0.50	0.14	0.24	0.11	*0.28*	*0.46*
Indiana	0.47	0.10	0.25	0.09	*0.21*	*0.35*
Iowa	0.24	0.04	0.17	0.03	*0.17*	*0.19*
Kansas	0.98	0.48	0.60	0.45	*0.49*	0.76
Kentucky	0.31	0.09			*0.30*	
Louisiana	0.74	0.39	0.43	0.37	*0.53*	0.87
Maine	0.49	0.11	0.33	0.09	*0.22*	*0.28*
Maryland	0.65	0.17	0.33	0.13	*0.25*	*0.40*
Massachusetts	0.40	0.08	0.28	0.07	*0.21*	*0.25*
Michigan	0.77	0.25	0.39	0.23	*0.33*	*0.59*
Minnesota	0.60	0.25	0.37	0.23	*0.41*	*0.63*
Mississippi	0.33	0.18	0.31	0.17	*0.54*	0.55
Missouri	0.60	0.21	0.47	0.18	*0.35*	*0.39*
Montana	2.13	1.26			0.59	
Nebraska	0.45	0.09	0.22	0.06	*0.20*	*0.27*
Nevada	0.84	0.38	0.40	0.36	*0.45*	0.91
New Hampshire						
New Jersey	0.38	0.08	0.19	0.07	*0.20*	*0.35*
New Mexico	5.48	1.35	1.48	1.17	*0.25*	0.79
New York	0.69	0.20	0.27	0.18	*0.29*	*0.67*
North Carolina	1.04	0.37	0.65	0.29	*0.35*	*0.45*
North Dakota	1.70	0.78	1.03	0.78	*0.46*	0.75
Ohio	0.34	0.15	0.20	0.14	*0.44*	0.69
Oklahoma	6.57	3.52	4.71	3.35	*0.54*	*0.71*
Oregon	1.27	0.34	0.66	0.29	*0.27*	*0.43*
Pennsylvania	0.30	0.08	0.11	0.07	*0.28*	0.61
Rhode Island	0.43	0.12	0.16		*0.28*	
South Carolina	0.47	0.21	0.37	0.20	*0.45*	*0.54*
South Dakota	2.34	0.60	1.15	0.56	*0.26*	*0.48*
Tennessee	0.51	0.32	0.34	0.31	*0.63*	0.91
Texas	0.90	0.43	0.44	0.38	*0.48*	0.88
Utah	0.62	0.43	0.49	0.43	*0.70*	0.88
Vermont	0.54	0.16			*0.30*	

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.54	0.25	0.31	0.23	*0.47*	*0.76*
Washington	1.23	0.60	0.64	0.56	*0.48*	0.87
West Virginia						
Wisconsin	0.63	0.16	0.33	0.14	*0.25*	*0.43*
Wyoming	0.81	0.43	0.55	0.42	*0.53*	0.75

Notes: See Table 1A.

Table A.5. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, All Industries, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.14	0.06	0.08	0.05	*0.40*	*0.66*
Alabama	0.07	0.06	0.02		0.82	
Alaska	0.28	0.09	0.13	0.08	*0.33*	0.63
Arizona						
Arkansas	0.04	0.02	0.00		*0.41*	
California	0.28	0.08	0.10	0.06	*0.29*	0.67
Colorado	0.12	0.03	0.12	0.02	*0.23*	*0.14*
Connecticut	0.03	0.00	0.01	0.00	*0.12*	*0.52*
Delaware	0.05	0.01	0.01		*0.10*	
District of Columbia						
Florida	0.09	0.03	0.03	0.03	*0.33*	0.85
Georgia	0.13	0.04	0.04	0.04	*0.30*	0.86
Hawaii	9.88	6.22	6.40	5.94	*0.63*	0.93
Idaho						
Illinois	0.05	0.01	0.02	0.00	*0.12*	*0.18*
Indiana	0.04	0.02	0.04	0.02	*0.47*	*0.48*
Iowa	0.07	0.01	0.11	0.01	*0.18*	*0.09*
Kansas						
Kentucky	0.03	0.01	0.01	0.00	*0.23*	*0.38*
Louisiana	0.03	0.01	0.02	0.01	*0.19*	*0.32*
Maine	0.04	0.07	0.01		2.02	
Maryland	0.06	0.04	0.04	0.05	0.78	1.19
Massachusetts	0.05	0.01	0.01	0.01	*0.23*	0.65
Michigan	0.06	0.09	0.03	0.10	1.53	3.21
Minnesota						
Mississippi	0.03	0.00			*0.08*	
Missouri	0.07	0.01	0.04	0.01	*0.21*	*0.28*
Montana						
Nebraska	0.01		0.00			
Nevada	0.28	0.11	0.19	0.10	*0.41*	0.55
New Hampshire	0.04	0.00	0.00		*0.10*	
New Jersey	0.06	0.01	0.02	0.01	*0.22*	0.61
New Mexico	0.09	0.01	0.09	0.01	*0.17*	*0.15*
New York	0.10	0.02	0.08	0.02	*0.24*	*0.25*
North Carolina	0.06	0.01	0.02	0.01	*0.20*	0.49
North Dakota	0.04	0.00	0.00	0.00	*0.09*	
Ohio						
Oklahoma	0.05	0.01	0.04	0.01	*0.30*	*0.34*
Oregon	0.19	0.07	0.12	0.07	*0.39*	*0.56*
Pennsylvania	0.04	0.01	0.02	0.01	*0.15*	*0.28*
Rhode Island	0.04	0.02	0.10	0.02	0.65	*0.21*
South Carolina	0.06	0.00			*0.08*	
South Dakota	0.01		0.01			
Tennessee	0.08	0.01			*0.08*	
Texas	0.06	0.04	0.05	0.04	0.78	0.90
Utah	0.29	0.09	0.31	0.08	*0.31*	*0.27*
Vermont						

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.07	0.07	0.11	0.07	1.10	0.68
Washington	0.23	0.06	0.11	0.05	*0.27*	*0.49*
West Virginia	0.01	0.00	0.00	0.00	*0.05*	
Wisconsin						
Wyoming	0.02	0.00	0.01		*0.13*	

Notes: See Table A.1.

Table A.6. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Construction, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	3.75	0.88	1.28	0.73	*0.23*	*0.57*
Alabama	8.74	0.82	2.39	0.50	*0.09*	*0.21*
Alaska	0.61	0.91	0.16	0.89	1.50	*5.51*
Arizona	1.04	0.08	0.26	0.04	*0.07*	*0.17*
Arkansas	1.99	0.68	0.58	0.54	*0.34*	0.93
California						
Colorado	0.66	0.22			*0.33*	
Connecticut	3.15	0.56	0.93	0.28	*0.18*	*0.30*
Delaware	3.83	0.30			*0.08*	
District of Columbia	45.57	18.83	33.65	17.83	*0.41*	*0.53*
Florida	5.61	1.11	2.51	0.82	*0.20*	*0.32*
Georgia	10.62	2.29	2.78	1.63	*0.22*	*0.59*
Hawaii	0.77	0.33	0.69	0.33	*0.43*	0.48
Idaho						
Illinois	3.80	1.13	0.94	1.06	*0.30*	1.13
Indiana	1.91	1.06	0.43	1.02	*0.55*	*2.37*
Iowa	0.23	0.05	0.02		*0.23*	
Kansas	1.22	0.19	0.25	0.16	*0.15*	0.62
Kentucky	1.47	0.44	0.65	0.41	*0.30*	0.63
Louisiana	12.38	1.49	2.75	0.84	*0.12*	*0.30*
Maine						
Maryland	9.21	2.51	3.60	2.29	*0.27*	*0.64*
Massachusetts	1.23	0.63	0.74	0.65	*0.51*	0.87
Michigan	3.43	1.10	0.77	0.99	*0.32*	1.28
Minnesota	0.70	0.09	0.21	0.07	*0.13*	*0.34*
Mississippi	12.66	1.74	3.85	0.78	*0.14*	*0.20*
Missouri	2.09	0.85	0.83	0.81	*0.40*	0.97
Montana	0.39	0.15	0.24	0.13	*0.40*	0.56
Nebraska						
Nevada	1.73	0.67	0.70	0.67	*0.39*	0.97
New Hampshire	0.20	0.03	0.02		*0.12*	
New Jersey	4.88	0.72	1.20	0.43	*0.15*	*0.36*
New Mexico	0.37	0.05	0.04		*0.12*	
New York	6.86	1.28	2.38	1.06	*0.19*	*0.45*
North Carolina	4.87	0.94	1.98	0.72	*0.19*	*0.36*
North Dakota	0.11	0.01	0.00	0.00	*0.05*	
Ohio	2.59	1.23	1.16	1.22	*0.48*	1.06
Oklahoma	1.23	0.31	0.84	0.28	*0.25*	*0.34*
Oregon	1.01	0.40	0.39	0.34	*0.39*	0.87
Pennsylvania	2.14	0.48	0.82	0.43	*0.23*	*0.53*
Rhode Island	1.90	0.25	0.41	0.15	*0.13*	*0.37*
South Carolina	7.92	1.52	3.76	1.18	*0.19*	*0.31*
South Dakota						
Tennessee	3.85	1.03	1.28	0.66	*0.27*	*0.51*
Texas	2.95	0.68	1.01	0.54	*0.23*	*0.53*
Utah	0.25	0.05	0.32	0.05	*0.20*	*0.16*
Vermont						

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	5.69	1.56	3.49	1.41	*0.27*	*0.40*
Washington	0.68	0.20	0.35	0.19	*0.30*	*0.55*
West Virginia	0.50	0.62	0.12	0.63	1.25	*5.05*
Wisconsin	1.00	0.36	0.57	0.35	*0.36*	0.62
Wyoming	0.18		0.03			

Notes: See Table A.1.

Table A.7. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Construction, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	10.16	3.79	5.09	3.08	*0.37*	*0.61*
Alabama	1.69	0.52	1.14	0.28	*0.31*	*0.24*
Alaska						
Arizona	12.72	4.74	7.89	4.45	*0.37*	*0.56*
Arkansas	3.65	2.10	0.89	1.89	*0.58*	2.11
California	20.48	6.88	11.29	5.95	*0.34*	*0.53*
Colorado	10.07	3.43	5.93	2.81	*0.34*	*0.47*
Connecticut	4.98	2.96	2.22	2.99	*0.60*	1.35
Delaware	3.62	1.43			*0.40*	
District of Columbia	17.86	6.85	10.38	6.45	*0.38*	*0.62*
Florida	27.34	9.71	14.30	8.60	*0.36*	*0.60*
Georgia	7.05	2.30	2.63	1.14	*0.33*	*0.43*
Hawaii	3.66	1.83	1.74	1.71	*0.50*	0.99
Idaho	3.86	1.73	3.48	1.61	*0.45*	*0.46*
Illinois	6.12	2.14	3.35	1.94	*0.35*	*0.58*
Indiana	2.06	0.80	1.09	0.57	*0.39*	*0.52*
Iowa	0.69	0.25	0.43	0.18	*0.36*	*0.40*
Kansas	2.51	3.84	2.42	3.72	1.53	1.54
Kentucky	1.23	0.44	0.51	0.34	*0.36*	0.66
Louisiana	5.37	3.63			0.68	
Maine	0.79	0.16			*0.20*	
Maryland	11.78	3.63	5.63	2.84	*0.31*	*0.50*
Massachusetts	2.03	0.93	1.06	0.90	*0.46*	0.84
Michigan	1.47	1.09	0.77	1.06	0.74	1.38
Minnesota	1.03	0.30	0.61	0.22	*0.30*	*0.35*
Mississippi	0.99	0.54	0.49	0.34	*0.54*	0.70
Missouri	1.17	0.67	0.72	0.56	*0.58*	0.78
Montana	0.68	0.60			0.88	
Nebraska	1.98	0.89	1.28	0.76	*0.45*	*0.60*
Nevada	10.86	4.40	5.22	4.23	*0.41*	0.81
New Hampshire	1.25	0.35	0.11	0.08	*0.28*	*0.78*
New Jersey	9.29	3.37	5.11	2.96	*0.36*	*0.58*
New Mexico	37.70	15.30	26.16	13.98	*0.41*	*0.53*
New York	9.79	3.34	4.71	3.04	*0.34*	*0.65*
North Carolina	4.89	1.95	2.34	1.07	*0.40*	*0.46*
North Dakota						
Ohio	1.36	0.56	0.58	0.39	*0.41*	0.66
Oklahoma	3.15	1.94	2.69	1.69	*0.61*	*0.63*
Oregon	3.83	1.87	3.26	1.72	*0.49*	*0.53*
Pennsylvania	1.81	0.55	0.78	0.50	*0.30*	*0.64*
Rhode Island	4.75	0.40	0.26	0.13	*0.08*	0.51
South Carolina	2.83	1.37	2.10	1.07	*0.49*	*0.51*
South Dakota	1.08	0.76	1.17	0.75	0.70	0.65
Tennessee	2.62	1.22			*0.46*	
Texas	32.30	10.66	15.21	6.84	*0.33*	*0.45*
Utah	3.88	1.54	2.81	1.36	*0.40*	*0.49*
Vermont	0.35	0.08	0.20	0.06	*0.23*	*0.32*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	9.13	3.24	3.82	2.43	*0.35*	*0.64*
Washington	2.92	1.06	2.54	1.01	*0.36*	*0.40*
West Virginia	1.37	1.77	0.32	1.85	1.29	*5.72*
Wisconsin	1.59	0.81	0.94	0.73	*0.51*	0.77
Wyoming	3.91	1.52	1.46	1.24	*0.39*	0.85

Notes: See Table A.1.

Table A.8. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Construction, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	2.11	1.24	1.40	1.19	*0.59*	0.85
Alabama	0.24	0.06			*0.24*	
Alaska	1.67	0.46	0.85	0.42	*0.27*	0.49
Arizona	0.72	0.25	0.52	0.24	*0.35*	*0.47*
Arkansas	0.67	0.08	0.03		*0.12*	
California	7.61	3.84	4.81	3.57	*0.50*	0.74
Colorado	0.43	0.16	0.28	0.14	*0.38*	*0.50*
Connecticut						
Delaware	0.55	0.21	0.15	0.13	*0.38*	0.87
District of Columbia	4.33	4.66	6.92	4.78	1.08	0.69
Florida	1.13	0.69	0.74	0.61	*0.61*	0.82
Georgia	1.17	0.64	1.06	0.61	*0.54*	*0.58*
Hawaii	37.22	47.99	43.18	48.97	*1.29*	1.13
Idaho						
Illinois	1.13	0.69	0.91	0.65	*0.61*	0.71
Indiana	0.41	0.30	0.42	0.30	0.74	0.72
Iowa	0.30	0.08	0.02		*0.27*	
Kansas						
Kentucky	0.32	0.22	0.12	0.25	0.70	2.15
Louisiana	0.79	0.33	0.38	0.28	*0.42*	0.75
Maine	0.41	0.04	0.00	0.00	*0.11*	
Maryland	3.09	1.53	2.38	1.43	*0.50*	0.60
Massachusetts	2.17	0.83	0.72	0.73	*0.38*	1.01
Michigan	0.40	0.19	0.36	0.18	*0.47*	*0.50*
Minnesota	1.07	0.38	0.15	0.34	*0.36*	2.29
Mississippi	0.45	0.26	0.20	0.24	*0.57*	1.19
Missouri	0.52	0.21	0.31	0.17	*0.41*	*0.55*
Montana						
Nebraska	0.31	0.27	0.20	0.27	0.88	1.37
Nevada	2.68	0.31	1.43	0.26	*0.12*	*0.18*
New Hampshire	0.23	0.03	0.02		*0.12*	
New Jersey	2.16	1.01	1.56	0.91	*0.47*	*0.58*
New Mexico	0.17	0.41	0.17	0.44	2.47	2.60
New York	9.22	2.08	3.81	1.93	*0.23*	*0.51*
North Carolina	0.58	0.36	0.56	0.31	*0.62*	*0.55*
North Dakota	0.07	0.09	0.13	0.09	1.29	0.68
Ohio	0.39	0.30	0.23	0.29	0.78	1.28
Oklahoma	0.41	0.23			0.55	
Oregon	1.02	0.67	0.70	0.66	*0.65*	0.95
Pennsylvania	1.00	0.28	0.50	0.25	*0.28*	*0.50*
Rhode Island	0.36	0.15	0.20	0.14	*0.41*	0.69
South Carolina	0.31	0.36	0.46	0.36	1.13	0.78
South Dakota	0.07	0.02			*0.28*	
Tennessee	0.44	0.21			*0.47*	
Texas	1.18	0.93			0.79	
Utah	0.32	0.17	0.15	0.17	0.53	1.19
Vermont	0.32	0.39	0.07		1.21	

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	3.59	1.25	1.50	0.75	*0.35*	*0.50*
Washington	1.99	1.16	1.64	1.12	*0.58*	*0.68*
West Virginia	0.13	0.38	0.10	0.41	2.90	*4.08*
Wisconsin						
Wyoming	0.26	0.28	0.17	0.27	1.05	1.58

Notes: See Table A.1.

Table A.9. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Construction, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	1.12	0.56	0.69	0.52	*0.50*	*0.76*
Alabama	0.58	0.53	0.78	0.52	0.91	*0.67*
Alaska						
Arizona	2.24	0.50	0.79	0.47	*0.23*	0.60
Arkansas	1.31	0.74	1.07	0.80	*0.56*	0.75
California	2.17	0.61	0.99	0.50	*0.28*	*0.51*
Colorado	1.10	0.59	1.06	0.54	*0.54*	*0.51*
Connecticut	0.34	0.12			*0.35*	
Delaware	0.20	0.04	0.19	0.03	*0.18*	*0.17*
District of Columbia						
Florida	0.73	0.24	0.34	0.22	*0.33*	0.64
Georgia	0.77	0.80	0.55	0.82	1.04	1.47
Hawaii						
Idaho	0.94	1.07	1.06	1.14	1.14	1.07
Illinois	0.62	0.17	0.18	0.13	*0.27*	0.69
Indiana	0.41	0.18	0.10		*0.43*	
Iowa	0.22	0.08	0.24	0.08	*0.36*	*0.32*
Kansas						
Kentucky						
Louisiana						
Maine						
Maryland	0.35	0.31	0.47	0.30	0.89	0.63
Massachusetts						
Michigan	0.77	0.33	0.56	0.30	*0.43*	*0.53*
Minnesota	0.52	0.23	0.24	0.22	*0.44*	0.94
Mississippi						
Missouri	0.80	0.54	0.30	0.50	0.68	1.66
Montana	2.57	1.47	1.24	1.42	*0.57*	1.14
Nebraska	0.41	0.10	0.28	0.08	*0.24*	*0.29*
Nevada	0.39	0.48	0.52	0.49	1.23	0.94
New Hampshire	0.23	0.16			0.68	
New Jersey	0.30	0.07	0.22	0.05	*0.22*	*0.25*
New Mexico	4.50	2.18	1.28	2.22	*0.49*	1.73
New York	0.65	0.16	0.17	0.14	*0.25*	0.82
North Carolina	1.91	0.76	1.10	0.53	*0.40*	*0.48*
North Dakota	1.86	1.64	1.79	1.66	0.88	0.93
Ohio	0.39	0.29	0.19	0.29	0.74	1.55
Oklahoma	10.03	6.83	7.37	6.75	*0.68*	0.92
Oregon	1.57	0.76	1.17	0.69	*0.49*	0.58
Pennsylvania	0.16	0.06	0.15	0.04	*0.39*	*0.28*
Rhode Island						
South Carolina	0.44	0.11	0.47	0.11	*0.25*	*0.23*
South Dakota	3.63	1.03	2.27	0.99	*0.28*	*0.43*
Tennessee	0.74	0.25	0.27	0.23	*0.34*	0.85
Texas	1.67	0.87	1.08	0.76	*0.52*	0.70
Utah						
Vermont						

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.68	0.34	0.46	0.32	*0.49*	0.69
Washington	1.30	1.37	1.22	1.39	1.06	1.15
West Virginia	0.20	0.13	0.05		0.65	
Wisconsin	0.54	0.31	0.46	0.29	*0.57*	0.63
Wyoming	1.12	0.56	0.69	0.52	*0.50*	*0.76*

Notes: See Table A.1.

Table A.10. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Construction, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.15	0.10	0.11	0.10	*0.70*	0.89
Alabama						
Alaska	0.08	0.29	0.08		*3.61*	
Arizona						
Arkansas	0.04	0.00	0.00	0.00	*0.07*	
California	0.33	0.21	0.17	0.18	0.62	1.10
Colorado	0.31	0.08	0.36	0.05	*0.25*	*0.14*
Connecticut	0.00		0.01			
Delaware	0.01		0.00	0.00		
District of Columbia						
Florida						
Georgia						
Hawaii	12.37	9.50	12.78	9.39	0.77	0.74
Idaho						
Illinois						
Indiana						
Iowa						
Kansas	0.07	0.00	0.04	0.00	*0.05*	*0.06*
Kentucky						
Louisiana	0.01	0.00	0.00	0.00	*0.05*	
Maine	0.16	0.52	0.02		3.28	
Maryland	0.10	0.07	0.10	0.08	0.71	0.79
Massachusetts						
Michigan						
Minnesota						
Mississippi						
Missouri	0.03	0.01	0.01		*0.36*	
Montana						
Nebraska	0.01	0.00	0.00	0.00	*0.12*	
Nevada						
New Hampshire	0.00		0.00	0.00		
New Jersey	0.07	0.03	0.05	0.03	*0.45*	0.70
New Mexico	0.01		0.00	0.00		
New York						
North Carolina						
North Dakota	0.03		0.00	0.00		
Ohio						
Oklahoma	0.03	0.09	0.16	0.10	2.70	0.64
Oregon	0.19	0.20	0.24	0.20	1.01	0.86
Pennsylvania	0.03	0.01	0.01		*0.22*	
Rhode Island	0.00	0.00	0.00	0.00		
South Carolina	0.02	0.01	0.01		*0.32*	
South Dakota	0.00	0.00	0.00	0.00		
Tennessee	0.06	0.01	0.01		*0.12*	
Texas						
Utah	0.39	0.14	0.34	0.14	*0.35*	*0.41*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont						
Virginia	0.05	0.06	0.01	0.06	1.32	*5.03*
Washington	0.20	0.04	0.18	0.04	*0.22*	*0.23*
West Virginia	0.00	0.00	0.00	0.00		
Wisconsin						
Wyoming	0.01		0.00	0.00		

Notes: See Table A.1.

Table A.11. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Professional, Scientific and Technical Services, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	4.41	1.69	1.79	1.47	*0.38*	*0.82*
Alabama	8.34	2.77	2.47	2.40	*0.33*	0.97
Alaska	1.69	0.46	1.33	0.33	*0.27*	*0.25*
Arizona	1.41	0.61	0.95	0.45	*0.44*	*0.47*
Arkansas	4.17	0.84	1.04	0.42	*0.20*	*0.40*
California	2.82	1.22	1.45	1.06	*0.43*	0.73
Colorado	1.35	0.85	0.88	0.83	*0.63*	0.94
Connecticut	3.17	0.53	1.04	0.28	*0.17*	*0.27*
Delaware	6.30	1.06			*0.17*	
District of Columbia	16.69	7.26	9.90	6.85	*0.43*	*0.69*
Florida	4.87	1.78	2.39	1.56	*0.36*	*0.65*
Georgia	13.76	4.16	4.75	3.57	*0.30*	*0.75*
Hawaii	0.74	2.15	0.74	2.64	*2.92*	3.57
Idaho	0.26	0.06	0.03		*0.22*	
Illinois	5.19	1.69	1.55	1.40	*0.33*	0.90
Indiana	3.32	1.75	1.37	1.63	*0.53*	1.20
Iowa	0.92	0.26	0.52	0.24	*0.28*	0.46
Kansas	1.66	0.27	0.26	0.14	*0.16*	0.53
Kentucky	2.29	0.93	0.84	0.72	*0.41*	0.86
Louisiana	8.67	2.02	2.38	1.58	*0.23*	0.66
Maine						
Maryland	14.65	7.75	6.38	7.24	*0.53*	1.14
Massachusetts	1.99	0.49	0.68	0.32	*0.25*	*0.48*
Michigan	5.03	1.98	1.75	1.57	*0.39*	0.90
Minnesota	2.22	1.06	0.66	0.78	*0.48*	1.18
Mississippi	10.86	2.27	3.07	1.29	*0.21*	*0.42*
Missouri	3.54	1.41	1.44	1.30	*0.40*	0.90
Montana	0.20	0.10	0.03		*0.48*	
Nebraska	0.93	0.52	0.11	0.49	*0.56*	*4.43*
Nevada	3.01	0.59	1.77	0.42	*0.20*	*0.24*
New Hampshire	0.50	0.20			*0.40*	
New Jersey	4.62	1.95	1.97	1.81	*0.42*	0.92
New Mexico	1.39	0.83	0.55	0.64	*0.60*	1.16
New York	5.55	1.11	1.97	0.74	*0.20*	*0.38*
North Carolina	7.14	2.24	2.79	1.90	*0.31*	*0.68*
North Dakota	0.20		0.08			
Ohio	3.86	1.88	1.25	1.79	*0.49*	*1.44*
Oklahoma	2.09	1.29	0.85	1.34	*0.62*	1.56
Oregon	0.53	0.44	0.46	0.46	0.84	1.00
Pennsylvania	3.10	1.09	1.04	0.77	*0.35*	0.74
Rhode Island	1.94	0.51	0.26	0.27	*0.26*	1.03
South Carolina	7.14	1.50	2.16	0.95	*0.21*	*0.44*
South Dakota						
Tennessee	4.96	1.75	2.22	1.21	*0.35*	*0.55*
Texas	4.98	1.25	1.91	0.92	*0.25*	*0.48*
Utah	0.30	0.14	0.25	0.14	*0.46*	0.57

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont						
Virginia	5.90	3.34	2.91	3.32	*0.57*	1.14
Washington	1.36	0.56	0.64	0.45	*0.42*	0.70
West Virginia	1.37	0.31	0.40	0.09	*0.22*	*0.24*
Wisconsin	1.52	0.79	0.79	0.77	*0.52*	0.98
Wyoming	0.29	0.06	0.18	0.05	*0.22*	*0.29*

Notes: See Table A.1.

Table A.12. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Professional, Scientific and Technical Services, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	4.99	3.00	3.43	2.75	0.60	0.80
Alabama	1.10	4.21	0.50	4.69	3.81	9.44
Alaska	1.35	0.85	0.70	0.83	0.63	1.19
Arizona	6.46	3.54	4.71	3.35	0.55	0.71
Arkansas	1.25	0.48	0.31	0.19	0.38	0.59
California	8.03	4.22	5.38	3.81	0.53	0.71
Colorado	3.98	2.38	2.40	2.03	0.60	0.85
Connecticut	2.42	1.76	1.09	1.66	0.73	1.52
Delaware						
District of Columbia	6.05	4.15	4.59	4.24	0.69	0.92
Florida	16.04	10.80	12.05	10.14	0.67	0.84
Georgia	2.49	1.52	1.27	1.34	0.61	1.06
Hawaii	4.12	2.21			0.54	
Idaho	1.58	1.75	1.50	1.93	1.10	1.28
Illinois	3.28	1.72	1.90	1.62	0.52	0.85
Indiana	1.74	0.61	1.13	0.56	0.35	0.50
Iowa	0.69	0.24			0.34	
Kansas	1.82	0.74	1.05	0.65	0.40	0.62
Kentucky	1.10	0.38	0.66	0.30	0.35	0.45
Louisiana	2.29	2.04	1.83	1.92	0.89	1.05
Maine	0.27	0.11	0.23	0.08	0.40	0.37
Maryland	3.14	3.54	2.77	3.68	1.13	1.33
Massachusetts	1.95	0.99	1.04	0.82	0.51	0.79
Michigan	1.16	0.80	0.76	0.78	0.69	1.02
Minnesota	0.94	0.59	0.52	0.57	0.63	1.09
Mississippi	0.40	0.31	0.34	0.29	0.76	0.86
Missouri	1.31	1.03	0.74	1.06	0.79	1.42
Montana	0.40	0.23	0.23	0.19	0.58	0.82
Nebraska	1.36	0.68	0.36	0.56	0.50	1.55
Nevada	4.92	2.48	3.35	2.11	0.50	0.63
New Hampshire	0.91	0.34			0.37	
New Jersey	4.09	1.88	2.65	1.70	0.46	0.64
New Mexico	14.37	12.51	12.15	11.66	0.87	0.96
New York	4.88	1.92	2.47	1.57	0.39	0.63
North Carolina	2.29	0.82	0.91	0.62	0.36	0.68
North Dakota	1.03		0.23			
Ohio	1.20	1.00	0.86	0.99	0.84	1.15
Oklahoma	1.81	0.77	1.55	0.68	0.43	0.44
Oregon	2.12	0.87	1.25	0.73	0.41	0.58
Pennsylvania	1.27	0.56	0.92	0.46	0.44	0.50
Rhode Island	2.65	0.93	0.79	0.61	0.35	0.78
South Carolina	1.16	0.75	0.46	0.56	0.65	1.23
South Dakota	1.14	0.76	0.31	0.74	0.67	2.42
Tennessee	1.13	0.66	0.87	0.67	0.59	0.77
Texas	10.57	5.62	7.68	5.03	0.53	0.66
Utah	2.22	1.62	1.37	1.64	0.73	1.19

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.57	0.21	0.32	0.13	0.36	0.41
Virginia	3.02	3.40	1.88	3.52	1.12	1.87
Washington	2.57	1.27	1.84	1.13	0.49	0.61
West Virginia	0.93	0.56	0.47	0.18	0.61	0.39
Wisconsin	0.98	1.29	0.70	1.36	1.32	1.93
Wyoming	1.26	1.68	1.30	1.86	1.33	1.44

Notes: See Table A.1.

Table A.13. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Professional, Scientific and Technical Services, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	5.75	5.66	5.29	5.77	0.98	*1.09*
Alabama	1.19	4.47	0.83	4.96	*3.74*	5.97
Alaska	1.89	0.64	0.28		*0.34*	
Arizona	3.00	2.80	2.23	2.93	0.93	1.31
Arkansas	0.85	1.10	0.59	1.23	1.30	2.10
California	13.86	9.98	12.23	9.80	*0.72*	*0.80*
Colorado	2.23	3.05	2.23	3.31	1.37	1.48
Connecticut	3.31	3.67	2.40	3.89	1.11	*1.62*
Delaware	6.78	8.36	8.70	8.71	1.23	1.00
District of Columbia	4.60	5.28	4.10	5.43	1.15	1.32
Florida	2.15	2.25	2.21	2.33	1.05	1.05
Georgia	4.33	5.05	5.34	5.45	1.17	1.02
Hawaii	44.50	46.53	44.04	48.36	1.05	1.10
Idaho	1.85	1.56	1.05	1.55	0.84	1.48
Illinois	5.75	5.14	5.60	4.92	0.90	0.88
Indiana	1.53	1.73	1.06	1.76	1.13	*1.67*
Iowa	1.65	2.90	2.26	3.22	1.76	1.43
Kansas	1.75	2.40	1.91	2.63	1.37	1.38
Kentucky	1.33	1.56	1.73	1.71	1.17	0.98
Louisiana	1.36	1.00	0.79	1.02	*0.74*	1.29
Maine	0.97	1.36	0.68	1.49	1.40	2.19
Maryland	6.85	10.00	6.49	10.60	*1.46*	*1.63*
Massachusetts	4.28	4.39	3.76	4.66	1.03	1.24
Michigan	3.22	6.49	3.51	7.03	*2.01*	*2.01*
Minnesota	2.72	3.04	3.01	3.28	1.12	1.09
Mississippi	1.23	0.79	0.72	0.81	*0.64*	1.13
Missouri	1.69	2.49	1.86	2.61	1.48	1.40
Montana	0.66	1.08	0.97	1.09	1.65	1.12
Nebraska	1.82	1.76	1.77	1.48	0.97	0.84
Nevada	5.16	2.76	3.66	2.41	*0.54*	*0.66*
New Hampshire	2.00	3.49	2.59	4.01	*1.74*	1.55
New Jersey	11.49	13.30	15.12	14.14	1.16	0.94
New Mexico	1.61	4.58	1.63	5.30	*2.85*	*3.25*
New York	7.71	4.39	5.61	4.03	*0.57*	*0.72*
North Carolina	2.12	2.87	2.45	2.98	1.36	1.22
North Dakota	0.81	1.22	0.46	1.26	1.50	*2.72*
Ohio	2.35	3.52	2.60	3.78	*1.50*	1.46
Oklahoma	1.27	1.31	0.93	1.39	1.03	1.49
Oregon	3.75	2.53	3.38	2.52	*0.67*	0.74
Pennsylvania	2.79	3.66	3.43	3.91	*1.31*	1.14
Rhode Island	1.41	0.49			*0.35*	
South Carolina	1.09	0.91	0.93	0.85	0.83	0.92
South Dakota	0.60	0.59	0.31	0.54	0.99	*1.76*
Tennessee	1.52	3.35	1.72	3.73	*2.20*	2.17
Texas	5.18	4.04	5.15	3.95	*0.78*	*0.77*
Utah	1.45	1.95	1.37	2.01	1.34	1.46

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.73		0.37			
Virginia	7.25	12.30	9.53	13.14	*1.70*	*1.38*
Washington	5.69	4.49	5.05	4.22	*0.79*	0.84
West Virginia	1.46	1.84	0.71	1.77	1.25	*2.48*
Wisconsin	1.81	3.17	2.66	3.29	*1.75*	1.23
Wyoming	0.74	1.60	0.95	1.78	2.16	1.89

Notes: See Table A.1.

Table A.14. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Professional, Scientific and Technical Services, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.64	0.35	0.40	0.29	*0.54*	*0.73*
Alabama	0.76	0.50	0.62	0.49	0.66	0.79
Alaska	8.48	2.53	0.84	2.20	*0.30*	*2.62*
Arizona	1.76	0.45	0.63	0.30	*0.26*	*0.47*
Arkansas	0.66	0.49	0.33	0.34	0.75	1.02
California	0.84	0.30			*0.35*	
Colorado	0.68	0.52	0.63	0.51	0.76	0.80
Connecticut	0.35	0.26	0.22	0.17	0.75	0.76
Delaware						
District of Columbia	1.40	0.47	0.59	0.41	*0.33*	0.70
Florida	0.42	0.22	0.23	0.15	*0.52*	0.68
Georgia	0.36	0.25	0.40	0.23	0.67	0.57
Hawaii	0.44	0.22			*0.50*	
Idaho	0.55	1.01	0.86	1.13	1.82	1.31
Illinois						
Indiana	0.64	0.37	0.44	0.34	0.58	0.77
Iowa	0.15	0.07	0.37	0.07	*0.43*	*0.20*
Kansas	0.64	0.32	0.42	0.31	0.50	0.73
Kentucky						
Louisiana	0.85	0.35	0.33	0.30	*0.42*	0.92
Maine	0.24	0.12	0.13	0.10	*0.51*	0.74
Maryland	0.68	0.35	0.36	0.29	*0.52*	0.79
Massachusetts	0.30	0.12			*0.39*	
Michigan	0.71	0.36			*0.50*	
Minnesota						
Mississippi						
Missouri	0.36	0.23	0.35	0.16	0.62	*0.45*
Montana	1.09	0.67	0.55	0.57	*0.62*	1.04
Nebraska	0.20	0.27	0.22	0.25	1.36	1.14
Nevada	0.50	0.65	0.35	0.73	1.30	*2.06*
New Hampshire	0.19	0.11	0.21	0.11	*0.57*	0.53
New Jersey	0.27	0.23	0.13	0.22	0.86	1.71
New Mexico	2.81	2.40	1.88	2.13	0.86	1.13
New York	0.31	0.22	0.15	0.19	0.72	1.30
North Carolina	0.56	0.23	0.47	0.22	*0.41*	*0.47*
North Dakota	1.12	0.49	0.54	0.30	*0.43*	*0.56*
Ohio	0.15	0.06	0.09	0.03	*0.41*	*0.28*
Oklahoma	4.98	4.70	5.78	4.66	0.94	0.81
Oregon	0.70	0.22			*0.31*	
Pennsylvania						
Rhode Island	0.25	0.03	0.04		*0.12*	
South Carolina						
South Dakota	1.21	1.03	0.80	0.92	0.85	1.15
Tennessee	1.02	0.68	0.69	0.67	0.67	0.97
Texas	0.64	0.30	0.24	0.23	*0.48*	0.98
Utah	0.21	0.09			*0.45*	

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont						
Virginia	0.45	0.54	0.35	0.57	1.19	1.65
Washington	1.07	0.56	0.45	0.50	*0.53*	1.11
West Virginia						
Wisconsin	0.48	0.10	0.27	0.05	*0.21*	*0.18*
Wyoming	0.51	0.33	0.41	0.37	0.65	0.90

Notes: See Table A.1.

Table A.15. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Professional, Scientific and Technical Services, 2007

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.10	0.08	0.06	0.08	0.83	1.25
Alabama						
Alaska						
Arizona	0.05	0.03	0.06	0.03	0.64	0.60
Arkansas	0.02	0.42	0.02		*18.90*	
California	0.19	0.18			0.96	
Colorado						
Connecticut						
Delaware	0.01		0.00	0.00		
District of Columbia	0.03		0.00	0.00		
Florida	0.02	0.00	0.02	0.00	*0.18*	*0.22*
Georgia						
Hawaii	6.28	4.42	3.88	4.04	*0.70*	1.04
Idaho	0.14	0.02			*0.15*	
Illinois						
Indiana	0.01	0.20	0.03	0.23	*15.15*	*8.67*
Iowa						
Kansas						
Kentucky	0.02	0.01	0.01		0.57	
Louisiana						
Maine	0.01		0.00	0.00		
Maryland	0.07	0.29	0.10	0.34	4.15	3.47
Massachusetts	0.01		0.02			
Michigan	0.05	0.07	0.01		1.47	
Minnesota						
Mississippi	0.02		0.00	0.00		
Missouri						
Montana	0.01		0.00	0.00		
Nebraska	0.01		0.03			
Nevada	0.11	0.19	0.21	0.23	1.66	1.09
New Hampshire	0.07	0.05	0.03		0.68	
New Jersey						
New Mexico	0.02	0.01	0.00	0.00	*0.70*	
New York						
North Carolina	0.01	0.00	0.00	0.00	*0.08*	
North Dakota						
Ohio	0.02	0.03	0.01		1.58	
Oklahoma	0.08	0.01	0.00	0.00	*0.06*	
Oregon						
Pennsylvania						
Rhode Island	0.00	0.00	0.00	0.00		
South Carolina						
South Dakota	0.00	0.00	0.00	0.00		
Tennessee	0.04	0.00	0.00	0.00	*0.09*	
Texas						
Utah	0.15	0.10	0.17	0.11	0.70	0.68

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.01		0.00	0.00		
Virginia	0.07	0.18	0.15	0.20	2.64	1.35
Washington	0.13	0.06	0.09	0.06	*0.45*	0.76
West Virginia	0.02		0.00	0.00		
Wisconsin						
Wyoming	0.00	0.00	0.00	0.00		

Notes: See Table A.1.

VII. Appendix B

Table B.1. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, All Industries, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	5.21	0.39	1.71	0.30	0.08	0.18
Alabama	9.26	0.62	2.96	0.46	*0.07*	*0.16*
Alaska	1.49	0.18	0.66	0.14	*0.12*	*0.22*
Arizona	1.66	0.16	0.66	0.13	*0.10*	*0.19*
Arkansas	4.28	0.27	1.38	0.18	*0.06*	*0.13*
California	3.88	0.35	1.48	0.26	*0.09*	*0.18*
Colorado	1.52	0.20	0.68	0.16	*0.13*	*0.24*
Connecticut	3.42	0.19	0.97	0.14	*0.05*	*0.14*
Delaware	6.70	0.18	1.97	0.11	*0.03*	*0.06*
Dist. of Columbia	25.86	1.47	9.23	1.28	*0.06*	*0.14*
Florida	6.63	0.53	1.95	0.36	*0.08*	*0.19*
Georgia	13.41	0.77	3.88	0.55	*0.06*	*0.14*
Hawaii	0.82	0.12	0.31	0.10	*0.15*	*0.33*
Idaho	0.31	0.08	0.34	0.07	*0.26*	*0.21*
Illinois	7.17	0.43	1.73	0.35	*0.06*	*0.20*
Indiana	3.24	0.35	1.28	0.31	*0.11*	*0.24*
Iowa	0.68	0.11	0.35	0.10	*0.16*	*0.29*
Kansas	2.04	0.16	0.96	0.13	*0.08*	*0.13*
Kentucky	2.52	0.39	0.92	0.35	*0.15*	*0.38*
Louisiana	12.24	0.59	3.55	0.40	*0.05*	*0.11*
Maine	0.24	0.04	0.10	0.03	*0.18*	*0.33*
Maryland	15.65	1.25	4.23	0.92	*0.08*	*0.22*
Massachusetts	2.27	0.19	0.87	0.15	*0.08*	*0.18*
Michigan	6.03	0.54	1.68	0.47	*0.09*	*0.28*
Minnesota	1.77	0.15	0.46	0.12	*0.08*	*0.27*
Mississippi	13.33	0.94	4.39	0.59	*0.07*	*0.13*
Missouri	3.81	0.30	1.73	0.24	*0.08*	*0.14*
Montana	0.22	0.03	n/a	n/a	*0.13*	
Nebraska	1.44	0.10	0.62	0.09	*0.07*	*0.14*
Nevada	2.56	0.29	1.08	0.23	*0.11*	*0.22*
New Hampshire	0.37	0.07	0.23	0.06	*0.19*	*0.26*
New Jersey	5.12	0.38	1.86	0.31	*0.07*	*0.16*
New Mexico	1.13	0.29	0.50	0.27	*0.26*	*0.53*
New York	7.58	0.43	1.81	0.31	*0.06*	*0.17*
North Carolina	8.11	0.59	3.07	0.45	*0.07*	*0.15*
North Dakota	0.14	0.03	n/a	n/a	*0.24*	
Ohio	4.36	0.40	1.56	0.34	*0.09*	*0.22*
Oklahoma	2.55	0.23	0.96	0.18	*0.09*	*0.19*
Oregon	0.74	0.15	0.39	0.13	*0.20*	*0.34*
Pennsylvania	2.83	0.22	1.17	0.18	*0.08*	*0.16*
Rhode Island	n/a	n/a	n/a	n/a		
South Carolina	9.77	0.63	3.31	0.42	*0.06*	*0.13*
South Dakota	0.18	0.10	0.11	0.10	*0.58*	0.90
Tennessee	5.90	0.40	2.16	0.29	*0.07*	*0.14*
Texas	5.12	0.35	1.79	0.26	*0.07*	*0.14*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Utah	0.34	0.13	0.15	0.13	*0.38*	0.86
Vermont	0.29	0.05	0.15	0.05	*0.18*	*0.33*
Virginia	7.77	0.67	3.39	0.55	*0.09*	*0.16*
Washington	1.49	0.23	0.84	0.21	*0.16*	*0.25*
West Virginia	1.30	0.11	0.39	0.08	*0.08*	*0.22*
Wisconsin	1.70	0.15	0.76	0.12	*0.09*	*0.16*
Wyoming	0.28	0.03	0.24	0.02	*0.10*	*0.10*

Notes: The Disparity Index is derived by dividing the percentage of sales by the corresponding percentage of firms. A Disparity Index of zero indicates complete disparity while a value of 1 indicates parity. Disparity Indexes in italics are statistically significant at a 1-in-20 probability level or better.

Table B.2. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, All Industries, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	6.85	0.98	3.61	0.82	0.14	0.23
Alabama	0.82	0.28	0.90	0.26	*0.34*	*0.29*
Alaska	2.00	0.37	1.85	0.34	*0.19*	*0.18*
Arizona	9.21	1.32	5.30	1.10	*0.14*	*0.21*
Arkansas	1.00	0.23	0.84	0.20	*0.23*	*0.24*
California	14.70	2.04	7.06	1.68	*0.14*	*0.24*
Colorado	5.17	1.33	3.48	1.21	*0.26*	*0.35*
Connecticut	3.12	0.33	1.70	0.28	*0.11*	*0.16*
Delaware	1.38	0.12	0.72	0.09	*0.09*	*0.12*
Dist. of Columbia	4.60	0.51	3.18	0.48	*0.11*	*0.15*
Florida	17.33	3.80	11.09	3.27	*0.22*	*0.29*
Georgia	2.71	0.57	1.66	0.48	*0.21*	*0.29*
Hawaii	3.12	0.73	2.05	0.66	*0.23*	*0.32*
Idaho	2.28	0.48	1.82	0.41	*0.21*	*0.23*
Illinois	4.13	0.64	2.69	0.57	*0.16*	*0.21*
Indiana	1.26	0.16	0.81	0.14	*0.13*	*0.17*
Iowa	0.65	0.12	0.58	0.11	*0.19*	*0.19*
Kansas	1.90	0.29	1.47	0.25	*0.15*	*0.17*
Kentucky	0.70	0.27	n/a	n/a	*0.39*	
Louisiana	2.33	0.60	1.63	0.56	*0.26*	*0.34*
Maine	0.54	0.15	0.32	0.13	*0.28*	*0.41*
Maryland	3.46	0.64	2.00	0.54	*0.19*	*0.27*
Massachusetts	2.83	0.32	1.41	0.26	*0.11*	*0.19*
Michigan	1.34	0.40	0.90	0.39	*0.30*	*0.43*
Minnesota	0.90	0.10	0.57	0.08	*0.11*	*0.14*
Mississippi	0.71	0.15	0.56	0.13	*0.21*	*0.22*
Missouri	0.83	0.15	0.63	0.14	*0.18*	*0.22*
Montana	0.96	0.22	n/a	n/a	*0.23*	
Nebraska	1.35	0.31	0.94	0.29	*0.23*	*0.31*
Nevada	5.75	1.11	3.18	0.96	*0.19*	*0.30*
New Hampshire	0.73	0.21	0.65	0.18	*0.28*	*0.28*
New Jersey	7.03	0.85	3.78	0.73	*0.12*	*0.19*
New Mexico	21.73	5.40	15.08	4.83	*0.25*	*0.32*
New York	9.58	0.71	3.26	0.56	*0.07*	*0.17*
North Carolina	1.41	0.30	1.09	0.25	*0.21*	*0.23*
North Dakota	0.41	0.04	0.25	0.03	*0.09*	*0.13*
Ohio	0.87	0.14	0.67	0.13	*0.16*	*0.19*
Oklahoma	1.87	0.58	1.40	0.53	*0.31*	*0.38*
Oregon	2.12	0.56	1.56	0.52	*0.26*	*0.34*
Pennsylvania	1.26	0.18	0.72	0.15	*0.14*	*0.21*
Rhode Island	3.91	0.32	1.20	0.20	*0.08*	*0.17*
South Carolina	1.03	0.27	0.90	0.25	*0.26*	*0.28*
South Dakota	0.51	0.20	0.49	0.19	*0.40*	*0.39*
Tennessee	0.95	0.23	0.92	0.21	*0.24*	*0.23*
Texas	18.41	2.33	9.47	1.88	*0.13*	*0.20*
Utah	2.68	0.38	1.82	0.32	*0.14*	*0.17*
Vermont	0.62	0.10	0.35	0.08	*0.15*	*0.22*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	3.59	0.62	1.79	0.53	*0.17*	*0.30*
Washington	2.20	0.34	1.74	0.30	*0.16*	*0.18*
West Virginia	0.57	0.22	0.81	0.20	*0.38*	*0.25*
Wisconsin	0.95	0.22	0.77	0.21	*0.23*	*0.27*
Wyoming	2.49	0.66	1.95	0.63	*0.26*	*0.32*

Notes: See Table B.1.

Table B.3. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, All Industries, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	4.80	1.45	5.78	1.33	0.30	0.23
Alabama	1.38	0.56	2.17	0.53	*0.41*	*0.24*
Alaska	3.07	0.91	4.05	0.82	*0.30*	*0.20*
Arizona	2.68	0.73	3.36	0.67	*0.27*	*0.20*
Arkansas	0.96	0.37	1.84	0.36	*0.39*	*0.19*
California	12.77	4.50	15.24	4.17	*0.35*	*0.27*
Colorado	2.35	0.64	2.94	0.58	*0.27*	*0.20*
Connecticut	2.38	0.48	3.24	0.41	*0.20*	*0.13*
Delaware	2.98	0.53	3.96	0.49	*0.18*	*0.12*
Dist. of Columbia	5.11	0.94	10.11	n/a	*0.18*	
Florida	2.68	1.04	3.78	0.99	*0.39*	*0.26*
Georgia	3.99	1.08	5.97	1.00	*0.27*	*0.17*
Hawaii	45.28	18.88	43.92	17.73	*0.42*	*0.40*
Idaho	0.91	0.39	1.29	0.38	*0.43*	*0.29*
Illinois	4.64	1.27	5.43	1.19	*0.27*	*0.22*
Indiana	1.40	0.54	2.11	0.52	*0.38*	*0.24*
Iowa	0.76	0.20	1.12	0.18	*0.26*	*0.16*
Kansas	1.62	0.39	2.36	0.36	*0.24*	*0.15*
Kentucky	1.08	0.48	1.89	0.47	*0.45*	0.25
Louisiana	2.50	0.55	3.07	0.47	*0.22*	*0.15*
Maine	0.62	0.27	1.28	0.26	*0.45*	*0.21*
Maryland	5.90	1.89	7.44	1.76	*0.32*	*0.24*
Massachusetts	3.21	0.77	3.76	0.72	*0.24*	*0.19*
Michigan	2.09	0.64	2.80	0.60	*0.31*	*0.21*
Minnesota	1.73	0.38	1.61	0.35	*0.22*	*0.22*
Mississippi	1.56	0.87	2.34	0.79	*0.56*	*0.34*
Missouri	1.45	0.42	2.19	0.40	*0.29*	*0.18*
Montana	0.51	0.22	0.90	0.22	*0.44*	0.24
Nebraska	1.00	0.49	1.53	0.49	*0.49*	*0.32*
Nevada	5.23	1.35	5.37	1.17	*0.26*	*0.22*
New Hampshire	1.22	0.43	2.07	0.39	*0.35*	*0.19*
New Jersey	7.33	2.18	8.46	2.06	*0.30*	*0.24*
New Mexico	1.73	0.73	2.52	0.69	*0.42*	*0.27*
New York	8.50	1.76	8.40	1.58	*0.21*	*0.19*
North Carolina	2.13	0.58	2.84	0.54	*0.27*	*0.19*
North Dakota	0.49	0.25	0.97	0.25	*0.52*	*0.26*
Ohio	1.68	0.57	2.71	0.54	*0.34*	*0.20*
Oklahoma	1.57	0.47	2.28	0.42	*0.30*	*0.18*
Oregon	3.02	0.87	3.42	0.76	*0.29*	*0.22*
Pennsylvania	2.59	0.69	3.17	0.63	*0.27*	*0.20*
Rhode Island	1.75	0.49	1.78	0.44	*0.28*	*0.25*
South Carolina	1.51	0.81	2.47	0.79	*0.54*	*0.32*
South Dakota	0.43	0.15	0.46	0.14	*0.34*	*0.31*
Tennessee	1.59	0.50	2.86	0.47	*0.31*	*0.16*
Texas	4.49	1.14	5.99	1.04	*0.25*	*0.17*
Utah	1.46	0.48	1.81	0.45	*0.33*	*0.25*
Vermont	0.60	0.17	1.00	n/a	*0.28*	

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	5.75	1.38	6.05	1.27	*0.24*	*0.21*
Washington	5.75	1.59	6.01	1.46	*0.28*	*0.24*
West Virginia	1.09	0.51	2.12	0.50	*0.47*	*0.23*
Wisconsin	1.26	0.34	1.61	0.32	*0.27*	*0.20*
Wyoming	0.76	0.25	1.34	0.24	*0.33*	*0.18*

Notes: See Table B.1.

Table B.4. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, All Industries, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.88	0.12	0.44	0.10	0.14	0.23
Alabama	0.94	0.18	0.69	0.16	*0.19*	*0.23*
Alaska	8.29	6.02	4.76	6.07	*0.73*	*1.28*
Arizona	1.72	0.17	0.49	0.14	*0.10*	*0.29*
Arkansas	1.09	0.19	0.50	0.16	*0.18*	*0.31*
California	1.31	0.14	0.54	0.11	*0.11*	*0.20*
Colorado	0.85	0.14	0.50	0.11	*0.16*	*0.23*
Connecticut	0.40	0.04	n/a	n/a	*0.09*	
Delaware	n/a	n/a	n/a	n/a		
Dist. of Columbia	0.47	0.05	0.33	0.05	*0.10*	*0.14*
Florida	0.64	0.06	0.23	0.04	*0.09*	*0.16*
Georgia	0.66	0.08	0.42	0.06	*0.12*	*0.15*
Hawaii	0.90	0.15	n/a	n/a	*0.17*	
Idaho	0.94	0.28	0.54	0.26	*0.30*	*0.48*
Illinois	0.35	0.04	0.20	0.03	*0.11*	*0.16*
Indiana	0.45	0.05	0.27	0.05	*0.12*	*0.17*
Iowa	0.27	0.04	n/a	n/a	*0.13*	
Kansas	0.79	0.15	0.60	0.14	*0.20*	*0.24*
Kentucky	0.44	0.03	0.15	0.02	*0.06*	*0.11*
Louisiana	0.82	0.10	0.30	0.08	*0.12*	*0.27*
Maine	0.50	0.06	0.32	0.05	*0.13*	*0.15*
Maryland	0.81	0.11	0.35	0.09	*0.13*	*0.24*
Massachusetts	0.40	0.06	0.24	0.05	*0.14*	*0.20*
Michigan	0.73	0.09	0.40	0.08	*0.12*	*0.19*
Minnesota	0.62	0.07	0.43	0.06	*0.11*	*0.15*
Mississippi	0.36	0.05	n/a	n/a	*0.12*	
Missouri	0.75	0.08	0.39	0.06	*0.10*	*0.14*
Montana	1.98	0.48	1.26	0.43	*0.24*	*0.34*
Nebraska	0.29	0.03	0.11	0.03	*0.11*	*0.25*
Nevada	1.12	0.14	0.59	0.10	*0.13*	*0.17*
New Hampshire	0.42	0.06	0.29	0.05	*0.15*	*0.17*
New Jersey	0.37	0.03	0.18	0.02	*0.09*	*0.14*
New Mexico	4.99	0.52	1.14	0.45	*0.11*	*0.39*
New York	0.65	0.04	0.23	0.03	*0.06*	*0.13*
North Carolina	0.93	0.10	0.55	0.07	*0.11*	*0.14*
North Dakota	1.50	0.29	0.55	0.26	*0.19*	*0.48*
Ohio	0.38	0.05	0.20	0.05	*0.14*	*0.23*
Oklahoma	5.86	1.28	3.53	1.10	*0.22*	*0.31*
Oregon	1.02	0.14	0.53	0.10	*0.13*	*0.20*
Pennsylvania	n/a	n/a	n/a	n/a		
Rhode Island	0.51	0.04	0.13	0.02	*0.08*	*0.19*
South Carolina	0.49	0.06	0.32	0.05	*0.12*	*0.16*
South Dakota	1.87	0.22	0.73	0.21	*0.12*	*0.28*
Tennessee	0.78	0.15	0.38	0.12	*0.19*	*0.32*
Texas	0.93	0.17	0.61	0.15	*0.19*	*0.25*
Utah	0.59	0.06	0.36	0.05	*0.09*	*0.13*
Vermont	0.41	0.11	0.18	0.10	*0.27*	*0.54*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.50	0.08	0.36	0.07	*0.17*	*0.19*
Washington	1.23	0.22	0.72	0.19	*0.18*	*0.27*
West Virginia	0.36	0.04	0.30	0.03	*0.11*	*0.09*
Wisconsin	0.64	0.10	0.35	0.09	*0.15*	*0.25*
Wyoming	1.12	0.18	0.87	0.15	*0.16*	*0.18*

Notes: See Table 1B.

Table B.5. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, All Industries, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.13	0.02	0.07	0.02	0.15	0.24
Alabama	0.03	0.00	0.01	0.00	*0.06*	*0.24*
Alaska	0.24	0.02	0.22	n/a	*0.09*	
Arizona	0.09	0.01	0.07	0.01	*0.13*	*0.14*
Arkansas	0.03	0.00	n/a	n/a	*0.09*	
California	0.24	0.04	0.15	0.03	*0.18*	*0.22*
Colorado	0.08	0.01	0.05	0.01	*0.11*	*0.16*
Connecticut	0.06	0.02	n/a	n/a	*0.36*	
Delaware	0.03	n/a	n/a	n/a		
Dist. of Columbia	n/a	n/a	n/a	n/a		
Florida	0.10	0.01	0.04	0.00	*0.07*	*0.13*
Georgia	0.03	0.00	0.03	0.00	*0.13*	*0.08*
Hawaii	8.42	2.16	4.26	1.98	*0.26*	*0.46*
Idaho	0.08	0.01	n/a	n/a	*0.15*	
Illinois	0.07	n/a	n/a	n/a		
Indiana	0.03	0.02	n/a	n/a	*0.61*	
Iowa	0.01	0.00	0.00	n/a	*0.39*	
Kansas	0.02	0.01	n/a	n/a	*0.42*	
Kentucky	0.02	n/a	0.00	n/a		
Louisiana	n/a	n/a	n/a	n/a		
Maine	n/a	n/a	n/a	n/a		
Maryland	0.02	n/a	0.04	0.01		*0.24*
Massachusetts	n/a	n/a	n/a	n/a		
Michigan	0.03	0.00	n/a	n/a	*0.17*	
Minnesota	n/a	n/a	n/a	n/a		
Mississippi	0.07	0.00	n/a	n/a	*0.07*	
Missouri	0.02	0.01	n/a	n/a	*0.35*	
Montana	0.04	0.00	n/a	n/a	*0.12*	
Nebraska	0.01	n/a	0.00	0.00		
Nevada	0.18	0.04	n/a	n/a	*0.20*	
New Hampshire	0.01	n/a	n/a	n/a		
New Jersey	0.06	0.00	n/a	n/a	*0.07*	
New Mexico	0.10	0.02	n/a	n/a	*0.19*	
New York	0.18	0.01	0.04	n/a	*0.04*	
North Carolina	0.03	0.00	n/a	n/a	*0.07*	
North Dakota	0.00	n/a	0.00	0.00		
Ohio	n/a	n/a	n/a	n/a		
Oklahoma	0.10	0.00	0.03	0.00	*0.05*	*0.10*
Oregon	0.12	0.02	0.08	0.02	*0.18*	*0.21*
Pennsylvania	0.03	0.00	n/a	n/a	*0.13*	
Rhode Island	n/a	n/a	n/a	n/a		
South Carolina	0.01	0.00	n/a	n/a	*0.29*	
South Dakota	0.02	n/a	0.01	n/a		
Tennessee	n/a	n/a	n/a	n/a		
Texas	0.08	0.00	n/a	n/a	*0.05*	
Utah	0.22	0.10	0.18	0.10	*0.47*	0.58
Vermont	n/a	n/a	n/a	n/a		

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.08	0.03	0.07	n/a	*0.32*	
Washington	0.16	0.05	0.09	0.05	*0.33*	*0.55*
West Virginia	0.01	n/a	0.00	0.00		
Wisconsin	0.03	0.00	0.01	0.00	*0.03*	*0.12*
Wyoming	0.04	0.00	0.00	0.00	*0.04*	

Notes: See Table B.1.

Table B.6. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Construction, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	2.70	0.73	1.20	0.62	0.27	0.52
Alabama	5.71	1.09	3.12	0.74	*0.19*	*0.24*
Alaska	0.44	0.13	0.23	0.11	*0.30*	*0.46*
Arizona	0.57	0.10	0.20	0.09	*0.18*	0.45
Arkansas	2.60	1.38	n/a	n/a	0.53	
California	2.10	0.47	1.05	0.40	*0.22*	*0.38*
Colorado	0.65	0.24	n/a	n/a	*0.36*	
Connecticut	2.13	0.39	0.97	0.28	*0.18*	*0.28*
Delaware	n/a	n/a	n/a	n/a		
Dist. of Columbia	34.90	n/a	17.16	7.05		*0.41*
Florida	4.15	0.59	1.67	0.45	*0.14*	*0.27*
Georgia	6.19	1.68	2.96	1.42	*0.27*	*0.48*
Hawaii	n/a	n/a	n/a	n/a		
Idaho	n/a	n/a	n/a	n/a		
Illinois	2.79	0.80	0.94	0.74	*0.29*	*0.79*
Indiana	0.89	0.97	0.65	1.02	*1.09*	*1.57*
Iowa	0.22	0.15	0.13	0.14	*0.68*	*1.04*
Kansas	1.09	0.52	1.17	0.48	*0.48*	*0.41*
Kentucky	n/a	n/a	n/a	n/a		
Louisiana	9.90	1.34	2.92	0.77	*0.14*	*0.26*
Maine	0.04	n/a	0.04	n/a		
Maryland	7.12	2.05	2.69	1.82	*0.29*	*0.68*
Massachusetts	1.18	0.55	0.59	0.51	*0.47*	*0.87*
Michigan	1.64	1.33	0.85	1.32	*0.81*	*1.55*
Minnesota	0.73	0.18	0.11	0.15	*0.25*	*1.40*
Mississippi	10.47	2.14	5.65	0.98	*0.20*	*0.17*
Missouri	1.50	0.62	0.77	0.60	*0.41*	*0.78*
Montana	n/a	n/a	n/a	n/a		
Nebraska	0.51	n/a	0.54	n/a		
Nevada	1.18	0.37	n/a	n/a	*0.31*	
New Hampshire	n/a	n/a	n/a	n/a		
New Jersey	2.42	0.58	1.31	0.47	*0.24*	*0.36*
New Mexico	0.60	0.16	n/a	n/a	*0.27*	
New York	4.86	0.77	1.52	0.67	*0.16*	*0.44*
North Carolina	4.22	0.87	n/a	n/a	*0.21*	
North Dakota	0.00	0.00	0.00	0.00		
Ohio	2.04	1.45	1.37	1.50	*0.71*	*1.10*
Oklahoma	1.41	0.32	0.26	0.16	*0.23*	*0.61*
Oregon	0.41	0.30	0.38	0.31	*0.74*	*0.80*
Pennsylvania	1.41	0.38	0.54	0.35	*0.27*	*0.64*
Rhode Island	n/a	n/a	n/a	n/a		
South Carolina	6.65	1.44	3.95	0.99	*0.22*	*0.25*
South Dakota	n/a	n/a	n/a	n/a		
Tennessee	2.72	0.70	1.39	0.57	*0.26*	*0.41*
Texas	2.16	0.57	0.92	0.41	*0.26*	*0.45*
Utah	0.25	0.03	0.02	n/a	*0.12*	
Vermont	n/a	n/a	n/a	n/a		

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	4.10	1.05	2.71	0.88	*0.26*	*0.33*
Washington	0.55	0.28	n/a	n/a	*0.52*	
West Virginia	0.54	0.94	0.29	0.97	*1.73*	*3.32*
Wisconsin	0.54	0.40	n/a	n/a	*0.75*	
Wyoming	0.13	n/a	n/a	n/a		

Notes: See Table B.1.

Table B.7. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Construction, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	7.64	2.37	3.45	1.87	0.31	0.54
Alabama	1.23	0.44	1.32	0.28	*0.36*	*0.21*
Alaska	2.20	0.86	2.50	0.81	*0.39*	*0.32*
Arizona	11.66	2.73	6.97	2.47	*0.23*	*0.35*
Arkansas	1.50	0.76	0.44	0.66	*0.51*	*1.48*
California	15.38	4.30	8.25	3.71	*0.28*	*0.45*
Colorado	7.35	2.61	5.50	2.22	*0.36*	*0.40*
Connecticut	3.50	0.64	1.67	0.44	*0.18*	*0.26*
Delaware	1.16	0.58	0.25	0.36	*0.50*	*1.45*
Dist. of Columbia	19.76	n/a	10.65	n/a	n/a	
Florida	17.44	5.15	8.25	3.90	*0.30*	*0.47*
Georgia	5.77	1.39	1.95	0.62	*0.24*	*0.32*
Hawaii	3.40	1.31	3.05	n/a	*0.38*	
Idaho	2.01	1.63	1.93	1.67	*0.81*	*0.87*
Illinois	4.52	1.52	2.24	1.38	*0.34*	*0.61*
Indiana	1.67	0.73	0.97	0.62	*0.44*	*0.64*
Iowa	0.73	0.29	0.46	0.18	*0.39*	*0.40*
Kansas	2.49	1.53	n/a	n/a	*0.61*	
Kentucky	0.79	0.43	0.41	0.32	*0.55*	*0.77*
Louisiana	3.23	1.84	0.82	1.70	*0.57*	*2.07*
Maine	0.31	0.33	0.28	0.37	*1.04*	*1.34*
Maryland	8.43	1.89	3.13	1.44	*0.22*	*0.46*
Massachusetts	2.05	0.75	1.15	0.67	*0.37*	*0.58*
Michigan	1.33	0.75	0.95	0.70	*0.57*	0.73
Minnesota	0.88	0.42	0.67	0.35	*0.47*	*0.52*
Mississippi	0.75	0.57	0.31	0.49	*0.76*	*1.59*
Missouri	0.72	0.43	0.68	0.41	*0.59*	*0.60*
Montana	n/a	n/a	n/a	n/a		
Nebraska	1.35	0.33	n/a	n/a	*0.24*	
Nevada	7.05	2.70	3.93	2.64	*0.38*	*0.67*
New Hampshire	n/a	n/a	n/a	n/a		
New Jersey	6.97	2.13	3.33	1.83	*0.31*	*0.55*
New Mexico	29.50	17.20	25.44	15.39	*0.58*	*0.60*
New York	7.59	1.72	2.74	1.48	*0.23*	*0.54*
North Carolina	2.26	1.11	1.32	0.72	*0.49*	*0.55*
North Dakota	n/a	n/a	n/a	n/a		
Ohio	0.76	0.32	0.58	0.27	*0.42*	*0.47*
Oklahoma	2.27	1.03	1.49	0.82	*0.46*	*0.55*
Oregon	1.69	1.10	1.92	1.10	*0.65*	*0.57*
Pennsylvania	1.22	0.36	0.65	0.28	*0.29*	*0.44*
Rhode Island	n/a	n/a	n/a	n/a		
South Carolina	1.41	0.67	1.13	0.58	*0.48*	*0.51*
South Dakota	n/a	n/a	n/a	n/a		
Tennessee	1.47	0.34	0.71	0.22	*0.23*	*0.31*
Texas	30.86	7.30	11.30	4.71	*0.24*	*0.42*
Utah	2.78	0.77	1.60	0.68	*0.28*	*0.43*
Vermont	n/a	n/a	n/a	n/a		

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	7.24	1.99	2.10	1.41	*0.28*	*0.67*
Washington	1.67	0.76	1.78	0.76	*0.45*	*0.43*
West Virginia	0.35	0.96	0.41	1.02	*2.75*	*2.50*
Wisconsin	0.70	0.37	0.58	0.35	*0.53*	*0.61*
Wyoming	1.23	0.44	1.32	0.28	*0.36*	*0.21*

Notes: See Table B.1.

Table B.8. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Construction, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	1.40	0.73	1.01	0.67	0.52	0.66
Alabama						
Alaska	1.73	0.43	0.67	0.32	*0.25*	0.48
Arizona	0.55	0.14	n/a	n/a	*0.25*	
Arkansas	n/a	n/a	n/a	n/a		
California	4.77	1.55	3.57	1.30	*0.32*	*0.36*
Colorado	0.88	0.21	0.54	0.17	*0.24*	*0.31*
Connecticut	0.30	0.26	0.27	0.27	*0.86*	*1.01*
Delaware	n/a	n/a	n/a	n/a		
Dist. of Columbia	2.69	n/a	6.80	n/a		
Florida	0.75	0.36	0.45	0.35	*0.48*	*0.78*
Georgia	0.69	0.40	n/a	n/a	*0.58*	
Hawaii	37.27	27.68	35.62	27.67	*0.74*	*0.78*
Idaho	0.31	0.16	0.24	0.14	*0.51*	*0.58*
Illinois	0.80	0.60	0.65	0.59	*0.74*	*0.90*
Indiana	0.35	0.08	n/a	n/a	*0.23*	
Iowa	n/a	n/a	n/a	n/a		
Kansas	0.32	0.06	n/a	n/a	*0.19*	
Kentucky	0.17	0.27	0.20	0.29	*1.62*	*1.50*
Louisiana	0.63	0.21	n/a	n/a	*0.34*	
Maine	n/a	n/a	n/a	n/a		
Maryland	4.14	1.28	1.49		*0.31*	
Massachusetts	1.21	1.03	0.54	1.03	*0.85*	*1.90*
Michigan	0.34	0.25	0.26	0.24	0.72	*0.95*
Minnesota	0.47	0.44	n/a	n/a	*0.92*	
Mississippi	n/a	n/a	n/a	n/a		
Missouri	0.23	0.29	0.23	n/a	*1.22*	
Montana	0.18	0.15	n/a	n/a	*0.87*	
Nebraska	n/a	n/a	n/a	n/a		
Nevada	1.11	0.48	0.70	0.47	*0.44*	*0.66*
New Hampshire	n/a	n/a	n/a	n/a		
New Jersey	1.33	0.77	0.89	n/a	*0.58*	
New Mexico	n/a	n/a	n/a	n/a		
New York	4.12	1.15	1.93	1.03	*0.28*	*0.53*
North Carolina	0.53	0.34	0.40	0.31	*0.65*	*0.76*
North Dakota	n/a	n/a	n/a	n/a		
Ohio	0.43	0.39	n/a	n/a	*0.91*	
Oklahoma	0.57	0.10	n/a	n/a	*0.18*	
Oregon	0.86	0.30	0.67	0.25	*0.35*	*0.38*
Pennsylvania	0.72	0.23	0.23	0.20	*0.32*	*0.88*
Rhode Island	0.38	0.25	0.06	n/a	*0.67*	
South Carolina	n/a	n/a	n/a	n/a		
South Dakota	n/a	n/a	n/a	n/a		
Tennessee	0.47	0.16	0.32	0.13	*0.35*	*0.39*
Texas	1.02	0.40	0.69	0.36	*0.39*	*0.52*
Utah	0.42	0.66	n/a	n/a	*1.57*	
Vermont	n/a	n/a	n/a	n/a		

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	3.14	0.86	1.28	0.58	*0.27*	*0.45*
Washington	2.10	1.09	1.72	1.06	*0.52*	*0.62*
West Virginia	0.15	0.15	n/a	n/a	*0.96*	
Wisconsin	0.21	0.06	n/a	n/a	*0.26*	
Wyoming	0.13	n/a	n/a	n/a		

Notes: See Table B.1.

Table B.9. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Construction, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	1.16	0.46	0.66	0.40	0.39	0.61
Alabama	1.30	0.56	1.31	0.53	*0.43*	*0.40*
Alaska	5.08	15.03	5.24	15.67	*2.96*	*2.99*
Arizona	2.05	0.56	0.80	0.51	*0.27*	0.64
Arkansas	1.81	1.53	1.19	1.51	*0.84*	*1.26*
California	2.15	0.70	1.27	0.62	*0.33*	*0.49*
Colorado	1.18	0.31	0.87	0.24	*0.26*	*0.28*
Connecticut	0.53	0.09	n/a	n/a	*0.16*	
Delaware	n/a	n/a	n/a	n/a		
Dist. of Columbia	0.75	n/a	0.00	0.00		
Florida	1.00	0.17	n/a	n/a	*0.17*	
Georgia	1.03	0.17	0.26	0.03	*0.16*	*0.12*
Hawaii	0.54	n/a	n/a	n/a		
Idaho	1.47	0.84	n/a	n/a	*0.57*	
Illinois	0.33	0.13	0.22	0.12	*0.39*	*0.55*
Indiana	0.20	0.23	n/a	n/a	*1.16*	
Iowa	n/a	n/a	n/a	n/a		
Kansas	1.21	0.71	0.90	0.69	*0.59*	*0.77*
Kentucky	n/a	n/a	n/a	n/a		
Louisiana	1.05	0.29	n/a	n/a	*0.28*	
Maine	0.81	0.18	n/a	n/a	*0.22*	
Maryland	2.07	0.32	n/a	n/a	*0.15*	
Massachusetts	0.67	0.07	0.29	0.05	*0.11*	*0.18*
Michigan	0.95	0.34	0.48	0.31	*0.36*	*0.65*
Minnesota	0.66	0.21	0.42	0.20	*0.32*	*0.48*
Mississippi	0.38	0.03	n/a	n/a	*0.08*	
Missouri	1.36	0.39	n/a	n/a	*0.28*	
Montana	2.30	1.91	1.81	1.99	*0.83*	*1.10*
Nebraska	0.33	0.29	0.20	0.28	*0.86*	*1.36*
Nevada	2.07	0.29	1.10	0.26	*0.14*	*0.23*
New Hampshire	0.79	0.38	n/a	n/a	0.47	
New Jersey	0.38	n/a	0.16	n/a		
New Mexico	n/a	n/a	n/a	n/a		
New York	0.96	0.19	0.38	0.14	*0.20*	*0.37*
North Carolina	1.34	0.48	0.95	0.38	*0.36*	*0.40*
North Dakota	1.93	1.02	1.68	1.00	*0.53*	*0.60*
Ohio	0.48	0.15	n/a	n/a	*0.32*	
Oklahoma	8.30	5.39	5.00	4.75	*0.65*	*0.95*
Oregon	1.36	0.64	1.03	0.60	*0.47*	*0.58*
Pennsylvania	0.37	0.08	0.23	0.07	*0.21*	*0.28*
Rhode Island	n/a	n/a	n/a	n/a		
South Carolina	0.58	0.17	n/a	n/a	*0.29*	
South Dakota	2.65	1.74	1.85	1.79	*0.66*	*0.97*
Tennessee	1.03	0.35	n/a	n/a	*0.34*	
Texas	1.09	0.57	0.91	0.54	*0.53*	*0.60*
Utah	0.92	0.22	0.48	0.18	*0.23*	*0.37*
Vermont	0.91	0.38	0.31	0.27	*0.42*	*0.85*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.75	0.30	0.40	0.20	*0.40*	*0.50*
Washington	1.06	0.66	0.92	0.63	0.62	*0.68*
West Virginia	0.55	0.13	0.09	0.12	*0.24*	*1.33*
Wisconsin	0.57	0.32	0.31	0.31	*0.55*	*1.00*
Wyoming	1.82	0.84	n/a	n/a	*0.46*	

Notes: See Table B.1.

Table B.10. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Construction, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.10	0.07			0.67	
Alabama	0.00	n/a	0.01	n/a		
Alaska	n/a	n/a	n/a	n/a		
Arizona	0.14	n/a	n/a	n/a		
Arkansas	n/a	n/a	n/a	n/a		
California	n/a	n/a	n/a	n/a		
Colorado	0.14	0.03	0.09	n/a	*0.24*	
Connecticut	n/a	n/a	n/a	n/a		
Delaware	0.00	0.00	0.00	0.00		
Dist. of Columbia	0.06	n/a	0.00	0.00		
Florida	n/a	n/a	n/a	n/a		
Georgia	0.03	0.03	0.07	0.03	0.89	0.44
Hawaii	12.87	4.66	n/a	n/a	*0.36*	
Idaho	n/a	n/a	n/a	n/a		
Illinois	n/a	n/a	n/a	n/a		
Indiana	n/a	n/a	n/a	n/a		
Iowa	0.01	n/a	n/a	n/a		
Kansas	0.00	0.00	0.00	0.00		
Kentucky	0.01	n/a	n/a	n/a		
Louisiana	0.00	n/a	0.01	n/a		
Maine	0.01	n/a	0.04	n/a		
Maryland	0.01	n/a	0.01	n/a		
Massachusetts	n/a	n/a	n/a	n/a		
Michigan	0.00	n/a	0.01	n/a		
Minnesota	n/a	n/a	n/a	n/a		
Mississippi	0.02	0.02	0.02	n/a	0.74	
Missouri	n/a	n/a	n/a	n/a		
Montana	0.00	0.00	0.00	0.00		
Nebraska	0.01	n/a	0.00	0.00		
Nevada	0.06	n/a	n/a	n/a		
New Hampshire	n/a	n/a	n/a	n/a		
New Jersey	0.03	n/a	0.07	n/a		
New Mexico	0.01	n/a	0.02	n/a		
New York	n/a	n/a	n/a	n/a		
North Carolina	0.01	0.00	n/a	n/a	0.47	
North Dakota	0.00	0.00	0.00	0.00		
Ohio	n/a	n/a	n/a	n/a		
Oklahoma	0.50	0.06	n/a	n/a	*0.11*	
Oregon	0.08	0.09	n/a	n/a	1.05	
Pennsylvania	n/a	n/a	n/a	n/a		
Rhode Island	0.02	n/a	0.00	0.00		
South Carolina	n/a	n/a	n/a	n/a		
South Dakota	0.00	0.00	0.00	0.00		
Tennessee	0.00	n/a	0.01	n/a		
Texas	n/a	n/a	n/a	n/a		
Utah	0.17	0.82	n/a	n/a	*4.85*	
Vermont	0.00	0.00	0.00	0.00		

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Virginia	0.02	n/a	0.05	n/a		
Washington	0.13	n/a	0.18	n/a		
West Virginia	0.00	0.00	0.00	0.00		
Wisconsin	n/a	n/a	n/a	n/a		
Wyoming	0.03	n/a	0.00	0.00		

Notes: See Table B.1.

Table B.11. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Blacks, Professional, Scientific and Technical Services, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	3.53	0.93	1.51	0.78	0.26	0.51
Alabama	5.89	2.48	2.53	2.30	*0.42*	0.91
Alaska	1.36	0.59			*0.44*	
Arizona	1.27	0.34	0.54	0.24	*0.27*	*0.44*
Arkansas	2.65	0.48	0.89	0.24	*0.18*	*0.27*
California	2.81	0.57	1.26	0.43	*0.20*	*0.34*
Colorado	1.05	0.43	0.55	0.37	*0.41*	0.68
Connecticut	2.13	0.35	0.62	0.28	*0.16*	*0.45*
Delaware	4.79	0.45	1.84		*0.09*	
District of Columbia	14.72		6.81			
Florida	3.66	1.02	1.37	0.82	*0.28*	*0.60*
Georgia	9.63	2.03	3.44	1.54	*0.21*	*0.45*
Hawaii	0.58	0.08	0.21	0.04	*0.14*	*0.20*
Idaho	0.38	0.24			0.63	
Illinois	4.20	0.93	1.69	0.77	*0.22*	*0.45*
Indiana	2.65	0.57	1.57	0.45	*0.21*	*0.29*
Iowa	0.70	0.35	0.34	0.31	*0.50*	0.91
Kansas	1.39	0.32	0.70	0.22	*0.23*	*0.32*
Kentucky	1.76	0.35	0.49	0.25	*0.20*	0.51
Louisiana	6.43	1.82	2.72	1.54	*0.28*	*0.57*
Maine	0.43	0.03	0.00	0.00	*0.06*	*0.00*
Maryland	12.48	3.91	4.71	3.38	*0.31*	*0.72*
Massachusetts	1.60	0.32	0.87	0.26	*0.20*	*0.29*
Michigan	4.03	1.10	1.91	0.88	*0.27*	*0.46*
Minnesota	1.07	0.29	0.46	0.24	*0.27*	0.51
Mississippi	8.11	3.70	3.98	3.09	*0.46*	0.78
Missouri	2.81	0.54	1.55	0.43	*0.19*	*0.28*
Montana	0.26	0.08			*0.32*	
Nebraska						
Nevada	1.98	0.66	0.80	0.50	*0.33*	0.62
New Hampshire						
New Jersey	3.98	0.83	1.77	0.64	*0.21*	*0.36*
New Mexico	0.70	0.47	0.49	0.49	0.68	1.00
New York	4.62	0.60	1.55	0.40	*0.13*	*0.26*
North Carolina	5.69	0.99	2.56	0.79	*0.17*	*0.31*
North Dakota	0.14		0.08			
Ohio	3.08	1.01	1.41	0.90	*0.33*	*0.64*
Oklahoma	1.69	0.56	0.87	0.52	*0.33*	*0.59*
Oregon	0.46	0.19	0.51	0.16	*0.42*	*0.32*
Pennsylvania	2.29	0.55	1.04	0.44	*0.24*	*0.42*
Rhode Island	1.27	0.42	0.41	0.36	*0.33*	0.89
South Carolina	5.99	0.97	2.54	0.72	*0.16*	*0.28*
South Dakota	0.15		0.00	0.00		*0.00*
Tennessee	4.13	0.86	1.81	0.72	*0.21*	*0.40*
Texas	3.64	0.76	1.32	0.62	*0.21*	*0.47*
Utah	0.45	0.13	0.18	0.12	*0.30*	*0.67*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.25	0.16	0.15	0.18	0.63	*1.18*
Virginia	4.78	2.43	2.91	2.33	*0.51*	*0.80*
Washington	1.24	0.51	1.00	0.46	*0.41*	*0.46*
West Virginia	1.50	0.91			0.61	
Wisconsin	0.99	0.35	0.57	0.29	*0.35*	0.51
Wyoming	0.55					

Notes: See Table B.1.

Table B.12. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Hispanics, Professional, Scientific and Technical Services, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	4.22	1.49	2.66	1.26	0.35	0.48
Alabama	0.78	3.15	1.02	3.37	*4.04*	*3.32*
Alaska	1.29	0.32	0.48	0.20	*0.25*	*0.41*
Arizona	5.51	1.65	3.03	1.38	*0.30*	*0.45*
Arkansas	0.75	0.15			*0.20*	
California	7.40	2.24	4.37	1.86	*0.30*	*0.42*
Colorado	3.10	1.17	2.36	1.07	*0.38*	*0.45*
Connecticut	1.72	0.70	1.44	0.65	*0.41*	*0.45*
Delaware	1.37	0.21			*0.15*	
District of Columbia	3.51	1.39	2.91	1.36	*0.40*	*0.47*
Florida	13.02	5.13	9.48	4.41	*0.39*	*0.47*
Georgia	1.94	0.70	0.96	0.61	*0.36*	*0.64*
Hawaii	1.97	0.83	2.01	0.70	*0.42*	*0.35*
Idaho	1.77	1.02	1.74	1.04	*0.58*	0.60
Illinois	2.38	0.64	1.42	0.54	*0.27*	*0.38*
Indiana	0.91	0.31	0.53	0.24	*0.34*	*0.46*
Iowa	0.70	0.08	0.05		*0.12*	
Kansas	1.54	0.44	0.88	0.35	*0.29*	*0.40*
Kentucky	0.94	0.49			0.52	
Louisiana	1.83	0.93			*0.51*	
Maine	0.33	0.07	0.09	0.03	*0.22*	*0.28*
Maryland	2.60	0.99	1.83	0.88	*0.38*	*0.48*
Massachusetts	1.72	0.51	0.70	0.44	*0.30*	*0.62*
Michigan	1.16	0.41	0.52	0.35	*0.35*	0.66
Minnesota	0.96	0.16			*0.17*	
Mississippi	0.76	0.24	0.51	0.15	*0.31*	*0.30*
Missouri	0.89	0.36	1.04	0.33	*0.41*	*0.32*
Montana	0.85	0.45			*0.53*	
Nebraska	0.93	0.23	0.26	0.19	*0.25*	0.72
Nevada						
New Hampshire						
New Jersey	3.81	1.02	2.19	0.81	*0.27*	*0.37*
New Mexico	13.51	7.70	10.46	7.19	*0.57*	*0.69*
New York	4.53	0.91	1.74	0.59	*0.20*	*0.34*
North Carolina	1.33	0.57	0.78	0.51	*0.43*	*0.65*
North Dakota	0.58					
Ohio	0.70	0.34	0.46	0.33	*0.48*	*0.70*
Oklahoma	1.40	1.08			0.77	
Oregon	1.66	0.62	0.68	0.54	*0.37*	0.80
Pennsylvania	1.14	0.71	0.92	0.68	*0.62*	0.74
Rhode Island	2.52	0.60	0.91	0.48	*0.24*	0.52
South Carolina	1.08	0.73	0.48	0.76	0.68	1.58
South Dakota	0.53		0.13			
Tennessee	0.68	0.43	0.69	0.41	*0.64*	*0.59*
Texas	8.98	3.45	6.10	2.95	*0.38*	*0.48*
Utah	2.35	0.78	1.78	0.61	*0.33*	*0.34*

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont						
Virginia	2.34	1.62	1.92	1.59	*0.69*	0.83
Washington	1.82	0.76	1.19	0.70	*0.42*	*0.58*
West Virginia	0.79	1.66	1.55	1.69	2.10	1.09
Wisconsin	1.04	0.67	0.83	0.58	*0.64*	0.70
Wyoming						

Notes: See Table B.1.

Table B.13. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Asians, Professional, Scientific and Technical Services, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	4.70	2.70	4.12	2.56	0.57	0.62
Alabama	1.08	2.73	0.65	2.83	*2.52*	*4.39*
Alaska	1.00	1.28	0.84	1.28	1.27	*1.52*
Arizona	2.14	1.13	1.75	1.03	*0.53*	*0.59*
Arkansas	0.75	0.45	0.69	0.44	0.60	0.64
California	11.48	4.84	10.10	4.33	*0.42*	*0.43*
Colorado	1.72	1.56	1.67	1.57	0.91	0.94
Connecticut	2.22	1.35	1.67	1.18	*0.61*	0.71
Delaware	4.19	2.40	5.64		0.57	
District of Columbia	2.34		2.18			
Florida	2.05	1.23	1.52	1.22	*0.60*	0.80
Georgia	2.93	2.24	3.03	2.21	*0.77*	*0.73*
Hawaii	42.01	32.94	46.20	33.58	*0.78*	*0.73*
Idaho	1.38	1.23	1.55	1.25	0.89	0.80
Illinois	4.77	2.10	4.10	1.99	*0.44*	*0.49*
Indiana	1.24	0.80	0.75	0.73	*0.64*	0.97
Iowa	1.00	0.78	1.06	0.77	0.77	0.73
Kansas	1.94	0.45	1.51	0.35	*0.23*	*0.23*
Kentucky	0.83	0.74	0.71	0.76	0.89	1.06
Louisiana	1.11	0.53			*0.48*	
Maine	0.48	0.20			*0.43*	
Maryland	5.34	4.75	6.09	4.82	0.89	*0.79*
Massachusetts	3.01	2.14	2.73	2.13	*0.71*	*0.78*
Michigan	2.53	2.97	2.65	2.97	*1.18*	1.12
Minnesota	2.12	1.09	1.83		*0.51*	
Mississippi	0.65	0.35	0.42	0.25	*0.54*	*0.60*
Missouri	1.28	0.59	1.25	0.55	*0.46*	*0.43*
Montana	0.79	1.05			1.33	
Nebraska						
Nevada	3.81	1.98	3.46	1.58	*0.52*	*0.46*
New Hampshire	1.46	1.24	2.67	1.20	0.85	*0.45*
New Jersey	9.18	5.51	11.18	5.37	*0.60*	*0.48*
New Mexico	1.48	1.79	1.74	1.91	1.21	1.10
New York	6.70	1.93	5.08	1.70	*0.29*	*0.33*
North Carolina	1.93	1.27	1.43	1.24	*0.66*	0.86
North Dakota						
Ohio	1.91	2.23	2.12	2.26	*1.16*	1.06
Oklahoma	1.07	0.79	1.09	0.80	0.73	0.74
Oregon	2.35	1.66	1.63	1.52	*0.70*	0.93
Pennsylvania	2.23	1.71	1.99	1.67	*0.77*	0.84
Rhode Island	1.35	1.19	1.18	1.27	0.89	1.07
South Carolina	0.93	0.29	0.42	0.21	*0.31*	*0.51*
South Dakota	0.36					
Tennessee	1.24	1.31	0.84	1.34	1.06	1.60
Texas	3.53	2.10	3.13	1.96	*0.60*	*0.63*
Utah	1.34	0.95	0.65	0.81	*0.70*	1.24

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.50	0.40			0.80	
Virginia	5.49	4.98	6.43	5.02	*0.91*	*0.78*
Washington	4.10	2.32	3.63	2.15	*0.56*	*0.59*
West Virginia	0.90	2.08	0.72	2.14	2.31	*2.98*
Wisconsin	1.29	1.83	1.11	1.90	1.41	1.72
Wyoming	1.43					

Notes: See Table B.1.

Table B.14. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, American Indians and Alaska Natives, Professional, Scientific and Technical Services, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.69	0.21	0.45	0.17	0.30	0.38
Alabama	0.84	0.55			0.66	
Alaska	5.23	9.05	2.10	9.83	1.73	*4.67*
Arizona	1.25	0.26	0.44	0.14	*0.20*	*0.32*
Arkansas	0.66	0.37	0.63	0.32	*0.56*	0.51
California	0.86	0.16	0.54	0.10	*0.18*	*0.18*
Colorado	0.58	0.17	0.47	0.13	*0.30*	*0.27*
Connecticut	0.31	0.12			*0.37*	
Delaware	0.23		0.09			
District of Columbia	0.55		0.30			
Florida	0.50	0.18	0.28	0.16	*0.36*	*0.58*
Georgia	0.61	0.14	0.36	0.11	*0.23*	*0.30*
Hawaii	0.54		0.10			
Idaho	0.47	0.11	0.37	0.07	*0.23*	*0.18*
Illinois	0.26	0.04	0.15	0.03	*0.15*	*0.20*
Indiana	0.58	0.12	0.42	0.09	*0.20*	*0.20*
Iowa	0.22	0.09	0.00	0.00	0.42	*0.00*
Kansas	0.48	0.34			0.71	
Kentucky	0.40	0.09			*0.23*	
Louisiana	0.53	0.28	0.23	0.27	*0.53*	1.19
Maine	0.39	0.13			*0.34*	
Maryland	0.58	0.46	0.47	0.45	0.78	0.95
Massachusetts	0.26	0.03			*0.13*	
Michigan	0.48	0.10	0.53	0.08	*0.21*	*0.15*
Minnesota						
Mississippi	0.88	0.08			*0.09*	
Missouri	0.63	0.33			*0.52*	
Montana	2.25	0.81	0.87	0.43	*0.36*	0.49
Nebraska	0.39	0.15	0.10	0.12	*0.37*	*1.18*
Nevada	0.98	0.49	0.57	0.36	*0.50*	0.64
New Hampshire						
New Jersey	0.50	0.14	0.43		*0.28*	
New Mexico	2.75	1.16	1.55	1.03	*0.42*	0.66
New York	0.44	0.05	0.26	0.03	*0.12*	*0.11*
North Carolina	0.56	0.30	0.37	0.29	*0.53*	0.78
North Dakota						
Ohio	0.39	0.11	0.35	0.10	*0.28*	*0.28*
Oklahoma	5.31	2.64	4.02	2.39	*0.50*	*0.60*
Oregon	0.93	0.17	0.29	0.05	*0.18*	*0.17*
Pennsylvania	0.29	0.06	0.15	0.05	*0.21*	*0.32*
Rhode Island	0.19		0.07			
South Carolina	0.69	0.18			*0.26*	
South Dakota	2.67	0.75			*0.28*	
Tennessee	0.82	0.32	1.05	0.30	*0.38*	*0.28*
Texas	0.93	0.26	0.51	0.22	*0.28*	*0.44*
Utah						

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.10	0.17	0.15	0.20	1.66	*1.37*
Virginia	0.50	0.21	0.54	0.20	*0.42*	*0.36*
Washington	0.91	0.27	0.51	0.23	*0.30*	*0.45*
West Virginia						
Wisconsin	0.41	0.18			*0.43*	
Wyoming						

Notes: See Table B.1.

Table B.15. Percentage of Firms and Sales and Corresponding Disparity Indexes, All Firms and Employer Firms, Native Hawaiians and Pacific Islanders, Professional, Scientific and Technical Services, 2002

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
United States	0.10	0.03	0.04	0.02	0.27	0.43
Alabama						
Alaska	0.09		0.06			
Arizona	0.06	0.02			*0.25*	
Arkansas	0.02		0.02			
California	0.21	0.03			*0.15*	
Colorado	0.12	0.02	0.07	0.02	*0.16*	*0.24*
Connecticut	0.02					
Delaware	0.01		0.00	0.00		*0.00*
District of Columbia						
Florida	0.05	0.00			*0.04*	
Georgia						
Hawaii	6.33	2.49	3.37	1.92	*0.39*	*0.57*
Idaho	0.02		0.00	0.00		*0.00*
Illinois						
Indiana	0.05					
Iowa	0.00	0.00	0.00	0.00	*0.00*	*0.00*
Kansas	0.02		0.00	0.00		*0.00*
Kentucky						
Louisiana	0.01		0.01			
Maine	0.01		0.00	0.00		*0.00*
Maryland	0.01		0.01			
Massachusetts						
Michigan						
Minnesota	0.01		0.00	0.00		*0.00*
Mississippi	0.00	0.00	0.00	0.00	*0.00*	*0.00*
Missouri	0.00		0.00	0.00		*0.00*
Montana						
Nebraska	0.00	0.00	0.00	0.00	*0.00*	*0.00*
Nevada	0.08		0.03			
New Hampshire	0.02		0.00	0.00		*0.00*
New Jersey						
New Mexico	0.03	0.01	0.00	0.00	*0.19*	*0.00*
New York						
North Carolina						
North Dakota	0.04		0.00	0.00		*0.00*
Ohio						
Oklahoma						
Oregon						
Pennsylvania						
Rhode Island	0.01		0.00	0.00		*0.00*
South Carolina	0.00		0.00	0.00		*0.00*
South Dakota						
Tennessee	0.00	0.00	0.00	0.00	*0.00*	*0.00*
Texas						
Utah						

State	Percentage of All Firms	Percentage of All Sales	Percentage of All Employers	Percentage of All Employer Sales	Disparity Index-All Firms	Disparity Index Employers
Vermont	0.00	0.00	0.00	0.00	*0.00*	*0.00*
Virginia	0.12	0.15			1.22	
Washington	0.10	0.02	0.05		*0.18*	
West Virginia	0.03	0.00	0.00	0.00	*0.09*	*0.00*
Wisconsin						
Wyoming	0.00	0.00	0.00	0.00	*0.00*	*0.00*

Notes: See Table B.1.

NERA
Economic Consulting

Jon Wainwright
Senior Vice President

National Economic Research Associates, Inc.
Barton Creek Plaza Building II, Suite 330
3801 S Capital of Texas Highway
Austin, Texas 78704
+1 512 371 8995 Fax +1 512 371 9612
jon.wainwright@nera.com
www.nera.com

JON WAINWRIGHT
SENIOR VICE PRESIDENT

NERA Senior Vice President Dr. Jon Wainwright holds a Ph.D. in economics from the University of Texas at Austin. His primary areas of interest are labor economics and industrial organization. He is a specialist in analyzing the effects of discrimination on minorities, women, and persons over 40, and has testified in federal and state courts, state legislatures, and before the United States Congress on these issues. At NERA, he directs and conducts economic and statistical studies of discrimination for attorneys, corporations, governments and non-profit organizations. He also directs and conducts research and provides clients with advice on adverse impact and economic damage matters arising from their hiring, performance assessment, compensation, promotion, termination, or contracting activities.

Dr. Wainwright joined NERA in 1995. Currently, he directs research activities relating to affirmative action litigation and regulatory compliance, directs studies of statistical liability and economic damages used in employment litigation, and has also conducted research relating to antitrust litigation, patent disputes, and other matters. Dr. Wainwright has extensive experience collecting, manipulating and analyzing large and complex statistical databases. He has worked extensively with socioeconomic and demographic data produced by the Census Bureau and other official statistical agencies, including the 5 percent and 1 percent Public Use Microdata Files from the decennial census, the five-year Economic Censuses, and the Current Population Survey Merged Outgoing Rotation Group files. He is an expert with both Windows and Apple operating systems and applications and with statistical analysis software including STATA, SAS, and SPSS.

Prior to joining NERA, Dr. Wainwright was an associate professor at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin and headed his own economic consulting firm. In those capacities he conducted studies in labor economics and regulatory compliance for both public and private sector clients.

Education

University of Texas at Austin
Ph.D., economics

Colorado State University
B.S., economics

Professional Experience

NERA Economic Consulting, Austin and Chicago

2011-present Senior Vice President

2004–2011 Vice President

2003–2004 Senior Consultant

1998–2003 Consultant

1995-1998 Special Consultant
Principal investigator on matters involving discrimination, economic damages, statistical liability, and class certification in employment discrimination, wrongful termination, contracting discrimination and related cases. Develops and analyzes complex databases of business, employee and other characteristics from hardcopy and computer files in order to model decision-making processes under challenge. Prepares expert reports and provides oral and written testimony on these matters.

Selected clients include ADP, City of Austin, BP Amoco, City of Baltimore, Brinks, Carrier Corp., Broward County (Fl.), Chicago Metra, City of Chicago, City of Cleveland, Computer Sciences Corporation, Cook County (Il.), Del Global Technologies, Dell Computer, City and County of Denver, Dillard's Department Stores, Equitable Insurance, Gingiss Formalwear, Hamilton Sundstrand, Hawai'i DOT, Hoffman-La Roche, Inc., Home Depot, City of Houston, Illinois Attorney General, Illinois DOT, IBM, City of Jacksonville, Landry's Restaurants, Los Angeles Metro, State of Maryland, Maryland DOT, State of Massachusetts, State of New York, City of Memphis, Memphis International Airport, Merck, Microsoft, City of Minneapolis, State of Minnesota, Minnesota DOT, Missouri DOT, Motorola, Pennzoil, Pratt & Whitney, Prudential Insurance, Puget Sound Transit, Raytheon Corp., St. Louis Metro, Salt Lake City International Airport, City and County of San Francisco, SBC-Ameritech, Schlumberger, Sikorsky, Southeastern Pennsylvania Transportation Authority, Texas Utilities Electric Co., Transportation Research Board of the National Academy of Sciences, Unisys, United States Department of Justice, United Technologies Corporation, Varian Associates, Visa, Washington DOT.

Wainwright & Co. Economic Consultants, Austin

1992–1998 President

Directed litigation projects on employment discrimination and minority and female business discrimination. Directed research on regulatory issues in the child care industry. Developed and analyzed complex databases concerning contracting, purchasing, and firm characteristics from hardcopy and computer files.

Selected clients in Texas included the Texas Attorney General, Department of Protective and Regulatory Services, University of Texas, Houston Metropolitan Transit Authority, Corpus Christi Regional Transportation Authority, and former U.S. Secretary of Labor F. Ray Marshall. Selected clients outside Texas included National Economic Research Associates, Inc., Los Angeles County Metropolitan Transit Authority, Metropolitan Dade County, Florida, Fulton County, Georgia, and State of Minnesota.

LBJ School of Public Affairs, University of Texas at Austin

1992–1998 Research Associate Professor

Directed research on contracting and employment activities in state and local government. Clients included the Texas Comptroller of Public Accounts, Texas State Legislature, Texas DOT, the Texas General Services Commission, City of Corpus Christi, and the Ford Foundation.

1990–1992 Social Science Research Associate

Staff economist for Professor Ray Marshall, Audre and Bernard Rapoport Centennial Professor of Economics and Public Affairs and former U.S. Secretary of Labor. Conducted economic and policy research on employment, contracting, education, trade, and other topics. Conducted supporting research for labor-management arbitrations in the pharmaceutical industry and the U.S. Postal Service.

Brimmer & Company, Inc., Washington, DC

1990–1993 Staff Economist

Served as staff economist for business disparity studies in Atlanta, Miami and St. Louis directed by former Federal Reserve Board Governor Andrew Brimmer. Developed and analyzed statistical evidence of minority and female business availability and disparity.

Bureau of Labor Statistics, U.S. Department of Labor, Washington, DC

1989 Economic Analyst

Mass Layoff Statistics Program. Developed computer software to automate aspects of the program's data collection process.

Department of Economics, University of Texas at Austin

1988–1990 Assistant Instructor

Developed and taught undergraduate courses in macroeconomics and microeconomics.

Honors and Professional Activities

Member, American Economic Association

Associate Member, American Bar Association, Section of Labor and Employment Law

Associate Member, American Bar Association, Section of Public Contract Law

Selected Speeches, Presentations, and Reports

The State of Minority- and Women-Owned Business Enterprise: Evidence from Cleveland, prepared for the City of Cleveland, December 2012.

And We Are Not Saved: Empirical Evidence of Disparate Treatment Impacting Minority- and Women-Owned Businesses, prepared for the American Contract Compliance Association (ACCA) 26th Annual National Training Institute, August 2012.

The State of Minority- and Women-Owned Business Enterprise: Evidence from Missouri, prepared for the Missouri Department of Transportation, June 2012.

The State of Minority- and Women-Owned Business Enterprise in Construction: Evidence from Houston, prepared for the City of Houston, April 2012.

Getting Your House in Order: Workforce Reviews and Statistical Audits, presentation to Vinson & Elkins LLP, Labor & Employment Practice, Houston, Texas, January 2012.

Conducting Employment Audits Thoroughly and Ethically, California Employment Law Update 2011, Practising Law Institute, November 2011.

Designing Defensible Disparity Studies, prepared for the American Contract Compliance Association (ACCA) 25th Annual National Training Institute, August 2011.

The State of Minority- and Women-Owned Business Enterprise: Evidence from Maryland, prepared for the Maryland Department of Transportation, February 2011.

The State of Minority- and Women-Owned Business Enterprise: Evidence from Minneapolis, prepared for the City of Minneapolis, Minnesota, October 2010.

The State of Minority- and Women-Owned Business Enterprise: Evidence from Hawai'i, prepared for the Hawai'i Department of Transportation, October 2010.

The State of Minority- and Woman-Owned Business Enterprise: Evidence from Broward County, prepared for Broward County, Florida, September 2010.

The State of Minority- and Women-Owned Business Enterprise: Evidence from Northeast Ohio, prepared for the Northeast Ohio Regional Sewer District, August 2010.

The National Model Disparity Study Project: Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program, prepared for the 39th Annual National Meeting & Training Conference for the Conference of Minority Transportation Officials (COMTO), July 2010.

The Status of Minority- and Women-Owned Business Enterprises Relevant To Construction Activity In and Around Cook County, Illinois, prepared for Cook County, Illinois, June 2010.

The State of Minority- and Woman-Owned Business Enterprise: Evidence from New York, prepared for the New York State Department of Economic Development, April 2010.

The National Model Disparity Study Project: Designing a Legally Defensible Disparity Study and Request for Proposals, prepared for the American Contract Compliance Association (ACCA) 23rd Annual Training Institute, September 2009.

The National Model Disparity Study Project: Designing a Legally Defensible Disparity Study and Request for Proposals, prepared for the Southern Transportation Civil Rights Training Symposium, September 2009.

Race, Sex, and Business Enterprise: Evidence from Augusta, Georgia, prepared for Augusta-Richmond County, Georgia, September 2009.

Race, Sex, and Business Enterprise: Evidence from the State of Utah, prepared for the Salt Lake City Department of Airports, May 2009.

Race, Sex, and Business Enterprise: Evidence from Memphis, Tennessee, prepared for the Memphis-Shelby County Airport Authority, December 2008.

The National Model Disparity Study Project: Designing a Legally Defensible Disparity Study and Request for Proposals, prepared for the American Contract Compliance Association (ACCA) 22nd Annual Training Institute, August 2008.

The Personal Net Worth Standard: How Much is Enough?, prepared for the American Contract Compliance Association (ACCA) 22nd Annual Training Institute, August 2008.

Race, Sex, and Business Enterprise: Evidence from Baltimore, Maryland, prepared for the City of Baltimore, September 2007.

Conducting Legally Defensible Disparity Studies, prepared for the American Contract Compliance Association (ACCA) 21st Annual Training Institute, September 2007.

Conducting Legally Defensible Disparity Studies, prepared for the Conference of Minority Transportation Officials (COMTO) National Meeting & Training Conference, June 2007.

Conducting Legally Defensible Disparity Studies, prepared for the Federal Highway Administration Transpo '07 Civil Rights Symposium, June 2007.

Race, Sex, and Business Enterprise: Evidence from the Commonwealth of Massachusetts, Vol. I, prepared for the Massachusetts Housing Finance Agency, November 2006.

Race, Sex, and Business Enterprise: Evidence from the Commonwealth of Massachusetts, Vol. II, prepared for the Division of Capital Asset Management, November 2006.

Top Ten Reasons Why Contracting Affirmative Action Programs are Defeated in Court, prepared for the American Contract Compliance Association (ACCA) 20th Annual Training Institute, September 2006.

Top Ten Reasons Why Contracting Affirmative Action Programs are Defeated in Court, prepared for the Conference of Minority Transportation Officials (COMTO) National Meeting & Training Conference, July 2006.

Race, Sex, and Business Enterprise: Evidence from the State of Illinois and the Chicago Metropolitan Area, prepared for the Illinois State Toll Highway Authority, June 2006.

Race, Sex, and Business Enterprise: Evidence from Denver, Colorado, prepared for the City and County of Denver, May 2006.

Race, Sex, and Business Enterprise: Evidence from the State of Maryland, prepared for the Maryland Department of Transportation, March 2006.

An analysis of the impact of affirmative action programs in the construction industry (with David G. Blanchflower), prepared for the National Bureau of Economic Research (NBER) Entrepreneurship Group Meeting, March 2006.

The State of Minority- and Women-Owned Business Enterprises in the Austin, Texas Construction Economy (with Colette Holt & Associates and Anchondo Research Management & Strategies), prepared for the City of Austin, March 2006.

Race, Sex, and Business Enterprise: Evidence from the State of Washington, prepared for the Washington Department of Transportation, October 2005.

Problems and Pitfalls Studying Contracting Affirmative Action Programs, prepared for the American Contract Compliance Association (ACCA) 19th Annual Training Institute, September 2005.

Race, Sex, and Business Enterprise: Evidence from the St. Louis Metropolitan Statistical Area, prepared for the Bi-State Development Agency (Metro), March 2005.

Disadvantaged Business Enterprise Availability Study, prepared for the Missouri Department of Transportation, November 2004.

Selected Publications

(with Andrew R. Livingston and Louisa Holzschuher) "Conducting employment audits thoroughly and ethically," in *California Employment Law Update 2011*, Timothy J. Long (Chair), New York, NY: Practising Law Institute, pp. 241-254, 2011.

(with Colette Holt) "The Limited Impact of *Rothe VII* on M/W/DBE Programs," *Contract Management Magazine*, 2010.

(with Colette Holt), *Guidelines for Conducting a Disparity and Availability Study for the Federal DBE Program*, Transportation Research Board of the National Academies, NCHRP Report, Issue No. 644, 2010.

(with Colette Holt) "*Western States Paving Company v. Washington State Department of Transportation*: Ninth Circuit Upholds Federal Disadvantaged Business Enterprise Program for Transportation Contracts But Strikes Down State's Implementation of Program Regulations," American Bar Association, Section of Antitrust Law, *The Transportation Antitrust Update*, No. 16 (Spring), 2007.

(with Colette Holt) "Court of Appeals Upholds Illinois Department of Transportation's DBE Program," working paper, 2007.

(with Colette Holt) "Meeting the Western States Challenge: Setting Disadvantaged Business, Enterprise Goals on USDOT Contracts," *Small Business Exchange*, Vol. 22, No. 18, 2006.

(with David G. Blanchlower) "An Analysis of the Impact of Affirmative Action Programs on Self-Employment in the Construction Industry," National Bureau of Economic Research, Working Paper Series, No. 11793, 2005.

"NERA Economists' Role in *Northern Contracting, Inc. v. Illinois Department of Transportation*, 2005 U.S. Dist. LEXIS 19868," NERA Economic Consulting, 2005.

"NERA Economists' Role in *Builders Association of Greater Chicago v. City of Chicago et al.*, 298 F.Supp.2d 725 (2003)." NERA Economic Consulting, 2004.

"NERA Economists' Role in *Sherbrooke Turf, Inc. v. Minnesota Department of Transportation* and *Gross Seed Co. v. Nebraska Department of Roads* 345 F.3d 964 (8th Cir. 2003)." NERA Economic Consulting, 2004.

(with Corbett Anderson, Gina M. Chang, Theresa Van Vuren, Janet M. Hogan, Robert T. Fries, Michael J. Sciotti and Stephen W. Skrainka) Report of the Equal Pay Act Subcommittee of the ABA Section of Labor and Employment Law Federal Labor Standards Legislation Committee. 2004.

"NERA Economists' Role in *Concrete Works of Colorado, Inc. v. City and County of Denver* (10th Cir. 2003)." NERA Economic Consulting. 2003.

(with Corbett Anderson, Allen S. Kinzer and Lisa L. Sutton) Report of the Equal Pay Act Subcommittee of the ABA Section of Labor and Employment Law Federal Labor Standards Legislation Committee. 2003.

Racial discrimination and minority business enterprise: Evidence from the 1990 census. Studies in Entrepreneurship Series. New York and London: Garland Publishing. 2000.

Testimony in Judicial, Legislative, and Regulatory Proceedings

Maryland House of Delegates, Committee on Health and Government Operations and the Maryland Senate, Committee on Education, Health & Environmental Affairs, March 2-3, 2011. On the results of NERA's disparity study for the State of Maryland, and in support of implementing legislation for the corresponding State MBE Program.

United States Senate, Committee on Small Business and Entrepreneurship, Roundtable Hearing on "Small Business Contracting: Ensuring Opportunities for America's Small Businesses," September 24, 2009, Washington, D.C. On the subject of "Evidence of Discrimination Impacting Minority-Owned and Women-Owned Businesses."

United States House, Committee on Transportation and Infrastructure, Hearing on "The Department of Transportation's Disadvantaged Business Enterprise Programs," March 26, 2009, Washington, D.C. On the subject of "Challenges Faced by Disadvantaged Business Enterprises in the Transportation Sector."

Circuit Court of Cook County, Illinois in the matter of *Jeffrey N. Moeller v. Del Global Technologies Corp., Del Medical Imaging Corp., and Walter Schneider*, No. 02 1. 8194 (County Department – Law Division) for the defendants, concerning estimated economic losses resulting from alleged wrongful termination, employer defamation and employer retaliation.

United States House, Subcommittee on Information Policy, Census, and National Archives of the Committee on Government Oversight and Reform, Hearing on "How Information Policy Affects Small and Disadvantaged Businesses in Federal Contracting," September 24, 2008, Washington, D.C. On the subject of "How Information Policy Affects Competitive Viability in Minority Contracting."

United States Senate, Committee on Small Business and Entrepreneurship, Hearing on "Business Start-up Hurdles in Underserved Communities: Access to Venture Capital and Entrepreneurship Training," September 11, 2008, Washington, D.C. On the subject of "Discrimination Facing Small Minority-Owned and Women-Owned Businesses in Commercial Credit Markets."

United States Senate, Committee on Small Business and Entrepreneurship, Hearing on "Minority Entrepreneurship: Assessing the Effectiveness of SBA's Programs for the Minority Business Community," May 22, 2007, Washington, D.C. On the subject of "The Current State of Minority-Owned and Women-Owned Business Enterprises in the United States."

Federal District Court (Chicago) in the matter of *Northern Contracting, Inc., v. State of Illinois, Illinois Department Of Transportation, et al.*, No. 00 C 4515 (N.D. Il., E. Div.) for the defendants, concerning statistical evidence of minority and female business enterprise availability and disparity.

Federal District Court (Atlanta) in the matter of *Daniel Webster, et al. v. Fulton County, et al.*, 1:96-CV-2399 (N.D. Ga.) for the defendants, concerning statistical evidence of minority and female business enterprise discrimination.

Federal District Court (Miami) in the matter of *Engineering Contractors Association v. Metropolitan Dade County*, 94-1848-CIV-Ryskamp (S.D. Fl.) for the defendant, concerning statistical evidence of minority and female business enterprise discrimination.

Federal District Court (Houston) in the matter of *Bilbo Freight Lines, Inc., et al. v. Dan Morales, et al.*, H-93-3808 (S.D. Tx.) for the defendant, concerning statistical evidence of discrimination in public contracting.

Testimony by Deposition, Declaration, or Affidavit

Rothe Development, Inc. v. Department of Defense and Small Business Administration, United States District Court for the District of Columbia, Civil Action No. 12-CV-744, Report of Defendant's Expert.

Geyer Signal, Inc. and Kevin Kissell v. Minnesota Department of Transportation, Thomas K. Sorel in his capacity as the Minnesota Commissioner of Transportation, and Mary Prescott in her capacity as Acting Director of the Office of Civil Rights, United States District Court for the District of Minnesota, Case No. 0:11-cv-00321-JRT, Report of Defendant Intervenor's Expert.

Associated General Contractors of America, San Diego Chapter, Inc., Plaintiff v. California Department of Transportation, Randell Iwasaki, Defendants, Coalition for Economic Equity and National Association for the Advancement of Colored People, San Diego Chapter, Defendant-Intervenors, United States District Court, Eastern District of California, No. 2:09-CV-01622-JAM-GGH, Report of Intervenors' Expert and Deposition Testimony.

Kevcon, Inc. v. The United States, No. 09 625C (United States Court of Federal Claims) for defendant, concerning the constitutionality of the government's Small Business Administration 8(a) minority business set-aside program.

Thomas N. Janusz v. Keystone Illinois, Inc., et al., No. 03 L 008543 (Circuit Court of Cook County, Illinois) for the defendants, concerning estimated economic losses resulting from alleged wrongful termination and employer defamation.

Utility Contractors Association of North Florida, Inc. v. City of Jacksonville, Civil Action No. 3:02-CV-137-J-32-TEM (M.D. Fl., J. Div.) for the defendants, concerning statistical evidence of minority and female business enterprise availability and disparity.

Patricia K. Crye v. Rohmax USA, Inc. Cause no. 2001-32337 (District Court, Harris County Texas, 295th Judicial District) for the defendants, concerning statistical evidence of sex discrimination in employee discipline.

Craig Coleman, Ted Edwards, et al. v. BP Amoco Corp., Amoco Corp., et al. C.A. #G-00-222 (U.S. District Court, Southern District of Texas, Galveston Division) for the defendants, concerning statistical evidence of discrimination under ERISA statutes.

Sherbrooke Turf, Inc. vs. Minnesota Dept. of Transportation, et al. OO-CV-1026 (D. Mn.) for the defendants, concerning statistical evidence of minority and female business enterprise availability.

Equal Employment Opportunity Commission v. Amoco Chemical Company, Inc. and BP Amoco Corp. H-99-1414 (S.D. Tx.) for the defendants, concerning statistical evidence of liability resulting from alleged age discrimination in hiring.

Carrell R. Scammahorn and Jerry L. Hope v. Schlumberger Ltd., et al. 98-4005-JPG (E.D. Il.) for the defendants, concerning estimated economic losses resulting from alleged wrongful termination due to age discrimination.

Daniel Webster, et al. v. Fulton County, et al., 1:96-CV-2399 (N.D. Ga.) for the defendants, concerning statistical evidence of discrimination in public contracting.

Engineering Contractors Association v. Metropolitan Dade County, 94-1848-CIV-Ryskamp (S.D. Fl.) for the defendant, concerning statistical evidence of discrimination in public contracting.

Acevedo Cordero, et al. v. Cordero Santiago, et al., CIV 89-986-RLA (D. P.R.) for the plaintiffs, concerning employment discrimination by a public entity during a mass layoff.

Bilbo Freight Lines, Inc., et al. v. Dan Morales, et al,. H-93-3808 (S.D. Tx.) for the defendant, concerning statistical evidence of discrimination in public contracting.

March 2013

Chairman RISCH. Thank you so much, Dan. First of all, let me say I share your view that Alaska certainly has unique issues for a lot of different reasons. Interestingly enough, some of them are not unlike Idaho's. Senator Sullivan and I and Senator Murkowski share the same challenge, that is, trying to explain to our brethren from the east coast what it's like to have your State owned by the Federal Government. In Idaho, two out of every three acres is owned by the Federal Government. I know you're even higher here. I think about three-fourths or something?

Senator SULLIVAN. It's 66 percent.

Chairman RISCH. We have some counties that are actually 97 percent, and I suspect you've got the same thing. So that creates really, really unique challenges because we are after all sovereign states. We have joined together as a Federal Government, and on some things the Federal Government is premier and on some things the State is premier. There's a lot of elbowing to get to the appropriate ground, but it is——

Senator SULLIVAN. We're partners in elbowing usually, so——

Chairman RISCH. That's right. It's difficult to sit down with somebody from Delaware or somebody from Maryland. To start with, the first conversation you have if they've never heard that before, they don't believe you. They say: Well, that can't be. The Federal Government owns two-thirds of your state? How can that be? Here's the map. It's crystal clear. So we share some of the challenges.

I'd like to welcome Mr. Robb Wong to this hearing. He's the Associate Administrator for the Office of Government Contracting and Business Development at the Small Business Administration. In the role at the SBA, Mr. Wong advocates for small businesses who look to compete in the Federal contracting market. Since being sworn in, Mr. Wong has worked to streamline the Federal procurement process at the SBA in an effort to make the process more efficient and effective for small businesses to compete for Federal contracts.

We continue to work closely with Mr. Wong and his office. I look forward to hearing an update about the SBA set-aside program and where he thinks improvements can be made.

Mr. Wong, thank you for joining us today. The floor is yours.

STATEMENT OF ROBB WONG, ASSOCIATE ADMINISTRATOR, OFFICE OF GOVERNMENT CONTRACTING AND BUSINESS DEVELOPMENT, U.S. SMALL BUSINESS ADMINISTRATION, WASHINGTON, DC

Mr. WONG. Thank you very much for the privilege of appearing today. If I can read a statement: Chairman Risch, Senator Sullivan, and Senator Murkowski. Thank you for the invitation to testify today and for having me at this important hearing to discuss Federal contracting programs at the U.S. Small Business Administration. As the Associate Administrator for the Office of Government Contracting and Business Development, or GCBD as I call it for short, it is my job to ensure that small businesses can compete for Federal opportunities.

In fiscal year 2017 that included a record $1.57 billion in set-aside awards to small businesses. As you mentioned, that's $6 bil-

lion more than we've spent before. That's roughly another 50,000 jobs. We're very proud of that.

As part of that, my office oversees the 8(a) business development program, which helps to provide a level playing field for small businesses owned and controlled by socially and economically disadvantaged individuals or certain specified disadvantaged entities. Alaska Native Corporations, or ANCs, are included in that program. As you know, ANCs play a unique and integral part in the economic development here in Alaska. We have been working hard to ensure their successful participation in the 8(a) program.

Administrator McMahon and I share a passion for making SBA's procurement-related programs, and particularly the 8(a) business development program, more efficient and less burdensome to both procuring agencies and our small businesses. In a word, I want businesses to be able to get our certifications easier so they can make more money. I want the government to look at our programs as small business first and SBA first and it's easier for them to provide supply and government contracts to them.

For over 35 years I've been working in and around the 8(a) program. My first experience was when I was 17 years old working for an 8(a) company. Then I worked with the SBA to write the regulations. I've been outside the agency in commercial for 25 years consulting with small businesses, and I have the opportunity to come back to SBA and to work with the program that's been so central to my professional life and is synonymous with SBA.

The best way to do that is to directly hear from our customers and to learn from them what is working and what can be done better. With that in mind, last year Administrator McMahon brought her ninth tour to Alaska. Her trip included meetings with business owners, ANC representatives, and other entrepreneurs in Anchorage, Bethel, and Kwethluk.

She had the opportunity to see and hear firsthand the issues facing small businesses in Alaska, including those related to Federal contracting programs. Based on the feedback she received, I've been focused on making sure the SBA is best maximizing the delivery of the 8(a) program. I'd like to share some of the progress we've made at the agency to improve the program.

As previously mentioned, hearing directly from our partners is imperative to me as a salesperson and as a business owner to learning how our programs are functioning. This is my fourth trip to Alaska as head of GCBD. I receive valuable insight and feedback every time I'm here.

Last month I was here with my colleague, John Klein. We held a tribal consultation session with the ANCs, their shareholders, and tribal representatives here in Alaska in this very room. We had excellent conversations about streamlining and reducing specific regulatory burdens in a sensible way. I appreciated the opportunity to interact with the ANCs during the session and the positive feedback that the ANCSA Regional Association provided.

Last week I spoke to the National 8(a) Association Annual Conference here in Anchorage. I discussed the improvements that we've been making, like making it easier to get qualified companies certified and continue to receive valuable feedback about what we can do better. In that regard, we brought six of my personal staff

from headquarters up here as well as our district office here in Alaska.

I share the following examples to let you know that we value the input we have received and that these meetings have already resulted in program improvements from the comments we have received in these meetings. We have added three business opportunity specialists, BOSs, from the Alaska District office. The BOS is a district office staff member who works directly with small businesses and is responsible for implementing the 8(a) program at the SBA district office level.

The addition of BOSs in Alaska will allow SBA to be better equated to help ANCs and others looking for Federal contracting opportunities. I mentioned John Klein, senior member of our Office of General Counsel. John has been to the Alaska District office twice this year to assist in training the BOSs on the rules pertaining to ANCs.

Additional training has been a key initiative. We're empowering our field offices by giving them ongoing guidance on program changes, processes, and policies. We believe that we have a tremendous model of excellence here in the Alaska District Office headed by our District Director, Nancy Porzio.

As noted, regulatory comments received during our tribal consultation have been important to our program assessment. We're in the process of drafting changes to the 8(a) regulations that are a direct response to that feedback. We are committed to our oversight responsibilities, and where possible, we also seek to relieve unnecessary and excessive burdens on the small businesses we serve.

This effort is not limited to the 8(a) program, but extends to the HUBZone program as well. For our consultations here in Anchorage as well as Albuquerque and Oklahoma City, we are looking for ways to implement reforms that will make it easier for small business concerns to understand and comply with important program requirements.

Gentleman, my philosophy is small business first. Our programs, like 8(a), HUBZone, and SDVO not only help small businesses to grow and thrive, but equally importantly allow the Federal Government to reach the quality solution it wants rapidly, reliably, and immediately.

I'd love for the government contracting officer to think small business first and to look at SBA-certified companies to be their first choice to fulfill the government's needs for products and services. The 8(a) program is synonymous with our agency, SBA, and is widely used by Federal contracting officers in every agency because of its ease of use of to identify a quality solution and award it quickly and accurately to support the public and the war fighter.

Alaska Natives, Hawaiian Natives and tribes are our power users of our 8(a) certification. We value comments and rely on them to help us to improve our certifications to make them more useful in business and more useful to the Government. ANCs, Hawaiian Natives, and Native Tribes have a greater responsibility than a typical 8(a) since they must bear responsibility to help preserve past, present, and future generations of people and their lands.

From my visits here in Alaska and in DC, the commitment that Alaskans have to Alaska and to each other is palpable. I am so appreciative of their willingness to work with SBA to help us improve our agency and our programs. It is an honor to be able to help Alaska and All Small businesses for now and also for the future.

Thank you, and I'll take your questions.

Chairman RISCH. Thank you Mr. Wong, and thank you for serving where you are. We know that you're aggressively pursuing this. We want to encourage you to continue to do so. It's the direction we all want to go.

With that, Senator Sullivan, do you have questions?

Senator SULLIVAN. Thank you Mr. Chairman. Mr. Wong, first, thanks for coming up, not only for this hearing, but so frequently with your team. It's really impressive and it's really good for all of my constituents in this room to know that and know how open and accessible you are.

On the BOSs, the business opportunity specialists here, you've said that you increased the number in Alaska to three; is that correct?

Mr. WONG. We have three new ones this year.

Senator SULLIVAN. That's three new ones that were in addition so that's——

Mr. WONG. [continuing]. Some rotated off, but then I think we also have—I think, speaking with Nancy Porzio, she has a request for some additional ones.

Senator SULLIVAN. Do you anticipate granting those requests?

Mr. WONG. Excuse me?

Senator SULLIVAN. Do you anticipate granting those requests from Nancy?

Mr. WONG. Yes, I'm leaning that way.

Senator SULLIVAN. Good. That would be helpful.

I just want to thank you, your boss, Administrator McMahon, who I know has a very good relationship with Chairman Risch and with me and Senator Murkowski. She kept her commitment. When she went through the Senate confirmation process, one of the commitments I asked of her was to get to Alaska soon in her tenure, and she did that. She, as you mentioned, traveled all over the State.

So I'd like to begin just that with some kind of—I think a really important element of this hearing is not only what you've talked about in terms of your areas of focus, but just to help educate Alaskans in general on some of the broader issues that you're working on and then some of the more Alaska-specific issues that you're working on that people can take advantage of. So a lot of my questions for you are going to be kind of educational.

So let me start with two very basic kind of questions for you. Can you describe in more detail what the BOSs do, what their role is, how small businesses can actually utilize them?

Second, again, in more detail, the HUBZone concept and goals and, again, what that means nationally, but how can Alaska's small businesses take advantage of those two general areas of really help and reinforcement that you bring to the table, but a lot of times my constituents or other Americans don't know about it. So the business opportunity specialists and the HUBZones.

Please feel free to go into as much detail as you would like.

Mr. WONG. Well, I'll try to keep it shorter than what I'd like.

Senator SULLIVAN. The floor is yours. In all seriousness, these are really important and I think sometimes people don't fully understand.

Mr. WONG. Sure. Not a problem. Thank you very much.

So if you look at the SBA, again, we've kind of divided, so I try to look at this like a business. In general, we have a product. The product is our basic four certifications: 8(a), HUBZones, woman-owned businesses, and service-disabled veterans. So 8(a) is our best product. When the program was set up originally, if you want to look at it this way, we have two things. We have GC and then we have BD. BD is supposed to be the 8(a) to develop businesses.

Senator SULLIVAN. And BD?

Mr. WONG. In my title, government contracting and business development.

Senator SULLIVAN. Okay. Business development is BD.

Mr. WONG. Yes. Then, in general, the BD is the 8(a) program. Now, as a sales guy—and we'll get to this—I generally think that we really don't have any BD, so we're starting to train people on that. Basically, BD, to me, is once we have this product, how do we use it to make money?

So what we also have is we have GC, government contracting. Basically what that is, that's supposed to be SBA's ability through our OSDBU and through working with our partner agencies, we're basically trying to increase the supply of contracts for small business. If I took one half-step backwards, one of the primary missions of my job is to make sure that out of the total Federal to spend, that 23 percent or more goes to small businesses.

Senator SULLIVAN. And is that statutorily defined, or is that just something that you put forward and Administrator McMahon has as a target?

Mr. WONG. It's by statute, but then personally, if you're asking me, I would say I would love to be able—during the time I have, I would love to turn that into a floor and not a seat.

Senator SULLIVAN. Good.

Mr. WONG. So, in general, if you look at this, what we've typically done when we walk in—and I talked to Mrs. McMahon about this—typically we'd be making rules in headquarters. I was part of that problem when I was working there in 1990. I was an attorney, and I wrote some of the regulations. What we would do is we would use our field offices kind of sporadically.

When I came back to SBA and talked to Mrs. McMahon, we realized that this is a business. Our district office now, in my opinion, should be the point of sale. So the example that I was saying before to people is that I like McDonald's in a really unhealthy way. So what happens is that—but it's like going to McDonald's at different points, 68 different places, ordering the same sandwich, and getting 68 different results. All right? That's a horrible way to run a business.

So, for example, what we're trying to do even then is we're trying to have a first national BOS training, and that's going to be—I think it's next week in Washington, DC. So we're flying all of the BOSs in from the 68 different offices. Effectively what we're doing,

we're coming up with training that will help them to identify, pursue, capture, and execute Federal opportunities. We have to train our sales staff in the way that we would like first, and they can, in turn, take that information, and go to the people that have our certifications.

On the other side of what we have is to develop the supply of contracts. In my opinion, the certifications are only part of that. It's like having the spoon to eat, but if the food's—so we're increasing the number of people that have spoons, but if we only have a certain amount of food, eventually people aren't—you know, there's going to be so many people with spoons, if we don't increase that food supply, people are going to have a terrible time with our product, right. So I have to do a job over there to make sure that the government understands the value of using the certifications under the certified companies so that they can increase the supply of contracts.

Senator SULLIVAN. Okay. And then how does that relate to—are the HUBZones—I always get confused myself. Are those physical areas that are designated, or is that more of a concept that is part of you trying to get more service contracts to minority-owned businesses and other entities under the 8(a) program?

Mr. WONG. So they're real. They're kind of like what Chairman Risch had said about the maps, right. So we have maps. In general, based on a bunch of math—and I'm not good with math—but the math will come up, and it will basically shine a flashlight onto an area. For that year, that area will be determined a HUBZone. So, in general, what we want is if it's a HUBZone, for example, if you and I created a company. Well, we went to 400 6th Avenue here in Alaska, if that's a HUBZone, we'll build our business there.

Senator SULLIVAN. So do you have designated HUBZones that are physically designated in Alaska right now?

Mr. WONG. Well, yes. I would say the majority of Alaska is a HUBZone.

Senator SULLIVAN. Okay. So you can take advantage of all that.

Mr. WONG. Well, yes, in theory you could. So this is one of the reasons——

Senator SULLIVAN. Are we? When I say "we" I mean collectively small businesses in the State. Could we do more and, if so, how?

Mr. WONG. So, in theory, here's what I think could happen. Assuming that the HUBZone program was a robust program, yes, it would be actually a natural transition for even your 8(a) companies who work under the ANCs to transition into the HUBZones because—but, you know, as a businessperson having worked under these programs in several companies, you know, this is a target-rich environment, right. The problem is that we have the HUBZone program; as I see it, for businesses, it's sort of broken.

So I think one of the good achievements that you should take from this meeting is that Mrs. McMahon, I convinced her to put her shoulder behind HUBZone, and we're going to fix that. One, it will give a lot of Alaskans a transitional company that they can continue to work with, but, more importantly, it will give the government contracting officer another reason to love SBA-certified companies and keep pushing up contracts for them.

Senator SULLIVAN. Good. Excellent. Let me ask another question that's a broad-based question that I know Chairman Risch and I share a passion for. That is the challenge and, to be quite frank, the problem of too many government Federal regulations. So even the SBA, which is trying to help small businesses in Alaska and throughout the country, you create a bureaucracy that has as its intention helpful policies, but when the policies get implemented, you have—and I'm not using this team pejoratively—but the bureaucrats in the agency promulgate an avalanche of rules and red tape to, quote, unquote, help small businesses be able to obtain opportunities through these programs, but you have small—but they're small businesses. It's two or three or four people, and they have a mountain of Federal regs that they need to get through. You kind of squash the opportunity before they can even achieve it.

So what is the SBA now doing to streamline the regulatory process to enable small businesses to actually take advantage of the opportunities that you are presenting to Alaska companies without creating so much red tape that you discourage the very activity that your agency was designed by Congress to help with?

Mr. WONG. That's a long question.

Senator SULLIVAN. But it's an important question. I hope you have a good answer.

Mr. WONG. I do. I do. I have a good answer. So take HUBZone, for example. If I could very briefly digress a little bit.

Senator SULLIVAN. Do you recognize that this is a problem?

Mr. WONG. Oh, yes.

Senator SULLIVAN. Okay. And that more regs hurt small businesses; that's just a given.

Mr. WONG. Absolutely.

Senator SULLIVAN. Okay. Well, that's a start.

Mr. WONG. Yes. As a little bit of background, so I worked in an 8(a) company and then I came here and I wrote some of the rules and regulations. Then I actually ran the program for about six months. Then I went in and ran two of our district offices. Then I quit SBA for a little while. Then I helped 16 companies with 8(a) programs to develop, okay. I had to live under the rules that I created——

Senator SULLIVAN. Good.

Mr. WONG. [continuing]. To help, right. What's so helpful?

Senator SULLIVAN. So you've been on both sides of the equation.

Mr. WONG. Yes, sir.

Senator SULLIVAN. Good.

Chairman RISCH. That's really good. That's unusual for a Federal bureaucracy. Everybody should have to do that. They'd have a different view.

Mr. WONG. My mother called me unusual, but in a different way.

Senator SULLIVAN. You don't need to go there.

Mr. WONG. So as an example, let's take HUBZone. I've said this before. SBA is here to stay—SBA and 8(a) is here to stay, absolutely. We're going to build on that, but HUBZone could be another powerful tool. If you look at HUBZone, it has basically four things that we've identified that we think we can fix this year that pre-

vent people from making investment to go into the HUBZone and, therefore, prevents the government from being able to use it.

So if I can digress real quickly. When the maps says a special address is a HUBZone, you and I make an investment. We're smart. We're going to go and take up a lease with—you know, discounted leases don't start for less than five years. So now we're paying full market rate. Here's the weird thing with the HUBZone. Next year that flashlight, that out-zone map, the math could recalculate and the HUBZones move. Now we're immediately noncompliant.

We have another rule that says once you're in that HUBZone, you have to hire 35 percent of your staff from that HUBZone or another HUBZone in order to be compliant. The challenge often is that you may find somebody that's willing to work with you that's actually incapable of doing work. Then you have a timing problem because we have a rule that also says that that you have to be compliant at the time that you bid on your award and also at the time when you receive it. So right now, for example, we're in June—this is kind of cool. June 29th, this is actually my 21st anniversary today and I'm here, by the way.

Chairman RISCH. Glad you remembered that. It could be a disaster.

Senator SULLIVAN. Between your mom and your wife, we're learning a lot about you.

Chairman RISCH. Who says bureaucrats aren't people?

Mr. WONG. The challenge you have is that, at this time here, you and I are going to start a company. We're going to make widgets. We're going to put out four bids around June, and then they're going to be awarded probably starting in July and August before the end of the fiscal year. Here's the challenge. Let's say it's for 100 people who make widgets. We put out four bids. All of the agencies are going to go through the time and expense of competing with these things. Very expensive, its very time consuming.

Then we are going to get our first award because we're pretty good, right. We'll shake hands, go drink a beer, and that'll be great. Except for the problem is that now we have to hire the next hundred people. We've got to staff up, right. We've to get 35 people from a HUBZone or within our HUBZone or a HUBZone. That's not often easy to do. It's certainly not fast. I know that from my experience.

So here's what happens. We win that first award January 1st and we celebrate. Third week in January we're midway through our staffing of that opportunity, and we win the second award. But because of the rules that we have, we actually cannot accept that award because we are out of compliance based on that first award. So that means we can't accept the third award or the fourth award.

So what happens, it's certainly disappointing to the small business. That's another reason why we wouldn't want to invest into that business. But, more importantly, it really annoys the government because they're going to say: Hey, what was that vehicle we used? HUBZone. We went through the time and expense of competing this contract, and now we're not allowed to award it? We're never using that again.

So we want to change that as well. I also have—if we're successful with that, I have some ideas also for other ways to make it easier regarding that 35 percent. There's another thing we may want to work on later that says that if we have—if the business has trouble hitting that 35 percent, we'd like to give them a two-year exemption so they can use perhaps veterans, Natives, or disabled individuals whether they live in a HUBZone or not. That one's in the future.

The first three things I'm talking about, however, are things that are already in the pipeline, and we should be able to accomplish hopefully by early next year.

Senator SULLIVAN. Great. That's a really good answer. Let me move to another kind of area that's related. It's the education function that you're in charge of.

From my perspective, you kind of choose educational roles. One, and perhaps most importantly—no, most importantly is to educate the people who qualify for your programs.

The second—and I'll get to that in my nest line of questions—is actually educate Federal officials, whether they're Members of Congress or other Federal agencies, on the programs as well.

Let's focus on the first kind of education mission that you have. So let's say that you're a combat-wounded vet. You come home from Iraq or Afghanistan. You have a good idea for a business or you're an 8(a) Village Corporation and you're trying to help your shareholders who live in parts of America who don't have a lot of opportunity. And they're like: Hey, I'm going to try and get the SBA to help me out.

Where do those individuals or companies, small businesses, or you're a woman who graduated from college and you have a great idea, but you're kind of struggling. Where do those Alaskans, Americans go to get educated on the opportunities that you provide?

Because in my experience, it seems like you might have all these great ideas and great programs, and yet it's really hard to get the word out. Nobody knows, and it's a big challenge, and you're missing an opportunity. What are you guys doing to make sure those examples, and all the other ones that I've talked about that you're responsible for, to essentially get the word out?

Mr. WONG. So obviously we have a website, but what we're doing right now is——

Senator

Senator SULLIVAN. Well, you've got to be way more aggressive than the website.

Mr. WONG. I'm just starting, yes. We've got to be loud and proud, right. I think that to an extent—we've got our website that we're updating because we looked at that and said, "This is kind of stale information. It's kind of like having a drawer full of silverware and people just kind of threw it in there." So even if you could get into the drawer, it's like crazy; you can't even make sense of it.

So what we're trying to do even with the website is make sure that the information we have is orderly and it makes sense, but I've even had a directive that said: I want to get to something within three clicks. Its driving people crazy, but, you know. Then we have our Small Business Development Centers. In Washington,

DC, at least, there is a slew of consultants, right, who used this as an industry.

Senator SULLIVAN. Are they helpful or not helpful?

Mr. WONG. Well, it depends. When I used to be a consultant, I thought I was very helpful. In all seriousness, sir, I think that you shouldn't have to hire a consultant just to get into the program.

Senator SULLIVAN. Absolutely. You're right.

Mr. WONG. And the promise I've made is when I go and say that to people, that if we can do as an agency what I hope we can do, you're going to have more people in business; and when you have more people in business, you have real problems that they can help. We're looking for every avenue where the public looks to be able to provide that information for them.

So we even have, for example, the Veterans Administration Office. What I'm trying to do, for example, is to work with to leverage all of their existing depots, if you will, and points of contact so that we can push that information out there.

Senator SULLIVAN. Okay. And do you think that you're making progress on this?

Mr. WONG. I hope so.

Senator SULLIVAN. It's a really, really important element of your job.

Mr. WONG. Yes. You know, I'm a sales guy by nature. So I do firmly believe that if you have the better mousetrap, the world will not beat a path to your door because if the world doesn't know you have that mousetrap, nobody's coming.

Senator SULLIVAN. What are your metrics to help you measure the extent to which you are achieving that mission, which I think we would all agree is a really important element: Getting the word out to the people who qualify for your programs that they indeed qualify.

Do you have metrics by which the SBA is measuring that, because, again you could doing all the greatest work in the world, but if nobody knows about it, it's not really going to be that impactful.

Mr. WONG. Right. One of the primary metrics is that we spent $6 billion more on small business than we ever have before. It's a basic metric, but I think that's important. I think that at least some of the things we're doing are trending up there.

Senator SULLIVAN. But that's an input; how about an output? What are you looking at as an output?

Mr. WONG. So one of the things we're doing, and I've tried to be active with this here, is we're trying to empower our district offices, and their job with the BOSs, again, is to service the portfolio of 8(a) companies that they have. So I'm trying to provide the very simple metric. Again, we're trying to provide training. We have to basically train our sales staff on our points of sale, which is the business opportunity specialists.

Then what I literally want them to do, if I have my way, is to take the information that we have and then to hand it out to at least 100 percent of their portfolios. Then I think what we're also looking at—this is not exactly what you are asked, but it's something that we're trying to spread through government. One of the other metrics, again—we have something, and I apologize for digressing. We have specter of something called category manage-

ment that's going to be—it's supported by the government, but, in general, if we don't work with that, it's very bad for small business. It will have the effect of hitting all the money with a lot less people.

So what we're trying to do is, at the same time we're using that as kind of the calling card, to go back to our district office and portfolio, again to alert people. We're trying to let people know that we exist. We're trying to continue to keep the information fresh. We're trying to make sure that the businesses that are there have different ways to sell to the government, but then also—sorry. Then, in keeping with that, every time we meet with the small businesses, now we're trying to track literally how many businesses are you seeing with the actual information.

Right now I think a lot of the BOSs, based on what we've been talking about with them, a lot of them have been burdened with compliance work. So once you get into this—once you get the certification, then the BOSs are basically trying to make sure that they stay in. So what we've done with the computer system that we have, as part of the computer system, is to relieve some of the burden that they normally have with this compliance burden so it can be done by computer. So they'll have more time to spend face-to-face with the certification holders. Then, likewise, we're also trying to make sure that when we fly them in, so that once they have that free time, they'll know what to do with it.

Senator SULLIVAN. Great. Thank you. If you can remain focused on that, I think that's going to be very important.

Mr. Chairman, I have just one more area of focus, and that's in terms of questions. I'll try to be brief here because I know we have a second panel to get to. That relates to the role that you play in terms of not only educating those who are qualified for the programs, but for Federal Government officials. And that could be everything from U.S. Senators to other Federal officials.

I've had experiences, and I won't name names, of certain U.S. Senators talking about how, well, she wasn't going to be that supportive of the 8(a) program for Alaska Native Corporations because there's too many mansions on the Potomac that relate to Alaska Village Corporation shareholders. I was like: Wow, maybe you should come out to some of the villages and see all the mansions out here. Unfortunately, some of the highest poverty rates in the country. So very uneducated, to be perfectly blunt. So that's an important role that I think all of you have. But I mentioned—I touched on it briefly in my opening statement, the Section 811 of the 2010 National Defense Authorization Act clearly had a chilling effect on Alaska Native Corporation contracting and the ability to bid on higher valued government contracts.

One of the things as I looked into that law that was, I thought, a misreading of the law was that the reading of the contracting officers, particularly in the Department of Defense, was that that law mandated that the secretaries of the branches of the military had to personally sign off on any contract just for Alaska Native Corporation above a certain amount. It was 20 million: I think now it's 22 million. Well, of course that has a dramatic chilling effect because a contracting officer is not going to try to get in front of the Secretary of the Army. He's a very busy man or woman.

So, as you probably saw, there was a GAO report in 2014 where those contracting opportunities for Alaska Native Corporations essentially went to zero from hundreds of millions. That hurt not just the corporations, but hundreds, if not thousands, of Alaskans, Native and non-Native. Because if you're looking here, you're kind of in the midtown section of Anchorage. The Alaska Native Corporations, the Village Corporations are a huge engine of growth for Alaska, for everyone, Native, non-Native, veteran, nonveteran.

So in my discussions with the incoming secretaries of the Army, Navy, Air Force, I asked them to take a look at this. Hey, this is really important. I think it's been read wrong. I don't think you, Mr. Secretary, Madam Secretary, need to personally sign off. Once you get confirmed, go take a look, and if you agree with me, get a memo out to your contracting officer saying: This is not mandated that I do this. And, oh, by the way, these are really good companies and good value for military contracts.

They have done that. They have issued memos. They agreed with that reading of 811, that it wasn't so restrictive. We're hopeful that that won't have—that this chilling effect will be kind of diminished. But is there anything that the SBA can do to assist in these efforts to actually read the law correctly and not have such a chilling effect with regard to the 8(a) program as it relates to government contracting, particularly with regard to the military services?

Mr. WONG. Yes.

Senator SULLIVAN. And what would that be?

Mr. WONG. Just kidding. So every month we have something called OSDBU, Office of Small Disadvantaged Business Utilization. They are individuals who work for other agencies who often deal directly with the secretary. And they're with the 24 largest procuring activities. Generally, I noticed when they first came into our office, monthly, a couple of them would start checking their watches and they'd kind of just check the box.

I made a pitch to them and said: Listen, why don't we turn this into a group where we—you know, our responsibility, again, is to educate the government side—

Senator SULLIVAN. Yes. Good.

Mr. WONG. [continuing]. So that they know the importance, right.

I'd like to say thank you very much for getting those letters. Those letters, I believe, were signed. Kate gave those to me maybe within the last three weeks.

Senator SULLIVAN. Yes. We finalized them all, Secretary of the Army, Secretary of the Navy, Secretary of the Air Force. They all pretty much say the same thing. We're hoping to get them out to all the contracting officers to let them know that, "Hey, this is a memo from the Secretary of the Navy and he says you don't need to come to me." By the way, these are valuable contracts. So if you can help make sure the whole contracting community gets those memos and gets the right legal interpretation, we think the chill that's happened, and it's been dramatic and negative, will be diminished.

Do you commit to me to do that?

Mr. WONG. Yes. We are actually doing that. I believe we passed them out at the last OSDBU meeting, so everybody has them.

Senator SULLIVAN. Good. Well, I would continue to do that that all the meetings.

Mr. WONG. And there's going to be additional follow-up. This is something, again that will be another shift change for the industry, but I think in a very, very good way.

Again, thank you very much for those letters. It was tremendous.

Senator SULLIVAN. Absolutely. I think it's going to help everybody, and I think the secretaries of the different military services were, once they looked with their lawyers at what I was talking about, I think they were fine and had to sign them.

Let me ask one final question. It's just an educational element. You made a really important point that it's really hard for people to understand in the Congress, in the government, maybe even people—some of my constituents, is that you talked about how Alaska Regional Corporations, Native Corporations, Native Hawaiian entities, they play a role on the economy, but it's a broader role, and as you called it, even a broader responsibility for them. I think it's a really important point.

Can you unpack that a little bit? It's not just an economic role, but in many ways a cultural role, a heritage role that is very important to this State and Hawaii and other places.

Mr. WONG. Well, I won't speak for any of the Alaskans. I can just tell you from what I know and what I've felt and how I've been affected positively by that. So I'll do my best.

I do think that they have a much more difficult responsibility and a much nobler mission than a typical 8(a). I was a typical 8(a). So I think one of the things that kind of—I think also that ANCs, all of the Native Tribes, and all the Native companies, I think that they're often misunderstood by the public. In general, you have Government contracting. Around the Beltway, its like if you're fortunate to get into government contracting, somehow that's this big boondoggle, which is certainly not true. I think that with regard to contracting, that's the way that we fulfill the products and services that serve the public and protects the war fighter.

Among there, I think that we have the 8(a) companies because historically these are underutilized and underserved communities. Even then, you look at that as simply like a set-aside; but those businesses, when I was in them, I had to take care of my company, my employees, my family. If you look at the Alaska Natives, the best thing I can say is that my wife is from Japan, and I understand through her very much the value of honoring the past, the present, and the future. And I'm Chinese as well, and we were raised that way.

But working with the Alaskans, from what I understand, this is the reason why ostensibly they have larger contracts is not so they can buy mansions on the Potomac, but instead they have a responsibility for economic development. They literally have to take care of not only the generations today, but also tomorrow, and they have to preserve the land.

Senator SULLIVAN. The shareholders who, you know, I hate to say it, but in some communities are some of the poorest communities in the country.

Mr. WONG. Yes. If I could digress a little bit, I took the opportunity to go to Nome. I understand that is not a village; it's a hub

city. I feel that if I'm going to spend my time here, I want to do some good. I want to make every second count. So I'm a sales guy. So I want to make sure that the people that use our product use it well, right. I believe that if you have a product and it works, sometimes they'll tell somebody. If they have a product that doesn't work, they'll tell everybody.

The challenge we have with the ANCs is that they're often misunderstood. Nobody really understands the noble mission and the grave responsibility they have to take care of everybody. So that's the simplest way that I can put it, and it doesn't do it justice, but I'm trying to make sure that people know that.

So one of the things, for example, that I'm doing, Senator, is when I have an opportunity to meet the ANCs—I think I've met 7 out of 12. When I meet with the ANCs, I take a look at their marketing packages and their sales packages. In general, what I'm trying to get them to understand is what I would like to see, if I was a contracting officer, you have all of the information of how you take care of your generations.

One of the things, I think, that would increase the sales potential for them, let the government contracting officer know that you share. Let them know that this $22 million cap or large amount, it doesn't just go back to Alaska. It stays in your community. Turn it into a vehicle so that the government contracting officer, it solves their problem. I have to get these piles of requisitions down as quickly as possible. In my opinion, I've been counseling the ANCs to say, "Tell them that with this vehicle, the added capacity that you have allows the government contracting officer to protect the contractors that it wants under that umbrella." Let them know, for example, that in some cases you have 40 percent of the people on this contract that have nothing to do with Alaska. I'm very glad to work with them, and I think it changes the message and increases the education.

Senator SULLIVAN. Great. Well, that's really impressive Mr. Wong, and I appreciate that. I think you have a good understanding of the uniqueness there and kind of the broader goals than just economic. I appreciate that. I think your testimony has been outstanding. So I want to thank you for that.

Mr. Chairman, I'm done with my five minutes of questions.

Chairman RISCH. I'm glad we're not in Washington. They actually do measure five minutes.

Senator SULLIVAN. I know, but I figured you were going to give me a little lead time here given that I'm in my own State.

Chairman RISCH. Well, thank you so much. I think that line of questioning was particularly helpful. Mr. Wong, thank you. It's good to know that what we're trying to accomplish here is in such competent hands. Thank you so much for being here; thank you so much for answering questions and your pledges to pursue the things that we'd like to see a little more focus on. Thank you so much.

Mr. WONG. Thank you for having me.

[The prepared statement of Mr. Wong follows:]

U.S. Small Business Administration

TESTIMONY of

ROBB WONG
Associate Administrator
Office of Government Contracting and Business Development
U.S. Small Business Administration

U.S. Senate Committee on Small Business & Entrepreneurship

Opportunities and Challenges with the
Small Business Administration's Federal Contracting Programs

Friday, June 29, 2018

Chairman Risch, Senators Murkowski and Sullivan, thank you for the invitation to testify today, and for having this important hearing to discuss federal contracting programs at the U.S. Small Business Administration.

As the Associate Administrator for the Office of Government Contracting and Business Development, or GCBD for short, it is my job to ensure that small businesses can compete for federal opportunities. In FY2017, that included a record $105.7 billion dollars in set-aside awards to small businesses.

As part of that, my office oversees the 8(a) Business Development Program, which helps provide a level playing field for small businesses owned and controlled by socially and economically disadvantaged individuals or certain specified disadvantaged entities. Alaska Native Corporations, or ANC's are included in this program. As you know, ANC's play a unique and integral role in the economic development here in Alaska, and we have been working hard to ensure their successful participation in the 8(a) program.

Administrator McMahon and I share a passion for making SBA's procurement-related programs, and particularly the 8(a) Business Development program, more efficient and less burdensome to both procuring agencies and our small business constituents.

For over 35 years I have been working in and around the 8(a) program, and now have the honor, privilege and responsibility to protect, improve and enhance a program that has been so central to my professional life, and is synonymous with SBA.

The best way to do that is to directly hear from our customers, and learn from them what is working, and what can work better.

With that in mind, last year Administrator McMahon brought her Ignite Tour to Alaska. Her trip included meetings with business owners, ANC representatives, and other entrepreneurs in Anchorage, Bethel and Kwethluk. She had the opportunity to see and hear firsthand the issues facing small businesses in Alaska, including those related to federal contracting programs.

Based on the feedback she received, I have been focused on making sure the SBA is best maximizing the delivery of the 8(a) program. I would like to share some of the progress we have made at the agency to improve the program:

As previously mentioned, hearing directly from our partners is imperative to learning about how our programs are functioning. This is my fourth trip to Alaska as head of GCBD, and I receive valuable insight and feedback every time I am here.

Last month, I was here with my colleague John Klein. We held a tribal consultation session with ANC's, their shareholders and tribal representatives in Alaska. We had excellent conversations about streamlining and reducing specific regulatory burdens in a sensible way. I appreciated the opportunity to interact with the ANC's during this session, and the positive feedback the ANCSA Regional Association provided.

Last week I spoke at the National 8(a) Association Annual Conference here in Anchorage. I discussed the improvements we have been making, like making it easier to get qualified companies certified, and continued to receive valuable feedback on what we can be doing better.

I share the following examples to let you know that we value the input we have received, and that these meetings have already resulted in program improvements:

We have added three Business Opportunity Specialists, or BOS's, in the Alaska District Office. A BOS is a district office staff member who works directly with small businesses and is responsible for implementing the 8(a) program at the SBA district office level. The additional BOS's in Alaska will allow the SBA to be better equipped to help ANC's and others looking for federal contracting opportunities. I mentioned John Klein, a senior member of our Office of General Counsel. John has been to the Alaska District Office twice within the last year to assist in training the BOS's on the rules pertaining to ANC's.

Additional training has been a key initiative. We are empowering our field offices by giving them ongoing guidance on program changes, processes and policies. We believe that we have a tremendous model of excellence in the Alaska District Office headed by our District Director Nancy Porzio.

As noted, regulatory comments received during our tribal consultation have been important to our program assessment. We are in the process of drafting changes to the 8(a) regulations that are in direct response to that feedback. We are committed to our oversight responsibilities, and, where possible, we also seek to relieve unnecessary or excessive burdens on the small businesses we serve.

This effort is not limited to the 8(a) program, but extends to the HUBZone program as well. Through our consultations here in Anchorage, as well as those in Albuquerque and Oklahoma City, we are looking for ways to implement reforms that will make it easier for small business concerns to understand and comply with important program requirements.

As I conclude, I want to thank you for the opportunity to highlight our commitment to the 8(a) program. I appreciate the support I have received from the 8(a) community in Alaska, and will continue to work to further improve the program so participants can continue to help the government solve its challenges.

Thank you for the opportunity to discuss the 8(a) program today, and I look forward to your questions.

Chairman RISCH. With that, we'll move to panel number two.

Senator Sullivan, would you introduce the members of panel number two?

Senator SULLIVAN. Sure. The next panel can take its position on the dais. As you're doing that, I'm going to take the opportunity to introduce our next panel, which I'm very pleased to have speak to the challenges and opportunities that we face here in Alaska in particular.

So let me begin with Gabe Kompkoff. He is CEO of the Chugach Alaska Corporation. Gabe had previously served as president of Chugach's Commercial Division, member of the Board of Directors. Prior to this, he served as vice president at Bentall Kennedy Investment Management.

Next we have Mr. Carl Marrs, who is the CEO of Old Harbor Native Corporation. Mr. Marrs has worked for Old Harbor Native Corporation since 2005 under his projects in Alaska and Washington, DC. Originally from Seldovia, Alaska, Carl grew up as a commercial fisherman. He's a proud United States Marine. Prior to joining Old Harbor, he had an extensive career at Cook Inlet Regional Corporation, one of the large regional corporations, CIRI.

We also have Mr. Richard Peterson, who is the President of the Central Council of the Tlingit and Haida Indian Tribes of Alaska. As President, Mr. Peterson began developing a cultural immersion part in a language immersion daycare. He has helped the Tlingit and Haida Tribal Business Corporation secure their 8(a) certification, which was a hugely important achievement. He serves on the Native American Rights Fund Board and the Alaska Federation of Natives Board and the Governor's Tribal Advisory Council.

We also have Mr. Rolando Miranda, President of Miranda Electric, Inc. Since establishing Miranda Electric in 1981, Mr. Miranda has grown his business to 20 employees and has become an expert in the electrical, data, communications, fire alarm, life safety, and building sectors. His company attained its first Federal contract in 1999 and successfully graduated the 8(a) program in 2009.

Then we have the President of ChemTrack Alaska, an 8(a) small business company that does environmental engineering and construction. Carrie is the president and has been in the business in Alaska for 35 years. She brings unique expertise and experience to the field.

So I want to thank everybody here for being here and we will begin with testimony from left to right. So, again, thank everybody. You have five minutes.

Chairman RISCH. That's a for real five minutes, not Senator Sullivan's five.

Senator SULLIVAN. If you have a more extensive written statement, the committee will take that statement for the record.

So, Carrie, why don't we begin with you?

Chairman RISCH. For those of you who don't know this, the way we do this in the Senate is there will be an official record transcript of this available for people who want it. There will be people who want it in Washington, DC. Our commitment is that we will include the full length of your testimony or anything else that you want to submit to us into that record. Thank you.

With that, Carrie, go right ahead.

STATEMENT OF CARRIE JOKIEL, PRESIDENT, CHEMTRACK ALASKA, INC., ANCHORAGE, AK

Ms. JOKIEL. Thank you very much. Chairman Risch, Senator Sullivan, thank you for having me here today to testify. Though I am an individually-owned 8(a), I'm speaking under the realm of Economically Disadvantaged Women-owned Small Business today.

I'm the President of ChemTrack Alaska. We're an environmental service company that cleans up dirty dirt around the State of Alaska, most of it Federal agencies. I'm also the managing member of ChemTrack/Cornerstone JV, which we newly created under the All Small Mentor-Protégé Program. ChemTrack was formed in 1973 by my father, Sig Jokiel. I began working there in 2002, became a part in 2008, and majority owner in 2010.

We're an office of 9 to 15 people. We grow to 25 in the summer, depending on how much work we have. We played a large role in the Exxon Valdez oil spill and peaked at about 250 employees at that time. As I said, I'm an Economically Disadvantaged Women-owned Small Business and individual 8(a).

When I was asked to testify, the question that was posed to me was: "Where did you think you would be in ten years into owning your own business?" My immediate response was: "A lot further than this." I'm obviously starting to lose my moxie. I feel as though I am questioning if my goals are attainable. I feel too focused maybe on advocacy and education instead of strategy and competition.

ChemTrack has been around for over 40 years. We've put our houses in, 401(k)s, profits back into the company to stay alive. We're survivors. That said, I want to do more than survive. I want to thrive. I want to hire more people. I want to perform larger projects. I want to help put the women-owned small businesses on the map in this State.

Over the years I've had three concerns, three challenges that have come around, and they're still here. It depends on the business cycle of the season as to which rears its head, but I'll start with the first one.

That's that women-owned small businesses are underrepresented on multiple-award contracts. In 2017, the WIPP, Women Impacting Public Policy, they came out with a report where they looked at all sorts of different multiple-award contracts. What they found is that some of them do have set-aside caps they've put in for socioeconomic designations. Three-quarters of those did not have any put in for women-owned small businesses. This was based and inspired on a study that was done by the U.S. Department of Commerce in 2016. That study found that women-owned businesses are 21 percent less likely to win a contract even when controlling for size, age, and past performance.

ChemTrack is on a small business, multiple-award task order contract right now. We compete against four 8(a) ANC subsidiaries. We don't have the same infrastructure as ANC 8(a) subsidiaries. This contract expires in six months. I have been working with the Federal agency that I work with on this contract for over 18 months now to look at putting in a track for women-owned small businesses, so when it comes out to recompete, I could compete apples to apples. It would allow me to be more competitive and lined

up with small business on our multiple-award contract here in the State of Alaska.

The question that was posed to me was: If you could find a roadmap to help me do that, show me another contracting officer that's done that, that would be helpful. My question back is: Why am I having to do the legwork on that when it's a known national issue that there are policies in place to help meet the 5 percent goal for women-owned small businesses? They have only met them once in 16 years.

This segues into my second concern, which is the onus of education of the programs having to be on the women-owned small business. The women-owned small business program has been around since 1994. So from 1994 through 2018 there's been many, many changes. From four industries originally being thought what were known small business to owner represented to the more accurate 45 mixed codes of women-owned small businesses are underrepresented and an additional 38 mixed codes for economically disadvantaged women-owned small businesses to be representative.

We originally had a woman-owned small business repository where I put all my corporate documents, my passport to make sure that I'm a legit owner of this company. That's now been moved into the e-certified dot gov platform where we were the first designation to go through and be guinea-pigged into that program. All of these are education factors that I have to have with contracting officers.

We've gone from rule of two to now being able to have sole-source award authority. That award is used. It impacts differently than it does for an 8(a) company.

So over the 10 years of educating folks, I have had conversations with different Federal agencies, small business offices. I've written and sent press releases, white papers to chiefs of contracting and contracting officers. I've facilitated meetings between the SBA and Federal agencies, the chief of contracting officers to create more of a climate for women-owned small businesses to take part in our Federal contracting arena here in the State.

This gets me into my third concern. Okay, so we get the work. How do we finance it? Lending access to capital is a real issue for women-owned small businesses. Part of the gender pay gap problem is that when we receive less income over our careers, this allows us less leverage for receiving loan amounts. As a 39-year-old single woman, they often want to see guarantors on our loans. My father shouldn't have to sign on my loan anymore. I run the business. But he probably would.

Venture capital——

Senator SULLIVAN. Is he here?

Ms. JOKIEL. He's here.

Venture capital funding is at a minimum for women. So the SBA bombs. It ties up our equipment. It ties up our building for ten years. There needs to be a change to that. That makes it difficult for me to look for other lending opportunities. Traditional lines of credit, they focus on our accounts receivable. So if I have a job down on the Aleutian Chain, and I've got a barge that's at 30,000 bucks a day, that doesn't help me with the beginning part of my project to get out there. I don't have an invoice filling out yet, so I can't use my accounts receivable line of credit yet.

I'd like to see more focus on mobilization loans and possibly the Federal contracting use of the asset to offset being able to get a mobilization loan to help the projects.

Quickly—I know I'm almost at my five minutes, I've timed myself about ten times. I do want to talk about the successes, though, because I think that's important for you to hear. The Mentor-Protégé Program being opened up to All Small businesses, that was a really great move. I started a joint JV less than a year ago. We've done market research in Hawaii for future work. We bid on four projects from a short list and received our first sole-source. That was very positive.

The ability for a JV to use each individual company's experience as combined past performance was also very huge. It helped remove that catch–22. So that's been wonderful for us. Also, the addition of similarly situated entities to meet performance goals, that's been very useful. I plan on using that in the future, which means if there's a women-owned small business target that I need to get and I can't do it all myself, I can bring in another women-owned small business to help me, which also raises the table as a whole women-owned small businesses into the market.

Thank you so much for letting me testify. I appreciate it.

Chairman RISCH. Thank you so much. Appreciate that.

[The prepared statement of Ms. Jokiel follows:]

June 27, 2018

Carrie Jokiel
President
ChemTrack Alaska, Inc.
Managing Member
ChemTrack/Cornerstone JV, LLC
11711 S. Gambell Street
Anchorage, AK 99515
8(a) Economically Disadvantaged Woman Owned Small Business (EDWOSB)

Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs

ChemTrack developed from an Alaskan construction company founded by my father, Sig Jokiel, in 1973 into an environmental services and engineering company. I began working at ChemTrack in 2002 and in 2008, I joined as a partner adding expertise in business administration and project management. In 2010 I became the majority owner. We are an office of nine full time employees and we grow anywhere from 15-25 in the summer depending on workload and remote local hire. We played a large role on the Exxon Valdez Oil Spill recovery and our workforce peaked at 250 people. ChemTrack is an Economically Disadvantaged Woman Owned Small Business (EDWOSB), certified as a Small Business Administration (SBA) 8(a) firm in October 2016 and is a Joint Venture through the All Small Mentor Protegee Program (ASMPP) with a large local construction company.

A question was poised to me as I was preparing to write my testimonial, "Where did you think you would be ten years into owning your business?" My immediate answer was "Further than this."
I'm losing my moxie, starting to question if my goals are really attainable, wondering if I'm too focused on advocacy and education instead of strategy and competition. ChemTrack has been around for over forty years, putting our houses, 401ks and profits back in the company to stay alive, we are survivors. That said, I want to do more than survive, I want to thrive. I want to hire more people, perform larger projects and help put Woman Owned Small Businesses (WOSBs) on the map in this State. We have a good name and deliver great services to our clients. Having our 8(a) and EDWOSB status are not our differentiators. The WOSB designation, established in 1994, with the small contract goal of 5% as well as the WOSB Procurement Program created in 2000 to help women compete in unrepresented industries should do more as programs than help me survive, they should help me thrive.

Over the years I have identified three consistent challenges for WOSBs. I spent time trying to prioritize them and realize they are all interrelated and, depending on the season, they each reach the top of the list.

The first is the lack of "tracks" for WOSBs put in multiple-award contracts (MACs).
Women Impacting Public Policy (WIPP) produced a report called DO NOT ENTER: Women Shut Out of U.S. Government's Biggest Contracts.[1] The report was inspired by a 2016 study done by the U.S. Department of Commerce that found WOBs are 21% less likely to win a contract, even when controlling for size, age and past performance of the firm.[2] In November of 2017 Congress passed the 2018 National Defense Authorization Act (NDAA) which included a provision directing the SBA to study small business participation in MACs. The provision directs the SBA to address concerns that women-owned small

[1] DO NOT ENTER: Women Shut Out of U.S. Government's Biggest Contracts.
[2] Utilization of Women-Owned Business in Federal Prime Contracting. Report Prepared for the Women-Owned Small Business Program of the Small Business Administration. December 31, 2015.

business participation is underrepresented in MACs, the kind of contracts many federal agencies favor because they create a pre-approved list of businesses that can supply unlimited goods or services during a specified period, of up to 10 years.
ChemTrack is a Multiple Award Task Order Contractor (MATOC) holder with the U.S. Army Corps of Engineers (USACE) – Alaska District for the Environmental Remediation Services (ERS) work. This is a small business set-aside contract of which we are the only WOSB competing against four ANC 8(a) subsidiaries. There are six months left on the contract and then it will go out to compete again as a small business set-aside. It has been difficult to compete on this MATOC. The more work a contractor has around the State, the more efficiencies that can be found logistically, i.e. catching a barge on the backhaul from one of X number of projects allows cheaper mobilization and demobilization numbers when pricing as opposed to us where we may have only one project and must put numbers in for the entire barge haul. It is difficult to compete with entities that have a parent company and sibling companies. WOSBs are not structured the same way. Past performance and projects in the same rough order of magnitude (ROM) are crucial in the competitive federal market. In our contract we have received approximately $2 million compared to the other competitors who range from $16 million to $50 million in awards received. One could say that in order to be competitive in this market we need to sharpen our pencils. I offer back that competing against subsidiaries with sister companies that provide logistics and have construction and environmental arms as well as back log and the ability to propose projects with little to no overhead is not something that sharpening our pencil will even out. I cannot afford to play the short game of bidding below and hoping to find efficiencies along the way; in trying to compete my margins are so narrow I don't have a cushion for that. Since the WIPP report came out in 2016 I have been positioning with the USACE – Alaska District to have a WOSB track put in for the upcoming ERS MATOC. It was suggested that if I could find the roadmap on how to do that from another agency on another MAC that would incredibly help. I have yet to find that roadmap. My question is why am I having to do that legwork when it is a known issue and there are policies in place to help meet the 5% goal that has only been met once in sixteen years?
A solution would be to put a WOSB track in this MATOC; let me compete apples to apples with other WOSBs and help our businesses have the opportunity to thrive. Another solution would be to allow sole source authority in the same manner the 8(a) sole source authority is defined. Remove the final requirement for a sole source contract in the WOSB program be based upon the contracting officer's determination, through market research, that only one WOSB/EDWOSB can perform the requirement. Instead allow the reasons for why the WOSB is considered suitable for this particular acquisition to be because of previous contracts for the same or similar supply or service and a statement that the WOSB is eligible in terms of its small business size status relative to the assigned NAICS code, business support levels, and business activity targets.

Having the do my own legwork to discover a roadmap leads this testimonial to the second challenge, the onus of education on the WOSB.
Here is a history of the WOSB Program: In 2000, Section 811 of the Small Business Reauthorization Act established a new "8(m)" program under which federal contracting officers could restrict competition to eligible WOSBs in industries in which SBA determined that WOSBs are underrepresented or substantially underrepresented.
It took six years for SBA to propose its first set of regulations implementing the new set-aside authority. SBA's proposed rule, issued in June 2006, called for SBA to formally certify WOSBs and economically disadvantaged WOSBs (EDWOSBs). In 2007, SBA amended its proposal, including allowing WOSBs to self-certify their eligibility for set-aside contracts. Under the 2007 proposed rule, WOSB set-asides were permitted in only four industries, and only in cases where a procuring agency determined that it had taken part in discrimination against women in one of those industries.
This wasn't seen as enough by many WOBs in the industry and the resulting outcry forced SBA to try again. On October 7, 2010, SBA issued a final rule adopting a much broader WOSB program.
Under the revised WOSB program, WOSBs are considered "underrepresented" in 45 North American Industry Classification System (NAICS) codes and "substantially underrepresented" in 38 additional NAICS codes. Contracting officers may set-aside contracts for EDWOSBs in the 38 NAICS codes where women are deemed "substantially underrepresented" and may set aside contracts for EDWOSBs or WOSBs in the 45 industries where women are considered "underrepresented." The contracting officer must ensure that WOSB and EDWOSB set-asides occur only under appropriate NAICS codes:
Under the 2010 regulations, SBA established a "WOSB Program Repository." A WOSB could qualify for a set-aside contract in one of two ways.
If it wished, the WOSB could obtain a third-party certification from an entity approved by SBA to provide such certifications. At the time of its offer, the WOSB would provide the third-party certification to the

WOSB Program Repository, along with a certification stating that the company qualified for the procurement.

Alternatively, the WOSB could forego self-certification in favor of a "trust but verify" self-certification process. If it selected this option, the WOSB would represent itself to be eligible for the contract, then "provide a copy of the documents to the contracting officer verifying that it was a WOSB or EDWOSB at the time of initial offer." These documents included birth certificates, articles of organization, operating agreements, bylaws, stock ledgers, voting agreements, and so on. When a WOSB used the self-certification option, the contracting officer could not award the contract unless all of the required documents were submitted to the WOSB Program Repository. This Repository is now closed and WOSBs were the first designation to work with the ecertify.gov program.

In the 2015 National Defense Authorization Act (NDAA) there was an allowance made for the use of sole-source awards. Section 825 of the act, titled "Sole Source Contracts for Small Business Concerns Owned and Controlled by Women," amended statutes relating to the WOSB program (specifically, 15 U.S.C. 637(m)) to include an additional provision specifically allowing a contracting officer to award a sole source contract to a WOSB if:

- The WOSB is deemed responsible,
- The contracting officer does not reasonably expect that two or more WOSBs will submit offers for the contract,
- That the anticipated award will not exceed $4 million (though this amount is increased to $6.5 million for manufacturing contracts), and
- The contract is made at a fair and reasonable price.

On May 1, 2015, SBA issued a proposed rule addressing the new sole source provision and on September 14, 2015, the SBA promulgated a final rule governing the awarding of these contracts. The FAR Council's Interim Final Rule implementing sole source authority became effective on December 31, 2015.[3]

I share the history to illustrate how much has changed over 18 years and to help put in context how difficult that change has been to communicate to the COs leading to confusion, frustration and lack of implementation of the program. For the last ten years, as the developments happened I would go and discuss with the Small Business Office on base, speak with our local SBA personnel, send updates to the Chief of Contracting and other COs in different federal branches to try and keep them abreast of the options available to partner with WOSBs. It was often the first time they had heard of the updates. A year ago, April I was having a discussion with a CO about the ability to sole source work for WOSBs and he was adamant that was not an option. He went back to his office and spoke with another CO that I've had many conversations with over the years. To both of their credits, he called me and apologized and then became a champion for WOSBs and helped with the first WOSB set-aside the USACE Alaska district procured. My point is this conversation was had close to two years after the sole source authority became affective. That is a lot of missed opportunity and very disheartening as I've been walking the halls for years with the updates.

Another example of an education piece was during a response to a Discussion Letter that was sent out in accordance with an RFP my JV was proposing on. We were allowed to respond to certain deficiencies as defined by the RFP Source Selection Committee. We were given a rating of a "weakness" in the specialized experience category. The Source Selection Committee reason being that no teaming experience listed between the JV partners and that ChemTrack had no relevant experience listed. We responded by saying we respectfully believe extensive experience for the JV partners was provided and per 13 CFR 125.8(e), "When evaluating the past performance and experience of an entity submitting an offer for a contract set aside or reserved for small business as a joint venture established pursuant to this section, a procuring activity must consider work done individually by each partner to the joint venture as well as any work done by the joint venture itself previously".

We believe our answer enhances the merit of the proposal and the probability of successful contract performance and respectfully ask to have our experience assessed as very relevant and reevaluated as a strength.

As far as ChemTrack having no relevant experience listed we responded that in 2017, ChemTrack/Cornerstone JV, LLC, was formed through the U.S. Small Business Administration's (SBA) All Small Mentor-Protégé Program (ASMPP). The reason the SBA created the ASMPP is to help small businesses enter new markets as a protégé with a well-versed mentor, allowing the smalls to have the bandwidth and expertise alongside them as they perform the projects. ChemTrack strategically chose Cornerstone to work with because we complement each other for the Alaskan construction market with our 40+ years of environmental experience and Cornerstones 25+ years of statewide construction

[3] WIPP Release: A Guide to Awarding Sole-Source Contracts in the WOSB Program.

experience. The majority of construction projects on our Alaskan bases have an environmental component; we feel our JV will make an excellent partner with the USACE as we renovate and build our defense infrastructure.

We believe that with our 65+ years of combined experience in the State of Alaska in the environmental and construction industry along with the intent of the ASMPP and 13 CFR 125.8(e), stated above, our relevant experience should be reevaluated as a strength for this project. The award basis was Best Value, not Lowest Price Technically Acceptable (LPTA). Meaning variables like specialized experience, past performance and schedule are weighed along with price in the overall final rating. We were not awarded the project. We requested a debriefing and our specialized and relevant experience ratings changed from "weaknesses" to "good" and "satisfactory" because of our response and education of the CFR and the intent of the SBA's ASMPP program. The point is that Discussion Letters are not always used and assuming we had been closer on price it is possible we could have lost this award because of two incorrect "weakness" ratings. This was a $22 million-dollar award. There was another smaller yet similar RFP out at the same time and our JV proposed it as well. They were so similar that we used the same specialized experience but were not given the opportunity of a Discussion Letter for the smaller RFP. We lost this proposal as well and in our Unsuccessful Offer Letter our specialized experience as a JV was considered "unacceptable ". We asked several times for a debrief on the proposal and were never granted one. That was a $13 million-dollar proposal.

Solutions would be to offer certification processes such as a 16-hour course on the designations with 8-hour refreshers; monthly or weekly bulletins sent via email to COs outlining updates and upcoming changes; mandatory webinars; and upper management continuing to create a culture of open dialogue between contractors and Cos in order to foster education. Another solution would be for the SBA to have Business Opportunity Specialists (BOS) for WOSBs.

The notion of having a BOS, which is only offered when a business has the 8(a) designation segues me into the third challenge WOSBs face, access to capital and lending.

Some of the barriers to lending have to do with the Gender Pay Gap, receiving less income over career years decreases leverage for loan amounts; being a single woman and being asked for an additional guarantor is difficult; credit score formulas are antiquated and need to be rethought; and venture capital funding for WOSBs is minimal.[4]

ChemTrack has worked with four different financial institutions over the years. We had a longstanding relationship with one and had a million-dollar Line of Credit (LOC) with them. ChemTrack had a few down years showing losses, we went through the ownership change and the longstanding account executive retired, our LOC was not renewed and we looked to another financial institution. While looking for new funding we needed cash flow immediately, I took out a 401K loan, sought an angel (family) investor and took a mortgage out on my home to put into the company. We were able to get a LOC and continue our business operations, though the second financial institution had a different formula for lending, so the LOC was for a much smaller value. We had a few good years showing profits and then dipped again. Our LOC was reduced to such a low amount it was barely helping with payroll as we tried to right the ship and get back on track to a profitable season. The account executive agreed to increase the LOC on project by project basis, this did not end up being the case and it was suggested we look at factoring as a method to access capital. Our LOC at the time was at 6.25%, factoring increases LOCs from a range of 7.25%-13%. We could not afford those percentages and continued to look for more options. We had just received our 8(a) and were in the process of negotiating our first sole source award. The lending institutions could not understand what an asset having a federal contract was and we were left wondering how we were going to mobilize for our project with barge costs upwards of $30,000/day. The SBA Microloan program was not an option as we were in need of more than a microloan along with the process being very cumbersome.[5]

While attending an 8(a) conference in Anchorage, I sat in on a lending institutions presentation and they were introducing a product called a mobilization loan. This product was exactly what I needed for my upcoming project. This institution recognized that having a federal contract is an asset and that was the only asset required to obtain the mobilization loan. If I was not an 8(a), I would not have been at this conference and would not have known about this product that allowed me to successfully mobilize on my first sole source remote project. The SBA loan can tie up equipment and buildings for 10 years, making it difficult to maneuver for another loan if needed. Traditional LOCs are based on accounts receivables

[4] WIPP 2017 Economic Blueprint: A Way Forward, March 2017.

[5] WIPP Access to Capital. Breaking the Bank: Women Entrepreneurs & the Need for Capital.

so when a project is starting this does not alleviate a potential cash flow crunch. The mobilization loan was a success and we have used that method of lending again this year on a remote project.
Solutions would be to rethink credit scores, overhaul SBA microloan program and support Women's Business Centers by creating a Business Opportunity Specialist for WOSBs.

There are successes for which the SBA should be commended.
First, Mentor Protégé Program being opened up to all small businesses. We have seen a direct positive affect from creating a JV and working with our mentor. We have done market research in Hawaii for future work opportunities, bid on four projects together, were short listed on two and have received one sole source in less than 12 months.

Second, the positive affect of using Similarity Situated entities to meet performance goals. I have not had the opportunity to use this yet but look forward to working with other WOSBs to help raise the amount of federal contracting project experience throughout the State.

Third, the ability for a JV to use each individual company's experience as combined past performance. (13 CFR 125.8(e)). This just flat out makes sense and has allowed us to look at proposals and meet their requirements for past performance.

Thank you for the opportunity to provide this testimonial; I appreciate the ability to share my WOSB journey and look forward to being a part of the solution.

All the best,



Carrie Jokiel, President
ChemTrack Alaska, Inc.

Managing Member
ChemTrack/Cornerstone JV, LLC.

8(a) EDWOSB

Chairman RISCH. Mr. Kompkoff, the floor is yours.

STATEMENT OF GABE KOMPKOFF, CHIEF EXECUTIVE OFFICER, CHUGACH ALASKA CORPORATION, ANCHORAGE, AK

Mr. KOMPKOFF. Thank you Chairman Risch, Senator Sullivan. Have we seen Senator Murkowski come in yet?

Senator SULLIVAN. I think she's probably still struggling with flight issues. I know she's trying to get here.

Mr. KOMPKOFF. Thank you for everyone who has come such a long way to participate in this important discussion. It's my privilege to testify before you, discussion opportunities and challenges of the Small Business Administration Federal contracting programs, in particular the 8(a) business development program.

My name is Gabe Kompkoff. I'm a shareholder of Chugach Alaska Corporation, and I also have the privilege to serve as the Chief Executive Officer. It's incredible to think about how far Chugach has come over the last 45 years in our history. It began before I was born when the Alaska Native Claims Settlement Act was passed in 1971. The Act was passed as an attempt to settle land claim disputes in this State.

As you commented on, Chairman, we had the same issue in our region trying to select land. Most of it had already been selected by the Federal Government. When we looked at our map, we had a choice of glacier and mountaintops. It took us until 1982 to have a subsequent settlement with the Federal Government before we had some semblance of a just settlement of land selection. So we feel your pain in Idaho as well as in our small little nation.

What was amazing about this is the Alaska Native Claims Settlement Act was a new model of economic development opportunity that was a chance to try something different in the tribal reservation system. Overnight, after this Act was passed, we took the elders from our region, respected leaders from our region who were subsistence hunters, great fisherman and women, and they were elected to lead our companies in a boardroom. It was an amazing experience if you look at that at that time. Despite possessing little or no business experience, they understood the importance of building a foundation that would buy opportunities for that generation of shareholders and into perpetuity in the future.

My uncle, who was the former chief of the Village of Tatitlek, would always talk about taking care of the next seven generations. That's how we think of things. Our business went through valleys and peaks. Our early investments in the timber and fishing processing industry were devastated by the Exxon Valdez oil spill and eventually led us to declare bankruptcy in 1991.

Under the Alaska Native Claims Settlement Act, it was recognized that Alaska Native Corporations were going to be owned by historically disadvantaged people. This recognition in ANCSA was linked through the modification of the SBA's 8(a) program through changes in 1988. So those changes were a significant link in the Alaska Native Claims Settlement Act.

It allowed us to participate as minority-owned economically disadvantaged businesses. Based on those laws passed, we became eligible to negotiate Federal contracts of any size through to direct award and compete on contracts reserved for small businesses and

own more than one 8(a) company. The SBA's business development proved to be the missing link to ANCSA in that it provided an economic engine for all ANCs, including Chugach, to generate profits that benefited entire communities of Alaska Native shareholders.

It allowed Chugach to rebuild from our bankruptcy and grow in the healthy Federal Government contracting business. When I look back and I think about it, we were not trained. We did not have MBAs sitting in our boardrooms. We did not have folks that had the privilege of higher education to lead these organizations. We had to bootstrap it just like all the generations before us. When you look at our entry into the SBA 8(a) program, it allowed us to learn the business skills and actually build processes, good processes and ways that allowed us to build a sales team and understand what working capital meant and expand to a diverse portfolio of businesses.

The 8(a) program served its intended purpose to be that stepping-stone, affording small disadvantaged businesses the opportunity to compete in the Federal marketplace. In 2016 the 12 ANCSA regional corporations brought in 8.2 billion in revenue; 24 percent of that revenue was derived from 8(a) Federal contracting. That shows that the ANCSA regional corporations are responsible utilizing the 8(a) program to ensure and diversify our businesses and position ourselves to compete in the full and open competitive marketplace.

The 8(a) program is not only an economic tool for the individuals but it drives the people whose social and economic well-being are enriched by revenue generated by the corporations.

As a Chugach shareholder, I had the opportunity to earn a scholarship for my undergraduate degree from the Chugach Heritage Foundation. Without the backing of the Heritage Foundation, I would not have been able to afford to go to school. My family's livelihood was tied to fish in Prince William Sound, and our fishing business was devastated at the same time the oil spill devastated Chugach's fish processing business. Because of Chugach's support, I was able to earn my bachelor's degree, my master's degree, and eventually serve on the board of directors before being appointed as a leader of the organization.

I'm proud to say that now we have endowed our foundation so that every single shareholder and descendant that applies for a scholarship will receive a scholarship from now into the future.

John Brockman (ph), the Chugach founder, once said that he hoped the younger and current generations understood that he and his fellow founders fought hard for the corporations. Now more than ever I understand and appreciate their dedication. I feel pride in knowing that they and their sacrifices are part of our heritage. I'm very proud to continue their cause. That's why I'm here today.

While the SBA's Federal contracting programs are a success story for Native communities, our U.S. economy and the agencies we serve through this vehicle, ANCs still have a long way to go in helping to more fully address the serious economic and social issues and problems that are in our communities. We believe maintaining a healthy Federal contracting assistance program for small and disadvantaged businesses is critical to our success, and we commend the efforts of the committee and advocates such as Sen-

ator Sullivan and Senator Murkowski, Congressmen Young, to keep the SBA moving in the right direction.

We believe that protecting small business set-asides, contracts from bundling, strengthening the PCR program, and ensuring leadership is in place at the SBA office are important pillars to moving in the right direction. As you know, supporting and empowering small business and entrepreneurship is part of the fabric of this country. We're proud to be part of that legacy.

Thank you.

Chairman RISCH. Thank you very much.

[The prepared statement of Mr. Kompkoff follows:]

Chugach
ALASKA CORPORATION

June 29, 2018

Opportunities & Challenges with the Small Business Administration's Federal Contracting Programs

Short (Oral) Testimony

Thank you Senator Risch, Senator Sullivan, Senator Murkowski, Associate Administrator Robb Wong and the delegation that has come all this way to participate in this important discussion. It is my privilege to testify before you discussing opportunities and challenges with the Small Business Administration's (SBA) federal contracting programs – in particular, the 8(a) Business Development program.

My name is Gabriel Kompkoff and I am Chief Executive Officer of Chugach Alaska Corporation (Chugach). Chugach is a regional Alaska Native Corporation organized under the Alaska Native Claims Settlement Act – also known as ANCSA. Today, Chugach has approximately 2,600 Alaska Native shareholders.

The SBA's 8(a) business development program is the missing link to ANCSA in that it provides an economic engine for ANCs to generate profits that benefit entire communities of Alaska Native shareholders. Further, these programs are serving their intended purpose to be a stepping stone, affording small-disadvantaged businesses the opportunity to compete in the federal market and access specialized training, development and counseling. In 2016 the twelve ANCSA Regional Corporations brought in $8.2 billion in revenue; only 24% of the revenue was derived from Federal 8(a) contracting showing that ANCSA Regional Corporations are responsibly utilizing the 8(a) contracting mechanism to mature and diversify our businesses and position ourselves to compete in both the set-aside and the full and open competitive marketplaces thereby continuing to contribute to the U.S. economy.

The 8(a) Program is an economic tool for not only individuals, but tribes of people whose social and economic well-being is enriched by revenue generated by their corporations. For example, in 2017, Chugach's shareholder distributions included:

- $9.7 million in dividends and Elder distributions;
- $11.5 million donation to the Chugach Heritage Foundation (CHF) Endowment, which provides educational and scholarship opportunities to shareholders;
- $974,000 for cultural program, including Nuuciq Spirit Camp;
- $706,000 in scholarships for shareholders and their descendants seeking college or university degrees, vocational certificates, and job training;
- $633,000 for intern and apprenticeship programs; and
- $8.0 million in wages to shareholders, spouses and descendants.

We would like to thank the SBA for their continued work in supporting and advocating for small business enterprises. In support of the SBA mission, we'd like to highlight some areas that are impacting ANC's viability within the SBA's federal contracting assistance programs.

Chugach
ALASKA CORPORATION

1. We have seen an increase in bundled contracts over the past several years, which ultimately removes the contracts from the small business program. As a result, we have experienced our contract periods being shortened on existing contracts, despite quality performance, in order to align contract awards for bundling. Further, the bundled contract is often better suited to larger companies with a broader array of offerings, removing the focus on specialized services the smaller businesses are competitive in. We implore the SBA to more strongly advocate to protect against bundling, keeping contracts within the scope of the small business programs.
2. We commend the SBA's commitment to be a partner and resource for small businesses through the Procurement Center Representatives (PCRs). We have enjoyed working with several engaged PCRs. We encourage the SBA to continue to support and strengthen the PCR program to ensure a fully engaged and consistently trained PCR group.
3. We encourage swiftly filling the role of Administrator for the Office of Native American Affairs. This role is a critical one to ensure the unique challenges and program complexities for native communities with respect to federal contracting are addressed.

While the SBA's federal contracting programs are a success story for our Native communities, our U.S. economy and the agencies we serve through this vehicle, ANCs still have a long way to go in helping to more fully address the serious economic and social issues and problems among our people. We believe maintaining a healthy federal contracting assistance program for small and disadvantaged business is critical to our success and we commend the efforts of the committee and advocates such as Senator Sullivan, Senator Murkowski and Congressman Young to keep the SBA moving in the right direction. In particular, we believe that protecting small business set-aside contracts from bundling, strengthening the PCR program and ensuring leadership is in place for the SBA Office of Native American Affairs are important pillars to moving in the right direction. As you know, supporting and empowering small businesses and entrepreneurship is a part of the fabric of this country; we are proud to be a part of its legacy.

Chugach Alaska Corporation • 3800 Centerpoint Dr., Suite 1200, Anchorage, AK 99503 • T: 907.563.8866 • F: 907.563.8402

Chugach
ALASKA CORPORATION

Long (Written) Testimony

My name is Gabriel Kompkoff. I am Chief Executive Officer of Chugach Alaska Corporation (Chugach). Chugach is a regional Alaska Native Corporation organized under the Alaska Native Claims Settlement Act – also known as ANCSA. I also serve on the board of directors for ANCSA Regional Association. Today, Chugach represents around 2,600 shareholders, and collectively Alaska Native Regional Corporations serve more than 127,000 Alaska Native shareholders.

It is my privilege to testify before you to discuss opportunities and challenges with the Small Business Administration's (SBA) federal contracting programs – and in particular, the 8(a) Business Development program.

Native small business contractors, like subsidiaries of Chugach, participate in the SBA's federal contracting programs to facilitate economic development and growth in our communities. Our communities are comprised of people committed to the continuation of our Native heritage; and they are committed to the success and prosperity of our country. A little-known fact – Alaska Native people have the highest rate of military service of any ethnic group in the U.S. Therefore, we are proud of the service and value we, and other Alaska Native Corporations provide to the U.S. Government.

Further, ANCSA Regional Corporations like Chugach have a significant impact on the U.S. economy by creating jobs and business activities. As reported in the 2017 Economic Report from the ANCSA Regional Association, in 2016 the regional corporations employed 49,771 people worldwide. While Alaska is the largest payroll for regional corporations, it is only 35% of the total labor expense, meaning nearly two-thirds of our labor impact is made through the U.S. and worldwide. The states in ANCSA Regional Corporations' top ten list for payroll includes Alaska, Maryland, Virginia, Alabama, California, Texas, Louisiana, Florida, New Jersey, and Maine, accounting for 36,763 employees and $2.1 billion in payroll. CIRI also manages an environmental, natural resource and construction services company based in Idaho.

We are empowered to proudly serve our country through professional services, because of the Small Business Administration's federal contracting Program that allows socially and economically disadvantaged individuals and businesses a level playing field in access to government contracting.

For Chugach, the SBA's federal contracting programs are a unique part of our company's story as a critical element to helping us overcome adversity. In March of 1989, an oil tanker called the Exxon Valdez grounded beside the Native Village of Tatitlek in the heart of our region and spilled 11 million gallons of crude oil in the waters of Prince William Sound. Virtually overnight, Chugach lost all our fishing and cannery operations, our timber and logging operations, and we were forced to declare bankruptcy. It is impossible to overstate the consequences of this event on Chugach's shareholders and region. Our businesses, region and communities were devastated. In order to continue fulfilling our critical mission to serve our people, we had to find new ways of generating revenue and providing value-added service.

The SBA's 8(a) business development program is the missing link to ANCSA in that it provides an economic engine for ANCs to generate profits that benefit entire communities of Alaska Native

Chugach
ALASKA CORPORATION

Shareholders. Further, these programs are serving their intended purpose to be a stepping stone, affording small-disadvantaged businesses the opportunity to compete in the federal market, access specialized training, development, and counseling. In 2016 the twelve ANCSA Regional Corporations brought in $8.2 billion in revenue. Only 24% of that revenue was derived from federal 8(a) contracting, demonstrating that ANCSA Regional Corporations are responsibly utilizing the 8(a) contracting mechanism to mature and diversify our businesses and position ourselves to compete in both the set-aside and the full and open competitive marketplaces thereby continuing to contribute to the U.S. economy.

The 8(a) Program is an economic tool for not only individuals but tribes of people whose social and economic well-being is enriched by revenue generated by their corporations. For example, in 2017, Chugach's shareholder distributions included:

- $9.7 million in dividends and Elder distributions;
- $11.5 million donation to the Chugach Heritage Foundation (CHF) Endowment, which provides educational and scholarship opportunities to shareholders;
- $974,000 for cultural program, including Nuuciq Spirit Camp;
- $706,000 in scholarships for shareholders and their descendants seeking college or university degrees, vocational certificates, and job training;
- $633,000 for intern and apprenticeship programs; and
- $8.0 million in wages to shareholders, spouses and descendants.

In fact, I, as a Chugach shareholder was shaped in significant ways by the support of Chugach. I received a scholarship for my undergraduate degree from the Chugach Heritage Foundation, and eventually served on the Board of Directors before being appointed as a leader in the organization.

We would like to thank the SBA for their continued work in supporting and advocating for small business enterprises. In support of the SBA mission, we'd like to highlight some areas that are impacting ANC's viability within the SBA's federal contracting assistance programs.

1. We have seen an increase in bundled contracts over the past several years, which ultimately removes the contracts from the small business program. As a result, we have experienced our contract periods being shortened on existing contracts, despite quality performance, in order to align contract awards for bundling. Further, the bundled contract is often better suited to larger companies with a broader array of offerings, removing the focus on specialized services the smaller businesses are competitive in. We are concerned about the apparent trend of bundling which is hurting small businesses. We implore the SBA to more strongly advocate to protect against bundling, keeping contracts within the scope of the small business programs.
2. We commend the SBA's commitment to be a partner and resource for small businesses through the Procurement Center Representatives (PCRs). We have enjoyed working with several engaged PCRs. We encourage the SBA to continue to support and strengthen the PCR program to ensure a fully engaged and consistently trained PCR group. We believe that there are a group of engaged PCRs that take their mission very seriously and truly help our small businesses. However, we have experienced many that just see it as an additional duty

Chugach
ALASKA CORPORATION

and don't seem to embrace the spirit of what they are charged to do. We request the SBA take a hard look at the performance of all PCRs so that we can truly utilize these assets as intended.

3. We highly encourage swiftly filling the role of Administrator for the Office of Native American Affairs. This role is a critical one to ensure the unique challenges and program complexities for native communities with respect to federal contracting are addressed.

While the SBA's federal contracting programs are a success story for our Native communities, our U.S. economy and the agencies we serve through this vehicle, ANCs still have a long way to go in helping to more fully address the serious economic and social issues and problems among our people. We believe maintaining a healthy federal contracting assistance program for small and disadvantaged business is critical to our success and we commend the efforts of the Committee and advocates such as Senator Sullivan, Senator Murkowski, and Congressman Young to keep the SBA moving in the right direction. We believe that protecting small business set-aside contract from bundling, strengthening the PCR program and ensuring leadership is in place for the SBA Office of Native American Affairs are important pillars to moving in the right direction. As you know, supporting and empowering small businesses and entrepreneurship is a part of the fabric of this country; we are proud to be a part of its legacy.

Chairman RISCH. Mr. Marrs, the floor is yours.

STATEMENT OF CARL MARRS, CHIEF EXECUTIVE OFFICER, OLD HARBOR NATIVE CORPORATION, ANCHORAGE, AK

Mr. MARRS. Chairman Risch and Senator Sullivan——

Chairman RISCH. I think you need to push the button.

Mr. MARRS. How is that?

Chairman RISCH. That's better.

Mr. MARRS. Thank you. I want to thank you for inviting me to testify here today. My name is Carl Marrs. I'm proud to say that I'm an Alaska Native, and have over the past 40-plus years served the Alaska Native communities in various roles and offices. I'm presently the Chief Executive Officer for Old Harbor Native Corporation, which represents one of the small villages on Kodiak Island, Alaska.

I'm here today to testify on the opportunities, the challenges we as Alaska Natives face with the Small Business Administration Federal contracting program. Congress enacted the Alaska Native Claims Settlement Act, ANCSA, in 1971 to accomplish a fair and just settlement of the original land claims for Alaska Natives. Section 2 of ANCSA mandates that this settlement should be accomplished in conforming with the real economic and social needs of Natives.

ANCSA required Alaska Native Corporations—Alaska Natives to form corporations to participate in the settlement. Almost immediately it became apparent that the corporate form did not always address the real economic social needs of Natives.

Congress recognized the critical role the SBA 8(a) program has and will play for Alaska Native Corporations and their shareholders through amendments to ANCSA in 1988, 1993, 1998, and 2002, all of which were designed to permit and encourage Alaska Native Corporations to participate in the SBA's 8(a) program. Congress recognized that Alaska Native Corporations and their shareholders have traditionally been and are economically and socially disadvantaged and that the Federal Government has a vested interest in providing them with a process by which they can grow economically to a level equal to other business entities that had not had the limitation, restrictions, and disadvantages experienced by Alaska Natives, American Indians, and Native Hawaiians.

Amending ANCSA to change and expand the Alaska Native participation in the Section 8(a) program, Congress affirmed that it was not just regulating Federal procurement in small business concerns, but exercising its constitutional authority to regulate commerce with Indian tribes. For example, in 2002 Congress amended ANCSA to confirm the intent of Congress that Federal procurement programs for tribes and Alaska Native Corporations are enacted pursuant to the authority under Article 1, Section 8 of the United States Constitution authorizing Congress to regulate commerce with the Indian tribes.

The problem, as I see it, is not with Congress as its tried through many attempts to set up their intent. The problem lies with the Administration and its agencies that write regulations to carry out congressional intent. Just by virtue of the many times that we have been back to Congress to have Congress reaffirm commitments to

Alaska Natives, American Indians, and Native Hawaiians shows that what Congress said is often interpreted by agencies in a way that at best demonstrates a reluctance to implement Congress' intent to benefit the recipients of such legislation, or at its worse, flies directly in the face of that intent.

I've submitted 16 pages of written testimony to the committee that lays out our concerns with the Section 8(a) program specifically and Federal contracting in general and suggest ways of solving most of those problems; but in order for us to move forward, we need commitments not just from Congress as we have received in the past, but commitments of the Administration and its agencies to carry out your congressional intent.

This process of agency interpretation being different from congressional intent is very stressful and expensive for both the government and the Native corporations. It seems to us that even when we have promises from the United States of America to carry out its obligations to America's First People, there are tiers and tiers of bureaucrats that make the process burdensome and expensive, that they make the program fail or make us as Alaska Natives and government contractors look bad.

We need solutions and not more discussion that leads nowhere. We're not asking for a government handout. We do our job and we do them well. When we have contracts, we normally save the government dollars on the work we do. We simply want to recognize the congressional intent behind ANCSA and the inclusion of Alaska Natives in the 8(a) program, a path forward allowing the United States Government to fulfill its fiduciary obligation to Alaska Natives and implement this congressional intent and goal for economic self-sufficiency of Alaska Natives.

Sorry, I ran out of paper. I forgot that last page. It's somewhere here.

In conclusion, I know the committee is aware that Alaska Natives are rich in culture and tradition, but have very limited economic means. Alaska Natives and American Indians are still the poorest of the poor in the Nation. These suggestions that we are giving the committee are not given lightly, and as you have heard and will hear from other presenters today, there are real problems and we have to have real solutions.

I thank the committee for the opportunity to testify. Thank our good Senator Sullivan, Senator Murkowski, and Congressman Young for their great work on this important issue. I would be pleased to answer questions from the committee.

Chairman RISCH. Thank you very much, Mr. Marrs. I think I can speak for Senator Sullivan and I both. We are no strangers to the difficulty of the laws we passed falling into the bureaucracy and then coming out looking a lot different than what they began. There's a good—one of the roles of this committee, and virtually every committee, is oversight, to see how those laws are actually working on the ground. Your 68 suggestions will be looked at, I guarantee you. We'll do our best to try to make the law work. We have a shining example. Senator Sullivan has just been dogged in getting the bureaucracy to do what they were supposed to do in a recent example. I know everyone in Alaska is familiar with that.

That's the kind of thing we do in oversight. That's why we're here. Thank you very much.

Mr. MARRS. Thank you, Mr. Chairman.

[The prepared statement of Mr. Marrs follows:]

Testimony Before the Senate Committee on Small Business and Entrepreneurship on "Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs."

Anchorage, Alaska
Friday, June 29, 2018,

Carl H. Marrs
Chief Executive Officer
Old Harbor Native Corporation

Thank you for the opportunity to submit this testimony. My name is Carl Marrs, and I am Chief Executive Officer of Old Harbor Native Corporation, an Alaska Native Village Corporation formed pursuant to the Alaska Native Claims Settlement Act.. I have worked for Old Harbor Native Corporation as their CEO since 2012, and prior to that I was CEO of Cook Inlet Regional Corporation, an Alaska Native Regional Corporation. I am also an Alaska Native, and a shareholder of CIRI and Seldovia Native Corporation. Through my more than forty years of experience with Alaska Native Corporations, I have had extensive experience seeing Alaska Native Corporation's in the federal government contracting field, and have also seen first-hand the evolution of the SBA's 8(a) Program. Before I address the Small Business Administration's Section 8(a) Program that this testimony is about, I need to address why we are here, and some of the statistical data that will help the Committee understand the need for such programs.

Old Harbor Native Corporation (OHNC) is one of 252 Native village corporations established by Congress in 1971 under the terms of the Alaska Native Claims Settlement Act (ANCSA). OHNC was incorporated in 1973 and originally enrolled 329 shareholders under the Act. Today, there are 434 shareholders residing primarily in Anchorage, Kodiak and Old Harbor. Old Harbor is unique in its blending of older Alutiiq traditions, the Orthodox Christian Religion, and a strong subsistence based lifestyle with newer influences from modern American society.

ANCSA, which was a purposeful alternative to the Lower 48 reservation system, was the first settlement of its kind between Native Americans and the federal government. Alaska Natives were provided a corporate structure for holding land and capital, with the freedom to control their own economic and social future. OHNC's investments and operations are comprised of seven active operating areas, which include Government contracting, equipment sales and leasing, communications, engineering services, hospitality services and construction services. OHNC's primary line of business is to provide government and other contract services including information technology, logistics, engineering, ship maintenance, document management, cyber security, and base operations services.

We support our shareholders through dividend distributions, employment opportunities, internship programs, educational and cultural programs, and financial support for burial assistance. Additionally, we support our community through strategic planning, economic & infrastructure development, advocacy and administrative support for local entities. These community activities reflect the work of Old Harbor Native Corporation, Alutiiq Tribe of Old Harbor, and the City of Old Harbor who

collaborate to unite the community for a healthy future. OHNC works to enhance community life by preserving the culture and the land, while also providing opportunities for Shareholders to continue to thrive in their traditional Alutiiq home.

ANCSA and Native Alaskans

Congress enacted ANCSA in 1971 to accomplish "a fair and just settlement" of the aboriginal land claims of Alaska Natives. Section 2 of ANCSA mandates that this settlement should be accomplished "in conformity with the real economic and social needs of Natives." ANCSA required Alaska Natives to form corporations to participate in the settlement. To date, ANCSA corporations, including village corporations, are a vital cog in the economic life and success of Alaska Natives.

After thirty plus years of ANCSA, Alaska Natives, however, are still economically underperforming in comparison to other groups. For example, the national statistics for higher education attainment remain disproportionately lower among the Native American population than the national average. According to the National Center for Education Statistics, *Digest of Education Statistics*, Table 104.20., the percentage of Native American persons 25 to 29 years old who had attained a Bachelors degree or higher was 10.2% in 2016, a staggering drop from the previous year's rate of 15.3%. The national average has remained greater than 30% since 2008. Table I shows this disparity between the national average and Native Americans in regards to the attainment of higher eduction.

Table I- Higher Education Attainement, National Average and Native American

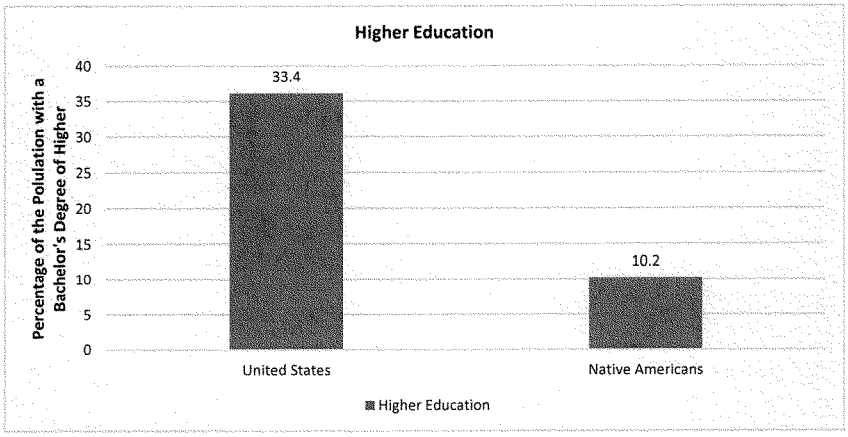
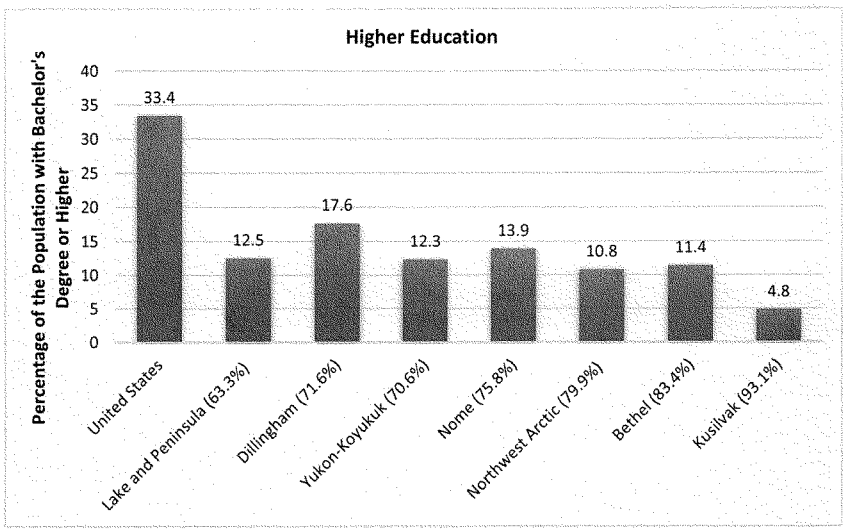


Table II reflects the percent of persons who have attained a bachelor's degree or higher in political boroughs/ municipalities throughout Alaska, with the percent of Alaska Native population in the region in parenthesis. Data was obtained from the U.S. Census Database generally, State & County QuickFacts, United States Census Bureau, http://www.census.gov/quickfacts/fact/table/US/PST0 4521 (last visited May 22, 2018).

Table II- Higher Education Attainment, Regional



Unemployment rates among the Native American population also remain disproportionately higher than the national average. Table III reflects the Unemployment rate in political boroughs/ municipalities throughout Alaska, with the percent of Alaska Native population in each region in parenthesis. *See* Local Area Unemployment Statistics, Bureau of Labor Statistics, https://www.bls.gov/lau/#data (last updated June 15, 2018).

Table III- Regional Unemployment Data for Native American communities

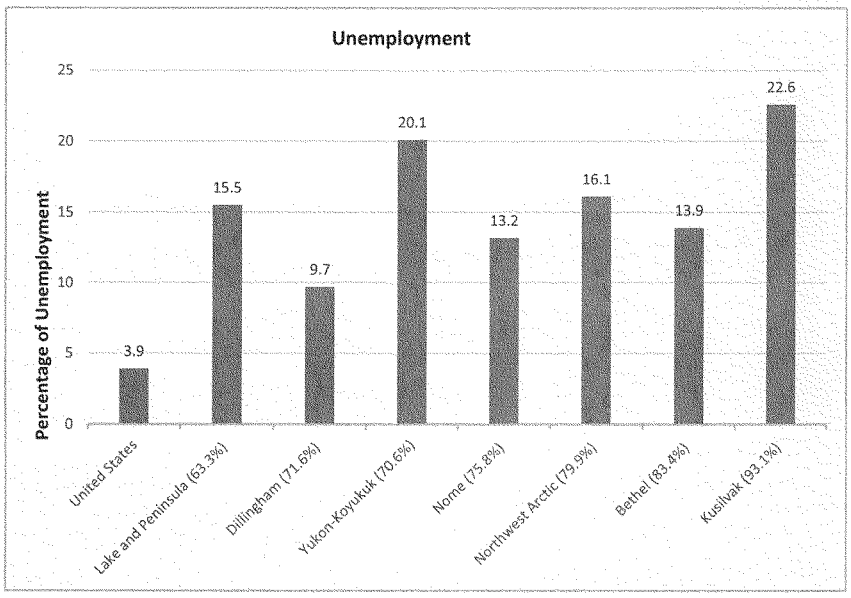


Table IV reflects the percent of persons living in poverty in political boroughs/ municipalities throughout Alaska, with the percent of Alaska Native population in each region in parenthesis. *See* U.S. Census Database, State & County QuickFacts, United States Census Bureau, http://www.census.gov/quickfacts/fact/table/US/PST0 4521 (last visited May 22, 2018).

Table IV- Regional Poverty data for Native American communities

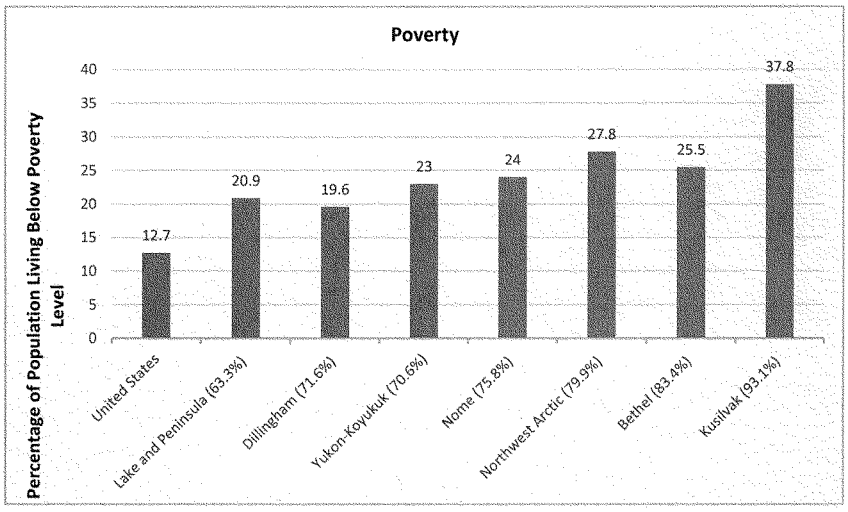
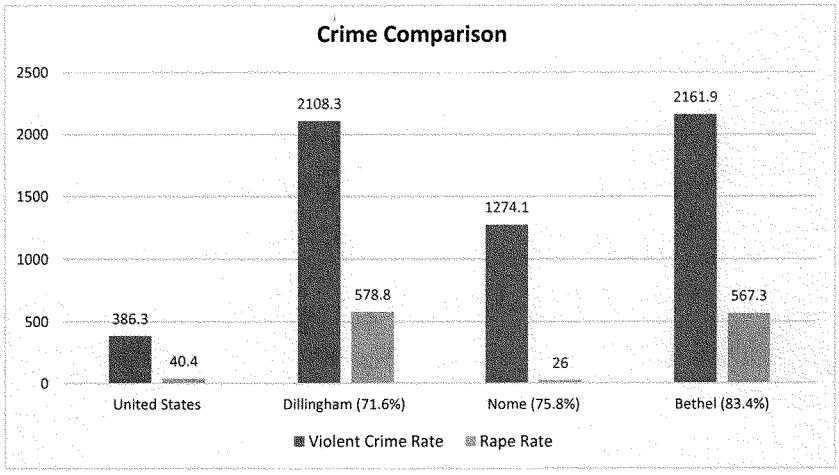


Table V reflects violent crime and rape rates in Alaska Native Communities, which are disproportionately high compared to the rest of the nation, data obtained from the 2016 Crime Report. United States 2016, Fed. Bureau of Investigation, https://ucr.fbi.gov/crime-in-the- u.s/2016/crime-in-the-u.s.-2016/tables/table-6/table-6-state-cuts/alaska.xls (last visited May 22, 2018).

Table V- Regional Crime Data for Native American communities



These economic disadvantages are combined with higher costs of living for many Alaska Natives. For example, according to the State of Alaska Fuel Price Report, heating costs for rural Alaskan Communities is exponentially higher than national averages, as shown by Table VI.

Table VI July 2017 On the Road System and Off the Road System: Prices in the Gulf Coast and Interior Regions

Gulf Coast	On Road System	Off Road System	Interior	On Road System	Off Road System
Heating Fuel:			Heating Fuel:		
High	$2.57	$5.90	High	$3.95	$10.00
Low	$2.37	$2.83	Low	$2.21	$3.45
Average	$2.49	$3.70	Average	$2.85	$5.85
Gasoline:			Gasoline:		
High	$3.28	$6.18	High	$4.00	$10.00
Low	$2.87	$3.25	Low	$2.49	$4.60
Average	$3.10	$4.46	Average	$3.35	$6.16

Alaska Native Corporations And The SBA's Section 8(A) Program

There is no doubt that Alaska Natives are struggling economically, due to limited economic opportunities for them in Alaska and the corresponding social, cultural, and educational barriers that poverty and poor economic conditions create. Alaska Native Corporations, however, are a significant and vital resource and method to assist Alaska Natives thrive and take their proper place in the economy of Alaska and the nation. One of the primary means by which Alaska Native Corporations can provide that economic and social assistance to their people in the form of jobs, scholarships, benefit programs, and dividends, is through the generation of revenue and employment opportunities through the Small Business Administration's 8(a) Program.

The United States Government has had federal preferences for small business contracting since World War II, and it is a major feature of federal procurement activities. *See* Jenny J. Yang, Small Business, Rising Giant: Policies and Costs of Section 8(a) Contracting Preferences for Alaska Native Corporations, 23 Alaska L. Rev. 35 (2006), at 319-20. As part of the federal procurement system's focus on utilizing small businesses, the SBA administers the Section 8(a) Program, which was authorized by the Small Business Act of 1958. The purpose of the Section 8(a) Program is assist otherwise eligible "small disadvantaged business concerns" with business development to compete in the American economy.

Congress has recognized the critical role the SBA's 8(a) Program has and will play for Alaska Native Corporations through amendments to ANCSA in 1988, 1992, 1998, and 2002, all of which were designed to permit and encourage Alaska Native Corporation participation in the SBA's 8(a) Program. With these amendments, Congress recognized that Alaska Native Corporations and their shareholders have traditionally been and are economically and socially disadvantaged, and that the federal government has a vested interest in providing them with a process by which they can grow economically to an level equal with other business entities that have not had the limitations, restrictions, and disadvantages historically experienced by Alaska Natives. Indeed, ANCSA has been specifically recognized as the "modern mechanism that designates Native Alaskan Corporations as the vehicle used to provide continuing economic benefits in exchange for extinguished aboriginal land rights." *AFGE v. United States,* 195 F. Supp. 2d 4, 21-22 (D.D.C. 2002), aff'd, 330 F.3d 513 (D.C. Cir. 2003), cert. denied, *AFGE v. United States,* v. U.S., 540 U.S. 1088 (2003) (citing to *Koniag, Inc. v. Koncor Forest Res.*, 39 F. 3d 991, 997 (9th Cir. 1994)).

Critically, in amending ANCSA to insure and provide for the ability of Alaska Native Corporations to participate in the SBA's 8(a) Program, Congress affirmed that it was not just regulating federal procurement from small business concerns, but exercising its constitutional authority to regulate commerce with Indian tribes. In 2002, Congress amended ANCSA to confirm the intent of Congress that "Federal procurement programs for tribes and Alaska Native corporations are enacted pursuant to its authority under Article I, Section 8 of the United States Constitution [authorizing Congress to regular commerce with Indian tribes]." *See* Pub. L. 107-117, Div. B, Ch.7, §702, January 10, 2002.

As such, the 8(a) Program, for Alaska Native Corporations, is not merely a matter of federal procurement from small businesses, but an exercise of the powers of Congress to regulate economic activities between the federal government and Native Americans and that the program is "further[ing] the federal policy of Indian self-determination, the United States' trust responsibility, and the

promotion of economic self-sufficiency among Native American communities." *AFGE v. United States*, 195 F. Supp. 2d 4, 18 (D.D.C. 2002), aff'd, 330 F.3d 513 (D.C. Cir. 2003). The 8(a) Program, for Alaska Native Corporations, is much more than a small business program. It is a means by which the Federal Government fulfills its unique relationship, and obligations, to American Indians, including Alaska Natives. *See e.g. AFGE v. United States,* 330 F.3d at 520 (D.C. Cir. 2002). Access to government contracting has long been used by the Federal Government to fulfill its fiduciary and trust obligations to Native Americans, and the Section 8(a) Program is a critical part of that.

Justified Expansion Of Sole Source Awards Under The 8(A) Program

Given the importance of the 8(a) Program, it is critical for Congress and the SBA to review, modernize, and streamline the 8(a) Program to make it a more effective and efficient program for both Alaska Native Corporations and the federal agencies that use the program. One of the most important aspects of the 8(a) Program as it relates to Alaska Native Corporations is the ability of federal agencies to award sole source contracts to eligible (and capable) Alaska Native Corporation 8(a) Program participants. There are, however, policies and regulations that limit the utilization of such sole source awards. They restrict the size of such awards to $22 million dollars (including all option years and modifications), and prevent the award of multiple sole source awards for the same contract to the same family of companies. These are some of the issues that I would like to address with the Committee today.

First, it is important to understand the rationale for permitting sole source awards of any size to Alaska Native Corporation's under the 8(a) Program. In most cases, 8(a) Program participants are only owned by one individual. Indeed, except for Alaska Native Corporations, Native Indian business concerns, and Native Hawaiian Organizations, the Section 8(a) Program's rules require that a single disadvantaged person own 51% or more of the 8(a) Program participant. As such, the traditional rules on limiting sole source awards to "individual owned" 8(a) Program participants to manufacturing contracts up to $6.5 million and for service contracts up to $4 million makes sense. Assuming a healthy 5% profit margin, a sole source award of $4 million to a traditional 8(a) Program participant who is wholly-owned by a single disadvantaged person would result in a healthy return to that person of $200,000.

Alaska Native Corporations, however, are not owned by only one individual. Most Alaska Native Corporations have hundreds of shareholders. As such, if that same $4 million sole source contract was awarded to an Alaska Native Corporation with 500 shareholders, and resulted in the same 5% profit margin, that would mean that each shareholder only realized a $400 benefit from the contract. To that end, subjecting Alaska Native Corporations to such limits on sole source awards, when considering the number of Alaska Native shareholders that Alaska Native Corporations have, would have effectively eliminated the utility of the 8(a) Program in regards to Congress's goal to use federal procurement policy as a method to fulfill its unique obligations to, and interests in, Alaska Natives and to assist them, and their shareholders, to achieve economic independence. Accordingly, recognizing that due to the unique nature of Alaska Native Corporations, *i.e.*, that they are "Community"-owned, not "Individually"-owned, and the fact that Alaska Native Corporations have been chosen by Congress "as the vehicle used to provide continuing economic benefits [to Alaska Natives] in exchange for extinguished aboriginal land rights," *AFGE*, 195 F. Supp. 2d at 21-22, Congress chose to remove the limitation on the size of sole source contracts that can be awarded to

qualified and capable Alaska Native Corporations in the Section 8(a) Program. As a point of reference, there are over 127,000 Alaska Native shareholders of the more than 200 Alaska Native Corporations. Alaska Native Corporations also not only benefit their respective shareholders, but Alaska Natives in general with programs set up for descendants of shareholders and the Alaska Native community as a whole.

Even though Alaska Native Corporations are serving this large base of Alaska Natives, restrictions on the use of sole source awards to Alaska Native Corporations in the 8(a) Program have been adopted over the years. Currently, under Section 811 of the 2010 NDAA which effectively only applies to Alaska Native Corporation 8(a) participants, federal agencies may award sole source contracts to ANC 8(a) companies only up to $22 million without going through a process to obtain a Justification and Approval (J&A) required by Section 811 for awards in excess of $22 million, a process that is rarely used and, for many agencies, requires approval of the head of the agency, rather than the contracting officer making the procurement decisions.

The blanket restriction on the award of sole source contracts in excess of $22 million without a Section 811 J&A, and the process and approvals required for such J&As, is a significant and unjustified limitation on the 8(a) Program. We, and the entire Alaska Native contracting community, praise Senator Sullivan's efforts to successfully obtain important guidance from the all branches of the Department of Defense ("DoD") clarifying that Section 811 of the 2009 NDAA, the provision that imposes a unique and separate "J&A" requirement on the award of sole source Section 8(a) contracts to Alaska Native Corporations (or to Native Hawaiian or Tribal Corporations) in excess of $22 million, is not intended to be a "de facto" bar on sole source 8(a) Program contracts to qualified Alaska Native Corporation contractors, and that guidance clarifies that the levels of approval for the J&A and contract award are commensurate with the dollar value of the contract, as is done under the Competition in Contracting Act. As important and useful as this guidance is, the key is to make sure it is implemented properly down the chain of command to the contracting officers themselves. Furthermore, the guidance adopted by the different agencies of the DoD regarding sole source awards to Alaska Native Corporations in the 8(a) Program should be expanded to other, non-DoD agencies. All federal agencies, and Alaska Native Corporation contractors, would benefit from reviewing and adopting the clarifications and understanding regarding the use of 8(a) Program sole source awards enacted by the DoD.

Furthermore, it would be a tremendous help to Alaska Native Corporations if the SBA would educate contracting officers on how to use the various SBA programs, including a focus on the proper use and purpose of the J&A process. Contracting officers currently too often view the J&A requirement as a barrier to awarding sole source contracts in excess of $22 million, turning what was meant to be a requirement to justify the sole source award to a de facto bar. That was not the intent of Section 811 of the 2009 NDAA, and the SBA should take immediate efforts to educate contracting officers on the proper use and implement of the J&A requirement for sole source awards.

In the longer term, the $22 million threshold for requiring a J&A should be increased and the value of modifications or option years should be excluded from determining if the $22 million threshold has been met. This makes logical sense, particularly when considering the original reason for removing the limitation on sole source awards to Alaska Native Corporations. Even if a sole source award for $22 million is made to an Alaska Native Corporation, if the awarded contract is for a base year plus

four option years, a relatively standard term, that $22 million contract is actually only a contract for $4,400,000 per year, resulting in the relatively minimal benefit to the individual Alaska Native shareholders as described above. Therefore, a further improvement can and should be the excluding of option years and modifications from the calculation as to whether the $22 million threshold requiring a J&A has been met.

For too long this provision limiting the size of sole source awards to Alaska Native Corporations has had a very negative chilling effect on Alaska Native Corporation contracting, and I applaud the efforts of Senator Sullivan, Senator Murkowski and Congressman Young, as well as other Members of Congress who support Native American contracting, to improve and clarify Section 811 of the 2009 NDAA.

The Benefit to Permitting More "Follow-On" 8(a) Contracts

Another important issue regarding the 8(a) Program and sole source awards are the restrictions on the award of sole source "follow-on" contracts. Currently, if an 8(a) Program participant completes an 8(a) sole source contract, SBA rules prohibit a federal agency from awarding a new sole source contract for that same work (a "follow-on" contract) or to any company in that contractor's family of companies (i.e. a subsidiary or a sister company). One thing that is very problematic about this rule regarding "follow-on" contracts is that it flies in the face of the basic purpose of the 8(a) program – giving small companies a growth opportunity as they earn new business through superior performance. In many cases, an 8(a) Program participant can be awarded a start-up project and do well only to watch the follow-on contract (and the subsequent growth opportunities) be handed off to another, unrelated company who will benefit from the work they started. Any limitation on follow-on contracts should recognize this fact by allowing the follow-on to occur no more than three times. Doing so will both benefit Alaska Native Corporations (and non-Alaska Native Corporation 8(a) Program participants such as "Lower 48" Tribal and Native Hawaiian Corporations) by permitting them to continue to grow and take advantage of the expertise and experience that they develop through hard work, while also benefiting the federal government by permitting them to continue to utilize the management team that has developed the experience and know-how to effectively, efficiently, and cheaply deliver under the contract. Only truly effective and efficient 8(a) Program participants will receive follow-on work through sole source contracts, as federal contracting officers are not going to issue sole source contracts to entities that have not demonstrated excellence and efficiencies in their prior performance of the work. It is important to recognize that sole source awards are not required—a variety of sole source authorities exist in federal law, and the SBA 8(a) authority is but one of them. These sole source authorities exist purely as "tools in the federal "tool box" to be used at the discretion of the federal agencies that need flexibility in acquisition and procurement. If conducted properly, the federal governments' interests are fully protected in the negotiation and award of a sole source award under the 8(a) Program.

The current rules, however, don't permit such follow-on sole source awards, so companies must currently begin every sole-sourced project with the goal of expanding the future scope of the work enough to keep them eligible for the follow-on acquisition. Companies must always be asking themselves and their customers, "What does our work here not provide this customer that it could or should provide?" BD and Project Managers must work together to answer this question, develop new support concepts, and sell them to the customer throughout the life of each sole-source project. In

this way, the contractor can attempt to influence the legitimate expansion of scope needed to keep the follow-on in the family. If the project doesn't legitimately require new scope and the customer doesn't want to go through the time and expense of a competitive acquisition, the incumbent loses a growth opportunity and the government loses a high-performing, experienced contractor. This is an unnecessary process, and both the government and Alaska Natives would benefit from permitting follow-on sole source contracts to the same family of companies, at least up to three times.

Excessive Delays in Obtaining Security Clearances for Government Contractors

In addition to the specific changes to the 8(a) Program discussed above, there are other important areas of needed improvement in the federal contracting area. One area of critical need is security clearances for both individuals and facilities. Obtaining the appropriate facility and personnel security clearances are a critical and major hurdle to successful government contracting by all small businesses, not just Alaska Native Corporations.

In 2014, the Office of Personnel Management's (OPM) major security clearance contractor, USIS, was targeted by a massive cyber-attack which compromised the personnel files of as many as 25 million government workers. As a result of this information compromise, OPM terminated its long-standing and substantial contracts with USIS and opted to pursue an in-house solution to security clearance processing. In January 2016, OPM announced the creation of a semi-autonomous agency, called the National Background Investigations Bureau (NBIB), which would be responsible for conducting investigations into individuals who need to hold security clearances for employment purposes. Today, NBIB is the primary service provider of background investigations for the Federal Government and conducts approximately 95 percent of government-wide background investigations for more than 100 federal agencies.

Implementation of this change was hampered as OPM struggled to standup the requisite personnel, creating a significant slowdown in clearance processing and an enormous backlog of pending clearance requests that exists to this day. During a Senate Intelligence Committee Hearing held on March 7th of this year, Charlie Phalen, Director of the NBIB said there are currently 710,000 investigations in backlog, of which 164,000 are records checks or credentialing support, 337,000 are initial investigations, and 209,000 are reinvestigations. Since 2014, the time it takes to get a clearance has more than doubled, with a Secret clearance taking more than eight months and Top Secret/Sensitive Compartmented Information (TS/SCI) clearances taking more than a year. ManTech CEO, Kevin Phillips, has testified that he estimates "approximately 10,000 positions required from the contractor community in support of the intelligence community have gone unfilled due to these delays" since 2014. The delays and costs of this process have caused the Government Accountability Office (GAO) to place it on its "High-Risk List," which designates government programs and projects in need of major improvements or overhaul.

These delays in obtaining security clearances has a material impact on small businesses, including those in the 8(a) Program. While there is a significant amount of unclassified work in the federal market, much of it requires security clearances. The classified work is especially attractive to contractors, because their contract values are generally higher than unclassified contracts of similar scope. However, getting a security clearance is very costly to small companies in terms of time, management involvement, and missed opportunities.

For example, small businesses are often subject to a Catch-22. To get a federal clearance, a company must first have key executives go through the process. After they are cleared, the organization can then request a facility clearance. This leaves small companies with two basic choices. They can find people with existing clearances to serve as Key Management Personnel (KMPs) – something large businesses can do quite easily but small businesses struggle to do - or they can initiate the personnel clearance process for their non-cleared company managers. Depending on the level of clearance required, this process can take up to eighteen months.

Now for the catch. Before a company can submit a request for a clearance, whether for personnel or for a facility, they must have a classified project. So, to get a project you need a clearance, but to get a clearance you need a project. To make this work, small companies are forced to find sponsors (government or contractor) who will agree to put them on their DD Form 254 and identify them as needing a security clearance. While it used to be a frequent practice, Federal Government agencies now rarely sponsor companies for clearance anymore. As a result, small companies are forced to find sponsors who will give them a subcontract and will wait for them to be granted their clearances. The longer the clearance process takes, the less agreeable sponsors are. As a result of the increasing delays in clearance processing, small companies are spending large amounts of limited resources and still finding themselves locked out of work they are otherwise qualified to do.

The issues described above are exacerbated by the fact that almost every agency in the Federal Government tends to put a unique spin on the clearance processes. There is no "one-process-fits-all" approach. Each has different paperwork, security requirements and investigative and adjudication process. Once granted, clearances issued by one agency are frequently not honored by another. So, companies like ours that work across a broad spectrum of federal domains are required to manage each process independently using specialty personnel who have experience in each domain. This adds significant indirect costs to companies with small revenue bases, dramatically impacting rates and reducing their competitive posture.

Another issue relevant to small, native-owned enterprises is a review that is conducted as part of the facility clearance process – the Foreign Ownership Control and Influence Review. Its purpose is to ensure there is no foreign control or influence over the firm before it is granted a clearance. Even firms that are 100% Alaska Native-owned are subject to this review, which constitutes the most time-consuming portion of the facility clearance process. Through their participation in the 8(a) Program and other small business programs, this step could be eliminated or expedited for Alaska Native-owned companies as way of issuing clearances faster.

The costs and management requirements of the clearance process would be tolerable if the time it takes to get through it didn't result in so many lost opportunities. Because of the current delays, small business contractors are missing out on many opportunities to grow and offer valuable services to the government. In our company, we are forced to pass on several every year. Alaska Native Corporations, other small businesses, and the Federal Government are harmed by this market reality that could be fixed with nothing more than timely processing of security clearances.

There are some concrete steps that can be taken to address and remedy some of these issues. First, we should learn something from the startup of the NBIB in 2016. The DoD is set to take over its own background investigations after a provision in the recently passed 2018 National Defense

Authorization Act transferred authority from NBIB to DoD. Many small business contractors we have talked to are concerned that what happened during the NBIB transition will also happen at DoD. Congress should insure that the DoD is adequately prepared and has the necessary resources to hit the ground running on security clearances, including clearing up the massive current backlog.

Second, Congress and the SBA should encourage government agencies to sponsor small companies. This will be especially helpful for small companies whose Key Management Personnel ("KMPs") are cleared, but they lack a corresponding facility clearance.

Third, the practice of expediting clearances for those designated as KMPs should be reinstated. This practice, which facilitated earlier eligibility for facility clearances and classified contracts, was recently suspended because of the tremendous backlog. While it was being used it was a big help, especially to small businesses where options for assigning KMPs are much more limited.

Fourth, the Federal Government should use technology to expedite the investigative process. Established and emerging technologies from email to artificial intelligence offer a wide range of opportunities to improve this process. The most basic improvements could come from simply applying everyday technologies to speed up outdated investigative techniques which are heavily dependent on manpower. For example, investigators must go in person and write notes, rather than use tablets or PCs. They must physically visit everyone, when social media could be effectively used for many needs. Subjects are prohibited from emailing any information to an investigator. They must use the postal system or fax machines for long distance data collection rather than the internet. Some experts speculate that artificial intelligence, applied appropriately, could do a better job of assessing reliability than the investigative techniques used today.

Fifth, common investigative standards that apply across all federal agencies should be implemented. In addition to the well-known DoD-level clearances we must process for employees, there are many other clearance types across the federal spectrum – each with their own parallel clearance standards and different investigative and adjudication standards. So when clearances are issued, some agencies will not recognize another agency's clearance and require contractors and employees to go through the investigation process again and again when moving across federal domains. A more standardized approach to security clearances, and recognition by one federal agency of the clearance granted by a different agency, should be mandated.

Sixth, the SBA should address and clarify the issue of facility clearances for SBA-approved mentor-protege joint ventures ("JVs"). SBA-approved JVs are, by rule, unpopulated (i.e. do not have employees). The paperwork to request a FCL, however, has a question that asks, "Is this an unpopulated JV?" and, when answered, "yes," the JV is typically denied the clearance. To avoid that, we have to use the rules permitting "administrative" staff to work for an unpopulated JV, so we can put a Facility Security Officer on the JV for a few hours of work. That makes the JV populated from an FCL standpoint, but still technically unpopulated by regulation. This unnecessary practice increases the complexity of 8(a) JVs to no advantage or benefit to the government.

Finally, there should be better management of the need for classified positions. Many positions are probably overclassified. There are an estimated four million federal employees and contractors who presently need a security clearance of one type or another. Better management of the number based

on true need would result in contractors being able to put more people to work and would save the Government money as cleared people are generally more expensive than others.

We like an idea put forth by Jane Chappell, Vice President of Intelligence, Information and Services at Raytheon. She has suggested what she calls a "four ones" strategy: one application for processing applications, one investigation that continuously looks for additional information, one adjudication that is respected by all agencies, and one clearance that is recognized across the government. We expect it will take the government a long time to get this outcome, but when it does it will have been worth the trip for many small federal contractors.

Inappropriate Use of Low Priced Technically Acceptable Solicitations

Another area of concern is in the use of low price technically acceptable ("LPTA") solicitations. While Congress has made significant progress on restricting the use of LTPA solicitations, more enforcement of new guidelines enacted by Congress is needed. The latest LPTA guidelines are still vague enough to allow federal contracting officers to employ LPTA far more widely than is needed and often not in the government's best interest– for instance even on services contracts where price-centric acquisition strategies just do not offer the government the opportunity to conduct true best value source selections. While LPTA is one way the government has attempted to commoditize the "services" business because it make source selection easier, it frequently fails to deliver the best solution to the customer. Having learned this the hard way, the government is now trying to minimize LPTA use on contracts where true trade-off best value approaches make more sense, but it appears that, in practice, LPTA use will remain a part of the landscape for a long time. Focus on the use by federal agencies of LPTA, and whether their use is consistent with the limitations adopted by Congress, and Congress's intent, is sorely needed.

Another area of needed improvement is in source selection debriefs. After a contract award, losing bidders have the opportunity to request a debrief from the government. The purpose of the debrief is to give them information as to why they did not win the contract. These debriefings use to have more value to a losing company – especially small businesses - in helping them shape and fine-tune future proposal responses, but the current protest and litigation environment has changed all that. Contracting officers are required to offer debriefs, but their primary purpose has changed from "explaining the decision and strengthening the offerors potential on future bids" to "avoid saying anything that could be used against us in a protest." We always ask for a debrief, but they are seldom valuable to our growth. Given the poor utility of the debriefs, we have begun going back to the agency after the protest period has ended to request more detail about how we could have improved our proposal as compared to the winner. While this takes at least some of the legal pressure off the government and allows for a more open dialog, it should not be necessary. Federal procurement officials should not be so concerned about the possibility of a protest that they make the debriefing process a useless formality. Improvements to the debriefing process should therefore be made to make them more effective and helpful to small businesses.

Unnecessary Use of Bridge Contracts In Federal Procurement Actions

The overuse of bridge contracts to address delays in the federal procurement process is also an issue that should be addressed. Currently, contracting officers will use bridge contracts when transitioning from one contract to a new one if the new contract is not ready by the time the first contract is

expiring. The bridge contract is with the incumbent contractor, and is an extension of the original contract. While bridge contracts have their rightful place, too often they are used as a justification for delaying the acquisition process. We can wait months and years for federal procurement officials to release RFPs, with the work continuing on a bridge contract. Then, when the RFP is issued and proposals are submitted, protests can add months to the final award of contracts. Contracting officers also use bridge contracts to buffer gaps in the process caused by them and non-selected vendors. This is expensive for small business and it also almost always adds to the taxpayer's burden. So, while bridge contracts are appropriate and helpful when not overly depended upon, federal procurement officials need to better manage the procurement process and timelines so as to minimize the need for bridge contracts.

The Impact of Cybersecurity Regulations on Small Businesses

Cyber security is also an important issue. The new cyber security requirements imposed by the DoD are a significant obligation that small businesses who contract with the federal government are struggling to meet. We recognize the need for enhanced cyber security in today's electronic day and age. However, the new standards adopted by the DoD, and the lack of clarity regarding those standards or how they will be implemented, has caused them to both be expensive to implement and have long-term cost impacts. Despite assurances to the contrary, the cost of DFARs compliance has not been minimal. It has been material and required substantial money, time and effort. In order to limit the impact on small businesses, we hope, and request, that Congress will take steps to ensure that non-DoD agencies adopt standards that are consistent with the new DoD standards so that competing or duplicative cyber security requirements are not imposed on small businesses.

Modernization and Improvement of the Buy Indian Act

Congress should also consider addressing the Buy Indian Act to make it a more viable and usefully contracting tool. We have not realized a significant benefit from the Buy Indian Act due to poor experience with it by our agency customers. The pool of dollars available under the Buy Indian Act is very-limited and the probability of getting money from the fund is very low. As such, we do not use it as a marketing tool because it automatically lowers our credibility with federal procurement officials. To make the Buy Indian Act effective requires additional funds for the Buy Indian Act fund and a more consistent approach to honoring the purpose and intent of the Buy Indian Act. Furthermore, neither the Buy Indian Act or its implementing regulations have evolved to address todays government contracting word. The SBA should work with other agencies, and Congress, to update the Buy Indian Act, its regulations, and the application of those regulations.

Conclusion

As Alaska Native Corporations, American Indians, and Native Hawaiians, these federal programs were intended to benefit those indigenous peoples. However, more often than not, the intent of Congress is undermined by federal agencies when they draft and apply implementing regulations. In many cases, what Congress intended with its legislation is watered down and rendered ineffective, less effective, or so costly and burdensome to the entities that the programs are intended to benefit that it becomes impossible to actually realize Congress's intent. In the case of the SBA and the 8(a) Program, it has

been, and is, clear that the current regulatory process is not what Congress intended by requiring ANCSA and its related programs, including the 8(a) Program as applied to Alaska Native Corporations, to be carried out in "conformity with the real economic and social needs of Natives." In contrast, the regulatory process has generated a regulatory framework that often flies in the face of that Congressional intent, by making it so expensive and burdensome for small businesses to grow and succeed in the federal contracting that it is almost impossible to either successfully enter the federal contracting marketplace, or to maintain and grow if they manage to gain a toehold.

Thank you very much for the opportunity to testify before the Committee today. The work and focus that you are providing on the SBA, its 8(a) Program, and Alaska Native Corporations' participation in that program is an important step to insuring that Congress meets its unique obligation and interest in providing for self-determination, economic and otherwise, of Alaska Natives. The SBA and its 8(a) Program, and its continued improvement and evaluation, is a critical part to meeting the Federal Government's goal of realizing the economic independence of Alaska Native Corporations and their shareholders. We appreciate your hearing of our concerns and suggestions, and we are confident that the Committee, and Congress as a whole, will take the necessary steps to strengthen and improve the 8(a) Program in specific, and government contracting in general, to benefit both the Federal Government and the Alaska Native people. We need action and not more procrastination by federal agencies on these important issues. Federal agencies need to carry out Congress's intent and allow the indigenous people of the United States the opportunity to grow and bring their people to the same economic level equal as others, instead of allowing the poorest of the poor to continue to wallow in the dirt. We are not asking for a hand-out, but we are asking for a fair chance, consistent with federal government's unique relationship and obligation to Alaska Natives, and Congress's intent and goal to provide the means for economic self-sufficiency of Native American communities, to become productive and equal members of the economy of the United States.

Chairman RISCH. Mr. Peterson, the floor is yours.

STATEMENT OF RICHARD PETERSON, PRESIDENT, CENTRAL COUNCIL TLINGIT HAIDA INDIAN TRIBES OF ALASKA, JUNEAU, AK

Mr. PETERSON. Thank you, Mr. Chair. Good afternoon, and I want to extend my appreciation to you, Mr. Chair, and especially to Senator Sullivan for the invitation to testify here today.

For your benefit and that of the Internal Revenue Service, my name is Richard Peterson, but I go by Chal Yee Eesh. I am a Tlingit from the Kaagwaantaan clan, Eagle's Nest House. I grew up in the small village of Kasaan, southern tip of Prince of Wales Island. I was just recently in April unanimously reelected for my third term as President of Tlingit and Haida and by 100 delegates that make up our governing body. I have been in this position now since 2014.

I'm excited to be here to speak, I think, with the tribal voice. As my brethren Alaska Natives speak mostly for the ANCs, I wanted to remind folks that the tribes also participate very strongly in this program. It extends many benefits to our communities. Senator Sullivan has pointed out quite a bit today that many of your communities in Alaska are very economically distressed. Really, it's these programs that help us to—although we're very rich in culture, we are economically distressed and it's these programs that really help us and help us supplement some of the programs that we administer through the Federal Government now.

Tlingit and Haida is a sovereign tribal government with over 30,000 citizens worldwide, the majority of which are in Alaska. We enjoy a government-to-government relationship with the United States. Again, I appreciate this opportunity to testify and share some of the challenges faced by Tlingit and Haida and other tribes and Native organizations as we pursue and administer contracts with the Federal Government.

As my colleague to my right mentioned, when we get these contracts, we often do it and save the government money. So we're very proud of that and proud of our contribution to this great nation when we administer these contracts. So we appreciate that.

After decades of experience in contracting with the United States, Tlingit and Haida is today actively engaged in Federal contracting through our Tlingit and Haida Tribal Business Corporation. We refer to it as THTBC. We formed THTBC as a federally chartered Section 17 tribal business under the Department of Interior. It's wholly owned by Tlingit and Haida. It has over a dozen subsidiaries that operate as LLCs engaged in multiple lines of business.

The sole mission of the THTBC is to engage in, carry on, and conduct business to improve the economic condition of our tribes and citizens. THTBC is a highly diversified family of 8(a), HUBZone, large businesses, Mentor-Protégé agreements, joint ventures, and small business companies. Our companies are engaged in many areas of government contracting, including facility searches, base operations, aircraft repair and maintenance, construction management, seaport operations and maintenance, and consulting and managing services, computer systems and data

processing, IT engineering and cybersecurity services, solid waste collection, site security, property management, and maintenance services, and workforce training programs.

Our companies are engaged in providing contract services from Colorado to West Virginia, from Florida to Arkansas, and from Washington State to Cuba, to Washington, DC and many places in between. We have served many military bases and, again, that's something that we pride ourselves on greatly.

I have several brief comments on SBA policy and practice. Tlingit and Haida staff have reported to me that the recent tribal consultation held by SBA in Anchorage in early May was one of the best they've participated in. We hope SBA will increase its good efforts to streamline and facilitate its application process. Right now we find that application process fairly cumbersome. We ask that SBA mitigate against disruptive changes in HUBZone administration after each new census is calculated every decade.

We request that SBA consider merging the All Small and the 8(a) Mentor-Protégé Program into one program. We believe SBA should streamline its approval process when tribally owned companies change their management because the tribe remains the owner and beneficiary. We ask SBA to consider allowing mentors to have more than three protégés at one time.

In conclusion, I want to give a special thank you again to Senator Sullivan for all you have done to ensure that Section 811, Federal approval authority, is streamlined for contracts from 22 to 93 million. It makes common sense to delegate that authority from the head of agency to lower-level officials who are closer to the facts and circumstances of each approval decision.

With that, I would, again, close with our traditional words in Tlingit and Haida of gratitude, Gunalcheech, Haw'an. Thank you for inviting me to share my tribe's perspective on these issues. Please let me know if you have any questions.

Chairman RISCH. Mr. Peterson, you made a couple of specific suggestions there at the end. Do you have details of that in your written testimony and, if not, could you provide that? I'm going to leave the record open for a couple of weeks at the end.

Mr. PETERSON. Yes, sir. We will.

Chairman RISCH. Thank you very much.

[The prepared statement of Mr. Peterson follows:]

CENTRAL COUNCIL
Tlingit and Haida Indian Tribes of Alaska
Office of the President • Edward K. Thomas Building
9097 Glacier Highway • Juneau, Alaska 99801

TESTIMONY OF THE HONORABLE RICHARD CHALYEE ÉESH PETERSON
PRESIDENT
CENTRAL COUNCIL OF TLINGIT & HAIDA INDIAN TRIBES OF ALASKA

BEFORE THE HEARING OF THE
U.S. SENATE COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP

ON THE OPPORTUNITIES AND CHALLENGES IN THE SBA'S 8(A) PROGRAM

June 29, 2018 @ 2:00PM AKST
Assembly Chambers
Z. J. Loussac Public Library
3600 Denali St, Anchorage, AK 99503

Introduction.

Gunalchéesh/Háw'aa. Good afternoon Mr. Chairman, Mr. Ranking Member, Members of the Committee, and especially, Senator Sullivan – thank you for inviting me to testify here today.

My name is Richard Chalyee Éesh Peterson, I am Tlingit from the Kaagwaantaan clan, Eagle's Nest House. I grew up in Kasaan, Alaska. Prior to being elected as President of the Central Council of the Tlingit and Haida Indian Tribes of Alaska (Tlingit & Haida) in 2014, I served as Chief Executive Officer of Prince of Wales Tribal Enterprise Consortium, LLC (POWTEC), president of the Organized Village of Kasaan (OVK), and mayor/city council member for the City of Kasaan. I was recently unanimously re-elected President of Tlingit & Haida by over 100 delegates that make up Tlingit & Haida's governing body.

Tlingit & Haida is a tribal government representing over 30,000 Tlingit and Haida Indians worldwide. We are a sovereign entity and have a government to government relationship with the United States. Tlingit & Haida's headquarters are in Juneau, Alaska but our commitment to serving the Tlingit and Haida people extends throughout the United States.

I appreciate this opportunity to testify on the opportunities and challenges faced by Tlingit & Haida and other tribes and Native organizations as we pursue and administer contracts with the federal government.

Background on Tlingit & Haida Federal Contracting.

Tlingit and Haida is actively engaged in federal contracting, today, through our Tlingit Haida Tribal Business Corporation (THTBC). But Tlingit & Haida's experience with federal contracting reaches back through the past five decades.

Tlingit & Haida was one of the first tribal entities to engage with the Department of the Interior under the federal Buy Indian Act in the 1960s and early 1970s. Following that, Tlingit & Haida was one of the first tribal governments to engage in contracts with the Bureau of Indian Affairs in the early years of

implementing the Indian Self-Determination and Education Assistance Act of 1975, and was one of the first tribes to shape and participate in self-governance agreements under that Act in the late 1980s and early 1990s. Tlingit & Haida also secured data research and management contracts with Interior's Office of Trust Management, and with other agencies.

In 2010, the Tribe formed THTBC as a federally chartered "Section 17" tribal business corporation wholly owned by Tlingit & Haida. THTBC now serves as a vehicle to generate new revenue for Tlingit & Haida. THTBC is governed by a board of directors, and serves as a holding company with over a dozen subsidiaries that operate as Limited Liability Companies (LLCs) engaged in multiple lines of business. THTBC's mission is to engage in, carry on and conduct business to improve the economic condition of Tlingit & Haida. Haida Tribal Business Corporation was formed and tasked with the mission of developing businesses to help improve the economic condition of our Tribe.

THTBC is a highly diversified family of 8(a), Hubzone, large businesses, mentor protégé agreements, joint ventures, and small businesses. Each THTBC subsidiary is designed to save our partners and customers money. We only compete in industries where we can be the lowest cost provider of services. Our strategy is to partner with a limited number of best in class companies and provide innovative solutions which save our customers money and maximize productivity. Our companies are engaged in facility services/base operations, aircraft repair and maintenance, construction management, seaport operations and maintenance, environmental consulting and management services, computer systems and data processing facility support services, IT engineering and cyber security services, solid waste collection, site security, property management and maintenance services, workforce training programs. Our companies are engaged in providing contract services from Colorado to West Virginia to Florida to Arkansas to Washington state to Cuba to Washington, D.C., and many places in between.

Observations on SBA's Federal Contracting Program Policies.

Let me start by saying that Tlingit & Haida's executive leadership staff found the recent tribal consultation held by SBA in Anchorage in early May to be one of the best we have seen. The SBA staff were interactive, welcoming comments on all subject even though the announced subjects were HUBZone and 8(a).

What follows are some suggestions that would facilitate our pursuit of new federal contracting opportunities for growth as a tribally-owned family of companies:

- We hope to encourage greater SBA's efforts to streamline and facilitate the application processes.
- We ask that SBA mitigate against disruptive changes in HUBZone administration after each new census is calculated every decade.
- We believe the All Small and 8(a) mentor protégé program may best be merged into one program, since in practice that is how it usually works.
- When the parent owner is a tribe or Native entity, we believe the SBA should sharply streamline its role in approving management changes in those companies, because the owner, and ultimate beneficiary, remains constant.
- We hope SBA will make the application process more transparent to the applicants, so that we can track our progress and plan accordingly in ways that can diminish the risk of losing contracting opportunities.
- We ask SBA to consider allowing mentors to have more than three protégés at one time.

Finally, we wish to commend Senator Sullivan for working so hard, along with others and with this Administration, to change the federal agency policy and practice so that approval authority is streamlined for contracts from $22 to $93 million by delegating this approval authority to an appropriate lower level official closer to the facts and circumstances of each approval decision below the "head of agency" level. This is a crucial improvement that is being made to what was an unfortunately narrow misinterpretation of the statutory authority in Section 811 of the FY 2010 National Defense Reauthorization Act. We are grateful for the fresh look and problem-solving approach that Senator Sullivan has brought to bear on this issue.

Conclusion.

With that, I will close with our traditional words of Tlingit and Haida gratitude -- Gunalchéesh, Háw'aa -- thank you for inviting me to share my Tribe's perspectives on these issues. Please let me know if you have any questions.

Chairman RISCH. Mr. Miranda, you're up.

STATEMENT OF ROLANDO MIRANDA, PRESIDENT, MIRANDA ELECTRIC, INC., FAIRBANKS, AK

Mr. MIRANDA. Good afternoon, Chairman Risch and Senator Sullivan. My name is Rolando Miranda, but you can call me Rollie. I'm the founder and president of Miranda Electric.

I'm originally from the Philippines and became a naturalized American citizen in Hawaii then went on to graduate from high school in San Francisco. Shortly after that I enlisted in the U.S. Air Force and was stationed at Eielson Air Force Base where I served for six years as an electrician and separated in 1981. I continued in the Air National Guard for four years.

I started Miranda Electric in 1981, working evenings and weekends to earn additional income, while working full time for the Federal Government as a facilities service electrician. I wanted to make Miranda Electric my sole job, so I started soliciting to the SABER contractor Eielson Air Force Base. It took a few years before I was able to convince them to let me look at a project, and when they did, I won my first Federal subcontract and resigned from Federal service.

I heard about the SBA program through a seminar held in Fairbanks and reached out to learn about more opportunities. As you know, the 8(a) program helps social and economically disadvantaged businesses gain access to Federal contracts. I applied and was accepted in a program in 2001 and graduated in 2009. I found the training I need to learn Federal contracting language. I received my Federal contracting certificate from George Washington University at a reduced cost offered by the SBA.

I used the savings to travel between North Pole and Anchorage for the five courses. I went from having four employees at enrollment to 35 at graduation. I was able to use the training to further myself with Miranda Electric. Since my graduation, my largest single Federal subcontract award is about $10 million. The 8(a) program deserves some credit for my success.

I didn't receive much in prime contracts while in the program. The majority was subcontracts. I believe that once entered into the program, I would be awarded contracts. This was never told me directly by the SBA, but I was under the impression I would get that. This meant that receiving awards by signing up needs to be explained.

I recently enrolled in the SBA's Emerging Leaders Initiative in April. It is a six-month program that provides free entrepreneurial education and training for executives of companies that are poised for growth and potential job creators. While I find this initiative valuable, the entities in the program have a wide variety of experience.

Chairman RISCH. Rollie, excuse us just a minute. This is a unique experience for me because usually I call her Madam Chairman. Senator, I'm sorry you missed the enlightened and profound remarks of Senator Sullivan. We'll be happy to repeat them, but it will have to be later. Mr. Miranda is just finishing up on this fine panel. Then we're going to open it up to questions. Let's let him finish, and then you can give us your opening remarks.

Mr. MIRANDA. Thank you for being here Senator Murkowski.

While I find this initiative valuable, the entities on the program have a wide variety of experience. It might be more helpful to all those participating to be grouped with companies that have similar experience. I have been in business for almost 40 years, and while I am not an expert, I have participated in Federal contracts for over 15 years and have been successful. It is much different for someone just learning.

In 2013, I self-certified as a service-disabled veteran-owned small business. It allows me to bid for set-aside contracts and receive sole-source awards. Today I have not received any sole-source awards. My status helps me meet SBA goals, but it has not resulted in a prime contract for Miranda Electric. I have not been able to mark my status directly at Fort Wainwright and Eielson, which was recommended by the SBA. I have reached out repeatedly. Even as a veteran at a military installation, I'm lucky to get a call back for my efforts.

I have not seen veteran opportunities in the Federal Business Opportunities website for my local area, and with all the work in Alaska, you would think there would be one set-aside for veterans. I'm not sure if other veterans are experiencing this.

In the past, I won a prime contract—I won a bid for a prime contract to perform as the subcontractor, so it could meet its small business goals. I even received my letter of intent and engaged in the contract process. Then, without explanation, the prime contractor went with another subcontractor. This leads me to believe that the prime subcontractor checked the box naming Miranda Electric as a key veteran subcontractor to win the project, then dropped us and went with a nonveteran company once the award was given. I can never recover the money and time I spent preparing this contract. This is just one example of my experiences.

I contacted the SBA and was advised to contact the contracting officer. After contacting the CO, I was told they couldn't have any involvement in settling a case. I had to take it up with the prime. There needs to be recourse for misbehaving primes as well as a verification and follow-up from contracting officers to ensure the contracts are using the subcontractors listed on their bid at the time of award and meeting their goals to win the project.

I believe the SBA can help. I know the SBA can't solve all the problems, and I don't think I'm the only company experiencing these issues. Can the SBA partner educate their fellow agencies to ensure an honest process? I think these partnerships can go a long way for small businesses like mine.

Lastly, I would like the SBA to look at contracts which require the use of PLA agreements. I don't know how this helps any small business who does not have a PLA, project labor agreements. The PLA organizations are great for those employees facing bad working conditions from bad employers. However, there are many of us who really care about our employees, and I am one of them. Can the SBA find a solution where the employee is protected, but the small business isn't automatically counted out of obtaining a bid based on the use of a PLA?

I'm very thankful for the opportunity and assistance the SBA has provided me and my business to get to where I am today. The 8(a)

program, the emerging leaders initiative, and self-certification as a disabled veteran were made possible by the SBA. Again, I want to reiterate my appreciation for the SBA and the many opportunities I've gained. Like any businesses, including my own, there's always room for improvement. With that, I thank you for the opportunity to testify today.

Chairman RISCH. Mr. Miranda, thank you very much. We appreciate the specificity that you had regarding those issues. We'll include those in the record. I think those are things that really deserve to be reviewed by this committee and by the SBA because there are some very specific examples there that are troubling. Thank you so much.

[The prepared statement of Mr. Miranda follows:]

Testimony for the US Senate Committee on Small Business and Entrepreneurship Field Hearing on "Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs"

Rolando Miranda
President
Miranda Electric, Incorporated

Anchorage, Alaska
June 29, 2018

Good afternoon Chairman Risch, Senator Sullivan, and Senator Murkowski. My name is Rolando Miranda, but you can call me Rollie. I am the founder and President of Miranda Electric, Incorporated.

Originally from the Philippines, I became a naturalized American citizen in Hawaii, then went on to graduate from high school in San Francisco. Shortly after that, I enlisted in the US Air Force, which is how I ended up in Alaska. I was stationed at Eielson Air Force Base, right outside Fairbanks. Where I served as an electrician in the Air Force for six years before separating in 1981.

It was then that I started Miranda Electric. Miranda Electric began as a side-job for myself, while I still kept my day job in civil service, still with the federal government. While working in civil service and laying the foundation for Miranda Electric, I also continued to serve in a military capacity in the Air National Guard for four years.

Like many small businesses, I started Miranda Electric back in 1981 with myself as the sole employee working nights, and weekends on small electrical projects.

8(a) Program
But after about 15 years of working in federal service and Miranda Electric as a side job, I wanted to make Miranda Electric my only job. I just wasn't quite sure how. So I started soliciting to get onto Simplified Acquisition of Base Engineer (SABER) contracts on the military bases outside Fairbanks. I figured, if I could get into government contracting, I could make a real go of Miranda Electric as my sole occupation. After three or four years of trying, I finally landed a **sub/contract** on Eielson Air Force Base.

That's when I heard about the Small Business Administration 8(a) Business Development Program through an SBA seminar held in Fairbanks. Shortly after, I reached out to the SBA and learned about other opportunities.

As you well know, the 8(a) Business Development Program is an essential instrument for helping socially and economically disadvantaged entrepreneurs gain access to the economic mainstream of American infrastructure and society. With my company, I had the same hopes when applying for the 8(a) program. A few years after my first SABER **sub/contract**, I applied and was accepted into the SBA 8(a) Business Development Program.

I was in the SBA 8(a) program for the full nine years allowed for individually owned entities, starting in 2001. I found the contracting training and assistance that I dearly needed to gain a real foothold in government contracting. While in the 8(a) program, I received my Federal Contracting Certificate from George Washington University at a reduced cost. I used the savings to regularly travel back and forth between North Pole and Anchorage, while taking the five core courses. I went from having four employees at enrollment to 35 employees at graduation. My business went up 700% over those nine years in the 8(a) program. I was able to use what the SBA offered to further myself and Miranda Electric. Since my graduation from the program in 2009, my largest single federal sub contract award I received was $10 million. The 8(a) program helped catapult Miranda Electric into competing for new, higher dollar government contracts.

I will note that I didn't receive much in direct government contract awards while in the 8(a) program, the majority was federal subcontracts. This came a surprise to me, as I thought that once I was in the 8(a) program, then I would be awarded contracts. This was never told to me by the SBA, but it was an impression that I was under when pursuing entry into the program. The myth of receiving awards just by signing up needs to be dispelled.

With the 20 years of independent experience and the following nine years in the SBA's 8(a) program, Miranda Electric grew to be a respected name in the construction industry for electrical, data communication, fire alarm and life safety, and building automation.

Emerging Leaders Initiative
Continuing my education and commitment to small businesses, I have been enrolled in the SBA's Emerging Leaders Initiative since April. It is a six month program that provides free entrepreneurship education and training for executives of small companies that are poised-for-growth and potential job creators.

While I find this initiative valuable, the entities represented in the program have a wide variety of experience. It might be more helpful to all those participating to be grouped with companies that have similar experience. I have been a company for almost 40 years, and while not an expert, I have participated in federal contracting for over 15 years and run a successful business. Which is much different from someone just starting out.

Service Disabled Veteran Owned Small Business
In 2013, Miranda Electric self-certified as a Service Disabled Veteran Owned Small Business (SDVOSB). According to the SBA website, "joining the disabled veterans' business program makes your business eligible to compete for the program's set-aside contracts." Though, to date, I have not received any sole source awards because of this status.

Though, with my **five years as** a SDVOSB, I have experienced that my status helps the prime contractor win contracts to meet SBA goals though it has not resulted in a prime contract for Miranda Electric. In two cases, I have been involved in which begs the question, does repeatedly receiving subcontracts really give a SDVOSB an opportunity to grow and expand or is it an arrested development stuck as the subcontractor?

I have not been able to market my SDVOSB status directly to the local military bases near Fairbanks, Ft. Wainwright and Eielson, which was recommended by the SBA. I have reached out repeatedly, even as a veteran at a military base, I am lucky to get a single call back one time from all my efforts. I have also not seen very many SDVOSB opportunities on the Federal Business Opportunities website in the local area of Fairbanks.

I want to point out an issue that while I hope I am the only person experiencing this, I do not believe I am. In the past I won a bid with a prime contractor to perform as its subcontractor so it could get SDVOSB credit. I even received my letter of intent and engaged in the contract process. Then without any explanation the prime contractor went with another subcontractor, even with submitting my name to win the prime contract award. This leads me to believe that the prime contractor checked the box naming Miranda Electric as a key SDVOSB subcontractor to win the project, then dropped Miranda Electric and went with a different non-SDVOSB company once the award was given. I can never recover the money and time I spend preparing my bid on this project.

I have another example of winning an award as a subcontractor with another prime contractor. I was notified of pending award to Miranda Electric, so naturally, we fully engaged in the planning and obtained all the necessary clearances. We invested time, effort, and resources into planning for the award. After I refused to perform work prior to receiving a contract they awarded it to another company. Again, this is another example where my team and I invest our time and money into preparing for an award, just to be taken off the contract without warning or reason.

In both cases I contacted the SBA about these issues and was told to contact the contracting officer. I then contacted the contracting officer, who just repeated what the prime contractor said and said they had no further involvement with the issue. It was clear in both cases that Miranda Electric was used solely for the purpose of winning the award, but then dropped once the project was awarded. There needs to be recourse for the misbehaving prime contractors, as well as verification and follow up from contracting officers to ensure the contractors is using the subcontractors listed on their bid. I believe the SBA can help in these matters since they are there to help small businesses.

I know the SBA can't solve all the problems, but I do not think I am the only company experiencing these issues. How can the SBA better partner and educate their fellow federal agencies to ensure an honest process. I think these partnerships would go a long way for small businesses like Miranda Electric.

Project Labor Agreements

Lastly, I would also like the SBA to look at contracts which require the use of Project Labor Agreements. From my experience, I don't know how this helps any small business who does not have a PLA. The PLA organizations are great for those employees facing bad working conditions from bad employers. However, there are many of us that really care about our employees and I'm one of them. How can the SBA help to find a solution where the employee is

protected but the small businessman, like myself, isn't automatically counted out of a contract based on the use of a PLA?

I am very thankful for the opportunities and assistance the SBA has provided me and my business to get to where I am today. The 8(a) program, the Emerging Leaders Initiative, and self-certification as a SDVOSB were made possible by the SBA.

Again, I want to reiterate my appreciation for the SBA and the many opportunities I have gained. Like any enterprise, including my own, there is always room for improvement, and I want to state the best resource for the SBA to learn how to better serve small businesses is with the small businesses themselves. And with that, I thank you for the opportunity to testify today.

Chairman RISCH. With that, Senator Murkowski.

OPENING STATEMENT OF HON. LISA MURKOWSKI, A U.S. SENATOR FROM ALASKA

Senator MURKOWSKI. Thank you, Mr. Chairman. I've been around the Senate long enough to know that you don't come into a hearing over an hour late and expect to give an opening, so I'm not going to give one. I'm going to thank you for being here as Chairman of the Small Business Committee. I'm going to thank those who have traveled also to be with us, Mr. Wong, and thank him for the work that he has done, as well as that of Jeremy Field as our Region 10 administrator.

Thank you to those who have provided testimony here in person today and the opportunity for us to query you further so that we can build this record out. I think you know, Mr. Chairman, Senator Sullivan has educated you well on this. We are a State where we're all about small business. That is what we do in this State. So finding the ways that we can best help, whether it is through our women-owned, or disabled veterans, our service-disabled veterans, whether it's our ANCs, our tribes.

So the opportunity to have this hearing here in Anchorage today is greatly, greatly appreciated. I would have been here sooner, but my plane was diverted due to the practicing Blue Angels.

Chairman RISCH. Thank you, Senator Murkowski. I can report to you, and I think Senator Sullivan would agree, that we've had an excellent hearing today and heard some very specific suggestions. When you get the transcript of this with the testimony plus the other items that people have said they're going to submit for the record, I think you're going to find it very enlightening and target rich for some more work by this committee.

Thank you so much.

Senator Sullivan for questions.

Senator SULLIVAN. Thank you, Mr. Chairman. It's great to see my friend and colleague Senator Murkowski here. We're very focused and aligned back in the Senate on a lot of these issues, all of us are.

I'll start with a bit of a hard question, but I think an important one that I'm going to throw out to the entire panel for any of you or all of you. You do hear detractors that government contracting programs such as the 8(a) program or programs for disadvantaged populations or veterans, some people criticize them as a government handout. It's certainly not my view, but you do hear the criticism. And that taxpayer dollars aren't getting a good value for the awarded contract, but, again, what this hearing is meant to do is hear from you. You're on the front lines. You, I'm sure, have a view on that kind of criticism.

Would you care, any or all of you, to give an example or address that these are actually good for the economy, good for the country; they're not a handout. They're programs that are good—result in good stewards of the taxpayer dollars.

Chairman RISCH. Who wants to go first?

Mr. KOMPKOFF. I can go first.

Chairman RISCH. You don't want to yield to the lady on the panel?

Mr. KOMPKOFF. I'll yield.

Ms. JOKIEL. I will address that. I'm an economically disadvantaged women-owned small business. That's the panel that I was coming here to speak under, that frame. I'm also an individually owned 8(a). So in order for me to receive that, I had to write a preponderance of evidence and show discrimination in my field. In order to do that, I had to have affidavits to go along with it.

So I had several conversations with folks in different industries about the affidavits that I wanted to have, and one was with my mentor. He is my neighbor across the street. Very successful businessman here in town, He said: What about an even playing field? Why should we have to have a special designation for you if you've had discrimination in the industry or as a woman-owned small business in order to receive this 8(a)? I said: Listen, if you can run a seven-minute mile, I can run a seven-minute mile. You are 200 meters ahead of me just the way it is. What this does is allow me to get up those 200 meters and run the same seven-minute mile as you and have the same opportunity as you do. That's why it's important.

He wrote the affidavit for me. He recognized that there is discrimination in issues within the women-owned small business arena. I totally got my individual 8(a), which again is not what I'm here to speak under, because I do think there's a lot of room for improvement in our women-owned small business program for Federal contracting to come to that arena. So that's my response.

Chairman RISCH. Thank you.

Mr. Kompkoff, you seemed anxious to get your two cents worth in here. You're up.

Mr. KOMPKOFF. Thank you, Mr. Chairman. We've heard that quite a bit as we run around in circles and run around the competitive marketplace, that you all are just getting a handout. What is interesting is that even if it's a direct award, we have to perform the work. We actually have to get the job done.

What is amazing, if you look at all the organizations that are at the table, is that we continue to win follow-on work based on our performance record. I think if you just listen to the tenor of the conversation today, the testimony today, there is a deep passion coming through the loudspeaker here. That passion—you know, some of the larger contractors, the kind of work that we do is one little segment of work. You're not hearing the excitement and passion about servicing the war fighter or going above and beyond to service the customer.

What is interesting is we've looked at our organization. We have this standard business metric that many other organizations have. We look at retention rates of employees. What we're finding is that the mission of our organization, this thing that's bigger than ourselves, this organization that's supposed to last forever, this organization that is caretaking a community of people that is trying to live up to this promise that was the Alaska Native Claims Settlement Act.

Our employees are excited to be in our organization. They're excited to spend more time with us than they do with their families. Time and time again when I go out to Fort Meade or I go out to some of our distant project sites that don't see folks from Alaska

very often and we talk about our core values of our business on these little cards that we hand out to everybody that are derived from our Alaska Native values, I see them on the walls. I go into these field offices up on Whidbey Island, and there are all of our Native core values sitting there right in the doorway.

Then I talk to the contracting officers and some of the folks that we had on the site. So we'll take over a contract from a prior company, and when we run through who we are and what we stand for and what we're about and they change that logo on their hat, they stand up a little taller and they're a little more excited to go to work every day. They put in an extra mile for that customer. So we believe the customer is receiving better value for the type of work we do out there.

Chairman RISCH. Thank you very much. Anyone else want to take a run at it? Mr. Peterson.

Mr. PETERSON. It's almost dangerous to follow Mr. Kompkoff because a lot of what he said reflects what I wanted to say.

A couple things, I really resent that idea of this welfare because, again, we have to deliver. When we get these contracts, we have to perform at the highest standards and we do. I'm really excited to say that some of the contracts that we've gotten recently have gained a lot of media attention. It was a full-on compete. It was our quality of our work and our pricing that won the day. I think that could be said for any one of my colleagues here.

As Mr. Kompkoff said, when we visit out sites, the employees are so proud that they work for an Alaska Native tribe, that they're giving back. They feel like they have a social piece there. Not only are they doing a job for their country which they're proud of, but it brings back to a tribe in Alaska where they know we're underserved, where they know that we're economically depressed.

And I want to say something else. Our tribal values are reflected in the work we do. As many of you probably know, maybe you don't, Alaska Native, Native Americans are the highest serving in the military. In fact, Alaska Natives are the highest serving. I think that's a reflection of our commitment to our country.

So when we do government contracting, it's kind of that same commitment. It's that same reflection of how we feel about doing this good work and that we're helping stand up our country, and we're doing it responsibly. We're delivering the best product. We're not overcharging. It's very competitive. Otherwise, without these programs we would not be able to compete against the Lockheed Martins, the Boeings, and so on. This really just kind of levels the playing field.

When you look at it, we're still only fighting for a fraction of government contracting. In fact, because of the SBA and the Mentor-Protégé Program, we're able to work with those companies like Lockheed Martin, Boeing, and others and get that experience. So it's a great program.

Chairman RISCH. Thank you. Mr. Marrs.

Mr. MARRS. Well, I think they've covered basically the underlying fact of we do a lot of work for the government at a great price. A lot of it's competitive bid among ourselves. The thing that gets me is there are so many rules within all these regulations by all the different agencies that make it very difficult for us to compete in

that environment. For every bid we do, it costs us between 20 and $50,000 for a bid. It comes out of the government and then it will sit there for a year, if not longer in a lot of cases. It's a detriment with all these regulations that we have to deal with to try and get work done.

People that say, you know, these are handouts. They're not a handout. No, we deserve it. We were the first people in America. We are the most—the poorest, most repressed group of people in America even today. Why is that? Just trying to get a leg up on a fair basis, the system just isn't fair in that regard because, like I tried to say in the testimony, the intent of Congress has been very strong of how these programs should work. The agencies find ways to make it absolutely difficult to carry out that intent. We need to fix that problem.

We need these agencies that understand. Now, now SBA is trying. They're trying hard. But when you get through all of these other agencies—it's like a top-secret clearance. It's a double-edged sword here. You can't file for a top-secret clearance unless you have that job. You don't get that job, you don't get a top-secret clearance. I mean, it's absolutely ludicrous.

In fact, we lost a major contract because we were waiting for a top-secret clearance. It took 18 months to get to that point for that particular one. By then the contracting officer gave it to somebody else because we couldn't—we eventually got the top secret clearance. There was no problem; it just took 18 months to get there.

Every agency has a different criteria for the top-secret clearance. I mean, why is that? It's the same government. I mean, it's sort of stupid in my opinion. I've said enough.

Chairman RISCH. I don't think there's anybody up here that disagrees with you on that. Let me tell you, we're working on that. There is a specific office within the SBA called the Office of Advocacy. Their job is specifically to attack exactly what you're talking about. That is, the onerous things different agencies do that adversely affects small businesses.

Since I've taken over as chairman, we have done our best to stand up even better the Office of Advocacy and make them truly the independent agency they're supposed to be to say: Hey, stop. Think about what you're doing here to small businesses. Sometimes we're successful, sometimes we're not, but we will keep after that. I commit that to you.

Mr. Miranda, did you want to take a run at this?

Mr. MIRANDA. There's a myth to that, that you automatically get this and that, you know. I can honestly say that I have worked really hard to get what I have. Really, it was the education I got from the 8(a) program.

Chairman RISCH. Thank you so much. Senator Sullivan.

Senator SULLIVAN. Sure, Mr. Chairman. I had a question for Mr. Peterson. It's two questions and it relates to your testimony, but one question is: Can you describe a little bit of the difference—we've talked about ANCs and then we were talking about tribally owned businesses and a little bit of the difference as you see them. Tlingit Haida has a proud tradition as you've talked about. Then, your participation in the HUBZone program, and how did you get interested in that, and what perceived benefit did you see from

that program? As you saw, I asked the Administrator a lot about that program in the first panel, but having someone who's worked through it and seen the pros and cons and ways to improve it, if you have any view on that, that would be helpful as well.

Mr. PETERSON. Well, thank you, Senator. I was sitting in the back during that first panel and wishing I was able to answer for him. I've got a lot to say on that. The HUBZone, I think, can be a very great program, but it's frustrating because in Alaska we're able—most of the state's a HUBZone, but a lot of the work we do is outside of the State, onsite, government.

So those employees have to be certified to live in a HUBZone. If 35 percent of those employees have to live in a HUBZone, if they move or that HUBZone moves, we're SOL. And really we would like to see kind of like a three-year——

Chairman RISCH. For the record, what does that stand for?

Mr. PETERSON. Short on luck. You almost made me sweat there. I have to be careful with my village. It will come out, I'm sorry. Am I red?

Anyhow, we would like to see some changes in that HUBZone program. If we can get certified and then have a three-year certification period, then the program is great; but in Alaska most of it's a HUBZone, so we have gotten creative, I guess, where we've started businesses in Juneau, for example. We've gotten into security, food service, maintenance, property, and then all of our employees are HUBZone. It's great. It helps us meet that 35 percent. Again, even when it's a struggle.

It feels a little disingenuous when really we're trying to do the government a good service in those onsite contracts. So, you know, if we could get certified, at the time of certification we meet that criteria, but, again, because an employee moves to a better neighborhood, a different neighborhood, the HUBZone actually moves. In the Lower 48 a HUBZone could be one block. Then you go over two blocks down and it's not a HUBZone. So it makes it very difficult to recruit and retain employees. It's just very cumbersome.

I hate to throw this at the government and say it's more of your bureaucracy, but it really is. I know looking at our wonderful delegation and our chair, we want to streamline things so that we can work smarter, not harder.

Chairman RISCH. Thank you. It's 35 percent. I'm sure some bureaucrat on the banks of the Potomac had a great idea of how to get 35 percent.

Mr. PETERSON. Is that one of those mansions again? I haven't seen those mansions.

Chairman RISCH. That's a very specific recommendation that we're going to take to heart. Both you and others have underscored that.

Senator Sullivan.

Senator SULLIVAN. I had one other question. I wanted to make sure my colleagues here get to the questioning as well. Carrie, I thought your testimony was really powerful and your ideas on the financing side, I thought, were also very powerful.

Can you talk a little bit more about that? Then, I think you stated that you've benefited or have views on the Small Mentor-Protégé Program, and I think of course the government can't do everything,

but having a mentor and protégés in all different aspects of life is really helpful and powerful. In small business, it's particularly powerful.

Are there things that the SBA can do more in the financing and mentorship and protégé side that you've touched on that can help?

Ms. JOKIEL. Thank you for the questions. It's an interesting point. With the mobilization loan, which I'm talking about, we were in our first sole-source award with ChemTrack Alaska, the environmental company I have. The project was down on the Chain, and I needed to figure out how I was going to finance the beginning part of this project, which was the trains, planes, and automobiles to get down there.

I was sitting actually at an 8(a) conference here in town, and there was a lending institution that came in and started talking about a mobilization loan. I started sneaking pictures to my controller saying: This is what we need. We need to be working with this mobilization loan. What they did was they took the government contract as an asset and allowed us to use that to be able to get kind of a gap financing tool to start the beginning of our project.

That was extremely useful. Before that moment, I was talking with my bank and my line of credit had been reduced. We had a tough year before that had happened in the world of business, and so my line of credit had been reduced down to where I wasn't going to be able to access it as much to have this first part of my project covered. So my point is, I wouldn't have learned about that as a women-owned small business unless I had been at the 8(a) conference. So I'd like to see more effort, maybe business opportunity specialists or more conversations for the women-owned small business program, because it was fortunate that I have an individual 8(a) that I was able to be in an arena to learn about this institution.

So that's the first part of the question. I think that's a very useful tool, to look at mobilization loans and have government contracts actually be the asset versus my house, my business, my equipment, my first child.

On the second part of the question with the Mentor-Protégé, I appreciate what you said about having them in life as well. My mentor owns a large construction company here. We have been friends a long time. Through the SBA a lot of great conversation was around: Make sure you trust your mentor, because I never want to be viewed as a pass-through. I'm a very strong, independent woman. I want my company to make it on its own. So I want to make sure when I'm working with a large, that I'm not being used, as Rollie said, to have your designation box checked. I want to learn and I want to grow.

So we went to Hawaii to look at work there, and he got very tired of me saying: Well, you may be my mentor on paper, but in life I'm really our mentor and you know it. So I think that was an important way for the SBA to make sure to help protect the small, small. Then when you are looking for a mentor, maybe some matchmaking and some more conversations around that. I didn't know quite how to find my mentor. So I ended up working with a

friend of mine and that's worked out for me here locally. I hope that answers part of your question.

Chairman RISCH. Yes, great. Thank you.

Senator Murkowski.

Senator MURKOWSKI. Mr. Chairman, I'm going to be very brief and hopefully ask a more general question here. It follows on Senator Sullivan's initial question about some of the misconceptions that are out there. As you know, your delegation deals with some colleagues that believe they know and understand more than any of you the operations of an ANC and what that means within the 8(a) program. We fight back against those myths and misconceptions. You do as well.

Hearings like this are a great opportunity to put things on the record. It's important to bring the Administrator to have him understand firsthand hearing from you. What more do we need to do to tell the story, to correct the record, to ensure that the myths do not continue? Because it makes for an ongoing legislative struggle, and it impacts your ability to have certainty moving forward.

Do you have any suggestions for us? We have to do things on our end. You have to do things on yours; but is there more that we collectively can do?

Chairman RISCH. Carrie, I think we'll start with you, please.

Ms. JOKIEL. Sure. I would say it's bringing people here to see. I see people's eyes open up constantly when they get out into the remote villages of Alaska and the remote areas. Seeing what we're talking about. I don't know if there's a fly-in trip that can happen, but I think that's been eye-opening for everybody when they come and actually see what we're talking about. Of course it's easy to make armchair decisions when—unfortunately you can do that as a CEO or president of your company. There's always that conversation between the field crew and the people in the office and who's actually doing what and what their roles are. But when you fly out and see—I fly out to my project in King Salmon or I fly out to my projects wherever they are. I can see what's going on. Now I understand why I'm unable to move the dirt as quickly as possible or whatever I need to figure out. And I can go back with that understanding.

I think we can take that model all the way to the top and bring people in to actually see our area, see what we're discussing.

Chairman RISCH. Thank you. Mr. Peterson.

Mr. PETERSON. Well, Carrie said the same thing I was going to. I agree, I think bringing people out here. This is the cynic in me, I guess, Again, I hear about these mansions on the Potomac. I'd like to—for your colleagues, they shouldn't be able to brandish those kind of statements without producing some evidence because, again, I don't know of any mansions on the Potomac.

Senator SULLIVAN. Mansions on the Potomac in a State that has over 30 communities where people have no clean water and flush toilets. I mean, it's ridiculous. That's some of the cluelessness we deal with in the Senate.

Mr. PETERSON. Right. You hear about issues in Western Alaska still with honey buckets and things like that. I'm from a small village in Southeast Alaska right outside of Ketchikan. There's many people in my community who still don't have running water. You

know, that's a statewide issue. We're dealing with the opioid crisis and those kinds of things. I would love to see some of the other colleagues that are saying these things come out to our village and see for themselves what it is and to see the work that we do.

I think in any business or in any area there's always going to be abuse somewhere, but for them to brandish these misconceptions or whatever you want to call them as the truth is really detrimental to us. If it's one on a million that it happens, it shouldn't be the one that's used as the example over and over and over. Maybe someone does have a really nice house on the Potomac that I don't know about, but I don't believe that to be true at all.

Chairman RISCH. Thank you. Mr. Marrs.

Mr. MARRS. Well, it's totally a misconception, that whole idea that we're getting something for nothing and it's a handout by the government. I think my testimony says we work hard and work hard for the government. The problems that you deal with is because it's government, you've got all these rules, at least loads of bureaucracy, that we have to work with yet we're a for-profit corporation. We try to streamline everything we can within those corporations, but because of all these rules, you're sort of hamstrung.

If you think about a—you know, the government can always negotiate a good contract with an 8(a). If they don't like what the 8(a) is doing in the contract, they can walk away from it. There is no requirement for a sole-source. I would like to see some requirements for sole-source, but there is no requirement for a sole-source contract by the government.

So, you know, there are a lot of misconceptions out there about how this program works. People are jealous because they think we have some advantage over other contractors. I don't see that because those guys negotiate sole-source contracts for billions of dollars. Why is it that we're still limited and restricted as to what we can do because we can to the jobs good. We have good people. We have good managers. Yes, I think I agree with Richard, there are times that somebody will go awry and try to pull a fast one, but the bathwater shouldn't be thrown out with the baby and then, hey, most of us do and try hard and we really care.

We do it for our shareholders. That's what it's all about. If I have $100 million in contracts, I'd put maybe $5 million on the bottom line; that equates to a very small amount of money for every shareholder. And you have profit in order to keep your business going and reinvest. It's much less than that. Yes, there are issues. Like I told the committee, I've submitted 16 pages of them in writing so you'll have those.

Chairman RISCH. We appreciate that.

Mr. Kompkoff, did you have any comments?

Mr. KOMPKOFF. Yes, I do. Thank you for the question, Senator Murkowski. A couple quick things. One, Mr. Wong mentioned a BOS training event, first that they've ever put together. We'd like to volunteer to help educate the BOS group on the program and how they can communicate to their customers. I think we'd encourage the SBA to think about using those that are in the program as a resource to help educate the broader contracting community on how this program works. So that's one specific example of something more that we can do.

The other thing to think about is there are customers that can—you don't have to talk to us. I mean, we're biased. We're in the program. We're benefiting from the program. We're going through our own struggles, but there are the customers are the ones who can sing the songs of our praises. I would encourage and be glad to help set up tours of our customers' sites and conversations with our customers about the type of work that we do to kind of dispel the myth that we're just getting handouts and we're not performing great quality work for our customers.

Senator MURKOWSKI. That point I will share with my colleagues. I had an opportunity some months ago to be traveling over in the Pacific Islands. We stopped in Wake Island, the first stop on the other side of the dateline there. That entire island, that facility is managed by Chugach. So you get off the airplane and you see the logo on the cap and hat. I looked at it and I thought: That's so familiar. Here I am in the South Pacific on this tiny little island. The opportunity to speak to those who had worked there for as many years as they have and the value that they create, but also the extraordinary satisfaction that they have with the work that has been done by Chugach out there in the middle of an extraordinary ocean, as an Alaskan, it made me very, very proud of the work that is done.

I thought: I should have captured that by video, because I think it's stories like that that really can tell the true value of what is being done. So I share that with you as one of those really good news story, because sometimes the advertising does itself, but you've got to go a long way to find it.

Chairman RISCH. Rollie, did you have anything?

Mr. MIRANDA. Yes. I think your committee being here is a start to getting the word out, and letting us all testify so everybody can hear and be on record so everyone knows.

Chairman RISCH. Thank you very much.

Without further ado, we're going to keep the record open for two weeks, until 5 o'clock on Friday, July 13th. So if anyone wants to submit anything further for the record, you may certainly do so. Senator Sullivan, you mentioned a couple of items earlier on. Those will be included in the record. I'm given an email here: Kathryn__Eden@sbc.senate.gov.

With that, I want to recognize a couple people. I didn't, but I wanted to wait until the end to make sure this went well. Those are the two who organized this. Skiffington Holderness is the Staff Director for the Small Business Committee.

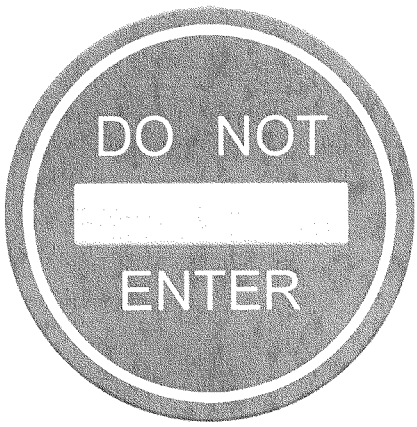
Meredith, who actually did all the work which Skiffington could get credit for. So, Meredith, thank you.

It's always dangerous to do that because I know there were lots and lots of other people that had input into this, so we want to thank you. We have been just very well received here in Alaska, as I knew we would be. Thank you to both my colleagues for inviting us here. I think that this has been a very substantive and productive hearing.

So, with that, without further ado, we will call the meeting adjourned.

[The Hearing of the U.S. Senate Committee on Small Business and Entrepreneurship adjourned at 4:30 p.m.]

APPENDIX MATERIAL SUBMITTED



Women Shut Out of U.S. Government's Biggest Contracts

A Report for Women Impacting Public Policy
Commissioned from NextWin Services, LLC.

October 2016

October 6, 2016

Dear Readers,

Women Impacting Public Policy has always sought to achieve parity for women entrepreneurs. The federal market is no exception.

For more than 15 years, WIPP has led the charge to create a women-owned contracting program that possesses the components of other small business contracting programs. Most recently, that entailed lifting dollar caps on WOSB set-asides, the addition of sole source authority, and the expansion of eligible industries in the program.

Strengthening the women's procurement program is only one of the ways WIPP is ensuring women business owners have equal opportunity to compete and win work with the federal government. Effective October, 2016, the Small Business Administration will welcome women-owned small businesses into their Mentor-Protégé Program, an excellent tool that has served other socio-economic communities well. WIPP advocated for legislative and regulatory efforts to bring this to fruition. These achievements are the hallmark of our procurement work over the last decade.

But disparity comes in many forms. The same report that led to the expansion of eligible industries in the WOSB Procurement Program concluded that women-owned firms are 21% less likely to win government contracts – even when controlling for past performance, size, and time in business. That astounding figure drove us to dig deeper into federal contracts and commission this report – the first of its kind – to examine certain types of contracts that reinforce disparity and keep women-owned firms out of the upper tiers of the federal contracting world.

Our findings are straightforward – like the title of the report, *Do Not Enter*. We are not in a position to explain the entirety of the disparity; we simply know it exists. We encourage you to consider both the conclusions and recommendations. WIPP will be bringing both the facts and needed changes to policymakers. We hope you will join us in this effort.

Jane Campbell
President

Ann Sullivan
Chief Advocate

Table of Contents

Executive Summary 4

Glossary 5

Background 6

- Findings 9
- Finding #1: Major Contracts Leave WOSB Tracks Out 10
- Finding #2: Existing Disparities Reinforced, Even Exacerbated, on MACs 11
- Finding #3: With Access, WOSB Firms Win Work 13
- Additional Findings 14

Conclusions and Recommendations 14

- Ensure Parity When Adding Tracks 15
- Create a WOSB GWACs 15
- Add and Enforce Onboarding Process on Major Contracts 16
- Report Socio-Economic Status of Contract Holders 17

Looking Forward 17

Data Sources and Methodology 19

Appendix 1: Contract Data 20

Appendix 2: Women-Owned Small Business Procurement Program Chronology 30

Appendix 3: Overview of "Tracks" on MACs 32

DO NOT ENTER: Women Shut Out of U.S. Government's Biggest Contracts

Executive Summary

By almost any metric, women business owners are an empowered and growing force in the American economy. They own more than a third of all businesses and, according to a recent American Express OPEN survey, are more optimistic about creating jobs in the coming year than their male counterparts.

Despite these marked successes and a proven ability to deliver innovative goods and services across the globe, this report has found clear evidence that women continue to have limited opportunities in the federal contracting space.

Over the last decade, federal agencies have favored large umbrella contracts with select vendors supplying unlimited goods or services over a specified period. These multiple-award contracts, or "MACs", have been scrutinized by the small business community as potentially harming small businesses, but never before considered as harming women entrepreneurs specifically.

Women Impacting Public Policy (WIPP) commissioned this report to determine if women entrepreneurs are being utilized in this significant portion of the federal marketplace. The analysis examined nineteen MACs, managed by seven agencies with a total estimated value of over $253 billion across broad industry segments including information technology, human capital and training, and office supplies.

Importantly, some of these contracts have specific "tracks" reserved for certain types of small businesses, including women-owned, service-disabled veteran-owned, HUBZone, and 8(a). Others simply have large and small business pools. The report's key findings:

- Major contracts reserved awards for socio-economic groups *except* WOSB
- Unlike other groups, WOSBs lack an exclusive contract for IT procurements
- Disparities already identified by the U.S. Department of Commerce were reinforced – if not exacerbated – on many of the contracts, including one contract that had no WOSBs
- Once access to these contracts is gained, women-owned firms are successfully winning at the task order level, providing high quality services

While progress has certainly been made with respect to WOSBs in the federal market, barriers continue to exist. WIPP's analysis found that women are excluded from the federal government's most sought after contracts. While this report does not offer reasons as to why WOSBs lag so far behind, this research bears out the U.S. Department of Commerce's conclusion that women do not have equal opportunity in procurement. If women are not included in large, multi-year contracts, they will continue to lose out on the most lucrative opportunities the federal government awards.

GLOSSARY OF TERMS

Terms in the order they appear in the report.

SB	Small Business
SBA	Small Business Administration
GSA	General Services Administration
WOSB	Women-Owned Small Business
NAICS	North American Industry Classification System (system used by federal agencies to classify contracts by industry)
EDWOSB	Economically Disadvantaged Women-Owned Small Business
HUBZone	Historically Underutilized Business Zone
8(a)	The 8(a) or Socially and Economically Disadvantaged Business Program run by SBA
SDVOSB	Service-Disabled Veteran-Owned Small Business
Socio-economic Status	References the SBA set-aside programs including WOSB, EDWOSB, HUBZone, 8(a), and SDVOSB
MAC	Multiple Award Contract (serves as an umbrella contract with multiple vendors supplying goods or services over a specified period of time)
MAS	The Multiple Award Schedules are a type of MAC, set up by GSA for government-wide use. Also referred to as the GSA Schedules or Federal Supply Schedules (FSS)
IDIQ	Indefinite Delivery, Indefinite Quantity (type of MAC that allows for the indefinite supply and quantity of goods and/or services under the umbrella contract)
GWAC	Government-wide Acquisition Contract (MAC limited to Information Technology (IT) goods/services)
DOC	U.S. Department of Commerce
RFP	Request for Proposal

DO NOT ENTER: Women Shut Out of U.S. Government's Biggest Contracts
A New Report from Women Impacting Public Policy

Background

The U.S. Government is the largest buyer of goods and services in the world, spending over $400 billion annually. Recognition that small businesses should have a place in this process dates back to the early 1950s[1] and was a factor in the creation of the Small Business Administration (SBA) in 1953. In its charter, SBA was charged with assuring that small businesses receive "maximum practicable opportunity" to compete for federal contracts[2].

In 1988, Congress saw the need to push the government to award significantly more small businesses contracts, and established a government-wide small contract goal for 20% of procurement dollars[3]. In 1994, Congress established a five percent goal for WOSBs[4], and in 1997 the government-wide goal for small businesses was increased to 23%[5].

In 2000, to increase participation by women entrepreneurs, Congress created the WOSB Procurement Program to enable women to compete for contracts in industries where women are underrepresented in federal contracting. Sixteen years later, the government met, for the first time, its five percent goal with women-owned small businesses. At the same time, the U.S. Department of Commerce issued a report detailing systemic disparity for women in federal contracting.

WIPP's Role in Advancing Women in the Federal Market

Since its inception in 2001, Women Impacting Public Policy (WIPP) has led the charge to ensure the women-owned contracting program had the same tools that support other small business contracting programs. WIPP has spent the past 15 years educating and advocating on behalf of the nation's women entrepreneurs, with a laser focus on federal procurement policy. WIPP has successfully advocated for expanding the North American Industry Classification System (NAICS) codes in the WOSB program, removing the caps on the dollar amounts of contracts awarded under the WOSB program as originally written, and most recently, inclusion of sole source contract authority in the program[6].

---

[1] Def. Prod. Admin., B-103235, 30 Comp. Gen. 441 (1951) *available at* http://www.gao.gov/products/B-103235#mt=e-report.
[2] Small Business Act of 1953, Pub. L. No 83-163 (as amended) (1953).
[3] Business Opportunity Development Act of 1988, Pub. L. No. 100-656, § 502, 102 Stat. 3853, 3881 (1988).
[4] The Federal Acquisition Streamlining Act of 1994, Pub. L. No. 103-355, § 7106, 108 Stat. 3243, 3374-76 (1994).
[5] Small Business Reauthorization Act of 1997, Pub. L. 105-135, § 603, 111 Stat. 2592, 2362 (1997)(The goal was increased to reflect the creation of a new set aside program for economically distressed areas, titled HUBZone).
[6] A full timeline of the progression of the WOSB program is included in Appendix 2.

While it took over 10 years for the federal government to implement the program, and over twenty years to reach the statutory five percent goal, female entrepreneurs are more engaged in seeking federal opportunities than ever before.

While 2016 marked a breakthrough for the WOSB program with the government achieving the five percent contract goal set by Congress, a January 2016 report issued by the U.S. Department of Commerce showed that the odds of a WOSB winning a federal contract are 21% lower than for otherwise similar companies, when controlling for past performance, size, time in business, and socio-economic status. The report also found that women-owned businesses have statistically significant lower odds of winning contracts in industries that make up two-thirds of contracted federal dollars[7].

WOSB vs. EDWOSB

Within the WOSB program, there is an important distinction between Women-Owned Small Businesses (WOSBs) and Economically-Disadvantaged Women-Owned Small Businesses. The latter (EDWOSBs) have income requirements to qualify.

For the purposes of this report, WIPP is only reviewing through the lens of WOSB. While the impact of MACs on EDWOSBs is likely significant, this report focuses solely on the impact of the broader WOSB population.

The Growing Use of Multiple Award Contracts

A few years before SBA was established, Congress created a federal agency to manage the business of the government, and help agencies with their buying requirements[8]. The U.S. General Services Administration (GSA) was tasked with leveraging federal buying power by performing procurement and supply services for agencies. GSA, in turn, created mandatory long-term government-wide contracts called Multiple Award Schedules that provided agencies with access to millions of products and services at volume discount pricing. In the 1990s, these contracts were deemed non-mandatory and individual agencies began creating their own large contracts for both their own and government-wide usage.

For the past several years, as the Women-Owned Small Business (WOSB) program has been implemented, the nature of federal contracting has changed once again. Since the passage of the Budget Control Act of 2011, and the ensuing squeezing of federal spending, many agencies have started favoring longer-term contracts over direct individual awards[9].

---

[7] David N. Beede, Robert N. Rubinovitz, *Utilization of Women-Owned Businesses in Federal Prime Contracting* U.S. Department of Commerce, Office of the Chief Economist, Economics and Statistics Administration, (December 31, 2015), *available at* https://www.sba.gov/sites/default/files/wosb_study_report.pdf

[8] Federal Property and Administrative Services Act of 1949, Pub. L. No 81-152 (1949).

[9] Sequestration: Small Business Contractors Weathering the Storm in a Climate of Fiscal Uncertainty, S.Comm. on Small Business and Entrepreneurship 113th Cong. 345 (2013)

These large umbrella contracts, with multiple vendors supplying unlimited goods or services over a specified period, often five to ten years, are growing in popularity. These mega contracts allow agencies to limit competition to a pre-approved list of vendors and issue task orders, or work orders, to a business already on the contract[10]. The belief by many in government is that such contracts minimize acquisition burdens while achieving improved economies of scale[11].

Over the past several years, as government spending has shrunk, these large multiple award contracts have grown to 21% of federal spend, with a growth rate of over $100 million between fiscal years 2013 and 2014[12]. In fiscal year 2017, 17 of the 20 largest opportunities are MACs[13].

This trend runs counter to a renewed interest of Congress in the use of a diverse group of small businesses from across the socio-economic spectrum. SBA established the WOSB procurement program, and other set-aside programs including 8(a) Business Development Program, Historically Underutilized Business Zone (HUBZone), and Service-Disabled Veteran-Owned Small Businesses (SDVOSB), to allow agencies to work directly with small, underrepresented businesses. The incorporation of that priority with MACs has left each agency to determine how to best ensure all groups have an opportunity to compete.

Importantly, both the U.S. Department of Justice and Congress have been clear in directing that no individual group have preference over another[14]. Although agencies are not required to include socio-economic groups in these large contracts, exclusion of any of these groups, including women owned companies, would represent significant federal spending that is now inaccessible.

The nomenclature for MACs is diverse. Certain industries have unique acronyms (e.g. GWACs serve only IT-industries), while individual agencies use disparate but ultimately synonymic terms. The alphabet soup of IDIQs, BPAs, IDVs, IDCs, MATOCs, etc. all point toward the key idea of two phase contracting: initially awarding one contract to multiple companies, and second,

---

[10] National Contract Management Association and Bloomberg Government, *Annual Review of Government Contracting*, (2015 Edition) *available at* http://www.ncmahq.org/docs/default-source/default-document-library/pdfs/exec15---ncma-annual-review-of-government-contracting-2015-edition.

[11] WIPP has advocated for increased oversight of this trend as it threatens a wide base of contracting firms. That issue, however, is outside the purview of this report.

[12] *Annual Review of Government Contracting, supra note 10.*

[13] Bloomberg Government, *Top 20 Opportunities in Fiscal 2017* (September 28, 2016)

[14] United States Department of Justice, *PERMISSIBILITY OF SMALL BUSINESS ADMINISTRATION REGULATIONS IMPLEMENTING THE HISTORICALLY UNDERUTILIZED BUSINESS ZONE, 8(A) BUSINESS DEVELOPMENT, AND SERVICE-DISABLED VETERANOWNED SMALL BUSINESS CONCERN PROGRAMS,* (August 21, 2009) *available at* https://www.justice.gov/sites/default/files/olc/opinions/2009/08/31/sba-hubzone-opinion082109_0.pdf.

allowing the pre-selected firms to compete for certain requirements called task orders. It is the impact of this structure, specifically on women business owners, that this report investigates.

Findings

From the outset, WIPP focused on answering three key questions as it relates to MACs and WOSBs:

1. Are "tracks" reserved for WOSBs similar to other socio-economic groups?

2. To what extent are women-owned firms represented on MACs?

3. Are women winning actual work on these contracts?

These three components offer a deep insight into large contracts, with the goal of identifying where barriers exist that require policymakers' attention. The first question examines if WOSBs are guaranteed opportunities to compete on contracts via "tracks" similar to other socio-economic groups. Senior acquisition personnel at the very beginning of the procurement process make these decisions. These tracks – a relatively new method – are a tool to ensure certain socio-economic groups have the opportunity to compete for task orders.

The second question gets to the core of acquisition parity. Whether there are tracks or not, are women-owned firms winning spots on these contracts. As detailed below, WIPP compared the percentage of women-owned firms on these contracts with the benchmark percentage found by the U.S. Department of Commerce in their 2016 report. For WOSBs to have an opportunity to win work, they must first have adequate access to the contracts.

Third, it is important to measure the success of WOSBs once awarded these contracts. Are they winning work as task orders are issued? It is at the task order level that the merits of women-owned firms can best be considered.

Additional details on the methodology and data sources can be found at the end of the report and provide context as to why WIPP identified 19 MACs from seven agencies. Of the hundreds of these contracts, these 19 were among the largest, representing over $250 billion in federal spend, had been raised previously by WIPP members, and represented diverse industries when possible.

Finally, throughout the findings and conclusions WOSB and women-owned are used interchangeably. While many women-owned firms have outgrown their size standards, this report focused on WOSB and as such, at the author's discretion, the terms are used with the same meaning.

Finding #1: Major Contracts Leave WOSBs Out

Of the nineteen contracts examined, twelve provided tracks for certain set-aside groups.[15] Of those twelve, only three (CIO-SP3 SB, ENCORE II, and ENCORE III) had tracks for WOSBs. Conversely, 9 of the 12 (see Figure 1) analyzed, representing more than $100 billion, maintained tracks for other socio-economic groups but not women.

Figure 1. MAC Contracts with Tracks
(contracts appear in chronological order)

Contract	Total Est. Value	WOSB TRACK
STARS	$15 billion	
SEWP IV	$5.6 billion	
VETS	$5 billion	
ENCORE II	$12.2 billion	✓
STARS II	$10 billion	
CIO SP3-SB	$20 billion	✓
EAGLE II	$22 billion	
SEWP V	$20 billion	
OS3	$1.25 billion	
T4NG[16]	$22.3 billion	
ENCORE III	$17.5 billion	✓
VETS II	$5 billion	

While five of these contracts pre-date the implementation of the WOSB program, the two should not be conflated.[17] The authority to set up tracks for each socio-economic group is unrelated and predates the WOSB program as evident in ENCORE II, which had a women's track prior to the WOSB program's final implementation.

As noted earlier, these multi-billion dollar contracts are becoming the major buying sources for all Information Technology (IT) government-wide. On some, there is a clear lack of parity between WOSB and other socio-economic groups.

[15] The others did not indicate a socio-economic track, but might have had a small business pool.
[16] All contracts at the Department of Veterans Affairs are now expected to provide a preference to veteran-owned small businesses (VOSBs) per the recent *Kingdomware Technologies, Inc. v. United States* decision. For the purposes of this report, that change is not considered a track but does provide an example of additional restrictions at certain agencies. The report does not discuss further this impact.
[17] Alliant Small Business, SEWP IV, Encore II, STARS, and VETS.

Within IT acquisition, MACs created for government-wide use are special contracts called Government-wide Acquisition Contracts (GWACs). Fourteen of the contracts analyzed fall into this category created only for IT. Critically, WOSBs are currently left without their own Government-wide Acquisition Contracts (GWACs) like 8(a) STARS and STARS II, VETS, and VETS II.

A Silver Lining

NIH CIO SP3 is made up of thirty percent WOSB, and has obligated over one-third of contract dollars to women-owned firms.

These contracts are populated only by firms that are 8(a) or, in the case of VETS, small businesses owned by service-disabled veterans (SDVOSBs). A contract specific to women-owned companies is left out of the existing GWACs[18]. While women are not expressly disqualified from bidding, women who do not fit these additional categories may be excluded from the process. Even if they compete for GWACs under a general small business category, women will not make the necessary inroads without specific GWAC tracks. The spend on these contracts is significant. STARS II has awarded more than $4 billion and VETS has awarded more than $1 billion.

Finding #2: Existing Disparities Reinforced, Even Exacerbated, on MACs

Of the 19 contracts, only 13 have been awarded and thus allow for analysis of the types of companies receiving spots[19]. Within those 13 contracts that have been awarded, WIPP found a wide variance on the prevalence of women-owned firms. While winning a spot on the contract does not guarantee work, it is a prerequisite to providing goods or services.

To identify whether WOSBs were adequately represented on a given contract, the ratio of WOSBs to the total number of firms on the contract (expressed as a percentage) was compared with the prevalence of women-owned firms in the contracts' primary NAICS code as found in the 2016 Department of Commerce report[20]. For contracts with Small Business (SB) only pools, WIPP only considered the total number of small business firms. As a benchmark for the expected number of WOSBs, WIPP used the frequency of WOSB firms in the 2016 Department of Commerce report[21].

---

[18] The HUBZone socio-economic group is also without a GWAC.

[19] Data from 8(a) STARS I was determined to be unreliable due to age and was removed from this section's analysis.

[20] For contracts with more than one primary four digit NAICS code, WIPP selected the NAICS code that is expected to be utilized to the greatest extent on task orders.

[21] David N. Beede, Robert N. Rubinovitz, *Utilization of Women-Owned Businesses in Federal Prime Contracting*U.S. Department of Commerce, Office of the Chief Economist, Economics and Statistics Administration, (December 31, 2015), *available at* https://www.sba.gov/sites/default/files/wosb_study_report.pdf

Figure 2 (below), illustrates the difference between WOSB representation in the federal market as a whole, as represented by the Department of Commerce Report, and WOSB participation on the examined contracts. It is important to note, that the benchmark itself already represents a disparity for WOSBs (and hence the expansion of the program).

Figure 2. WOSB Representation in the federal market, MAC Contracts by primary NAICS (contracts appear in chronological order)

Contract Title	Agency	Total Est. Value	Firms on Contract	WOSB on Contract	% WOSB firms	DOC Report %	Difference
SEWP IV	NASA	$5.6 billion	38	7	18.42%	24.48%	-6.06%
VETS	GSA	$5 billion	31	3	9.68%	24.48%	-14.80%
Encore II	DISA	$12.25 billion	26	4	15.38%	22.06%	-6.68%
Alliant SB	GSA	$15 billion	68	24	35.29%	24.48%	10.81%
STARS II	GSA	$10 billion	581	114	19.62%	24.48%	-4.86%
ITSS-IV	DOJ	$1.1 billion	19	0	0.00%	24.48%	-24.48%
CIO SP3-SB	NIH	$20 billion	101	31	30.69%	24.48%	6.21%
EAGLE II	DHS	$22 billion	90	20	22.22%	24.48%	-2.26%
OASIS SB[22]	GSA	$60 billion	129	19	14.73%	35.53%	-20.80%
OS3	GSA	$1.25 billion	24	10	41.67%	23.12%	18.55%
SEWP V	NASA	$20 billion	161	39	24.22%	24.48%	-0.26%
T4NG	VA	$22.3 billion	21	2	9.52%	24.48%	-14.96%
HCATS SB[23]	GSA	$5 billion	37	14	37.84%	30.75%	7.09%

Of the 13 contracts, 8 were worse than the benchmark, meaning the disparity was greater than found by DOC government-wide. The remaining 5 were close to the benchmark meaning that while slightly improved, disparity still pervades these contracts and should be addressed. The

[22] GSA Preliminary marked research indicated NAICS code, 541611, "would best represent the primary services to be provided under task orders" available at https://interact.gsa.gov/blog/selecting-right-naics-code-oasis-seeking-your-feedback

[23] HCATS SB Identified two primary NAICS codes. Both were used and averaged for the calculation.

table below shows the 13 contracts and the supporting data – the final column represents the relationship to the DOC disparity (the darker the shade of red, the more disparity).

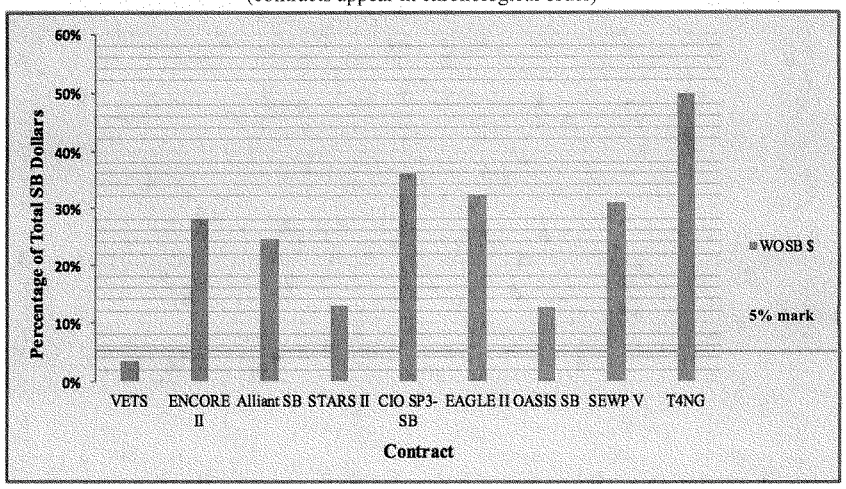
Finding #3: With Access, WOSB Firms Win Work

Of the 19 contracts, only 11 had complete spending data to allow for analysis of actual dollars received. One of those (ITSS IV) had zero women-owned firms and was thus excluded from research of the amount of work WOSBs performed.

WIPP's analysis showed that the 263 WOSBs on the 10 MACs receive substantial work. Of the $24.2 billion spent on these contracts, WOSBs received $4.86 billion – or approximately 20%. Given the government-wide spend with women has only just reached five percent, the 20% on these contracts shows a substantial increase in the ability of WOSBs to win task orders time and again.

These wins were not limited to contracts with WOSB tracks only. For example, NASA's SEWP V contract, which includes large and small businesses, has awarded over 24% of total contract spend to 39 women-owned firms in the last year and a half. Only one contract (VETS) was below the five percent threshold. Figure 3 shows the percentage of dollars on each contract awarded to WOSBs. It includes a marker for the five percent threshold to provide visual context of the goal.

Figure 3. Percent of Spend with WOSB
(contracts appear in chronological order)



Additional Findings

Certain MAC RFPs Inherently Create Barriers for Small Firms

In reviewing the Request for Proposals (RFPs) for each of these contracts, WIPP identified concerning requirements that may act as barriers for participation of WOSBs, and small businesses more generally.

Specifically, GSA recently issued an RFP for an Alliant 2 Small Business and an Alliant 2 unrestricted contract, as a follow-on to the popular first generation IT-based Alliant contracts. While the total value for Alliant 2 unrestricted increased, the past performance requirements on both Alliant unrestricted and the small business contract are so burdensome there are few firms that can meet the requirements. The unrestricted contract requirements are burdensome, including DCAA audits, and disproportionate past task order awards; they effectively exclude all but the largest firms from competing. The small business contract will only accept prime contractor experience for past performance requirements. While this is just one example, it shows that barriers women face are not only written in the FAR, but also in individual RFPs.

Disparities Not Limited to WOSBs

In the research, WOSBs were not the only socio-economic group inexplicably excluded from certain contracts. One contract (ENCORE III) had no track for 8(a), while another (SEWP IV) lacked a HUBZone track. As a matter of principle, socio-economic groups under the Small Business Act should experience parity with respect to government contracts. In addition, many WOSBs also qualify for SDVOSB, 8(a) and the HUBZone program; in fact WOSBs are more likely (52%) to report belonging to groups for which the Federal government has contracting goals compared to 38% of other small businesses[24].

Conclusions and Recommendations

The federal market is in the midst of a seismic change. Beginning decades ago, new contract types and strategies are developed in efforts to improve the acquisition process and assure the government best value. These changes, however, affect women-owned companies. While there are certainly benefits to MACs, including federal supply schedules, GWACS and IDIQs, they all constrain participation especially for small and midsize companies. Government acquisition experts may consider them necessary for 21st century procurement, but by their very definition,

[24]David N. Beede, Robert N. Rubinovitz, *Utilization of Women-Owned Businesses in Federal Prime Contracting*U.S. Department of Commerce, Office of the Chief Economist, Economics and Statistics Administration, (December 31, 2015), *available at* https://www.sba.gov/sites/default/files/wosb_study_report.pdf

they limit competition – inhibiting the ability of small businesses in particular, to pursue certain opportunities.

The initial costs of these contracts are much harder for smaller businesses to bear than their larger counterparts, both in terms of resources and time (e.g. the nearly year-long waiting period to get on certain GSA Schedules). Similarly, it appears that the government's vision of procurement is one that seeks to categorize customized services into narrow categories. However, individual agencies, due to their distinct missions and programs, have unique requirements.

WIPP's research into this changing nature of procurement has found that women business owners continue to face barriers when contracting with the federal market. As contracts become bigger and span longer periods of time, advocates have fewer and fewer opportunities to push for changes that can ensure innovative and competitive women entrepreneurs have a fair chance at awards.

Like all research projects, the universe of MACs was too vast to examine. We chose instead to examine a sample of the largest contracts to see if trends could be identified. Nevertheless, the findings suggest that the deeper research goes, the more contracts with systemic barriers for entry will be found. To combat this, WIPP proposes the following recommendations based on the finding of this report:

1. Ensure Parity When Adding Tracks

MACs that contain a socio-economic set-aside track(s), should have tracks for all groups, including WOSB, HUBZone, 8(a), and SDVOSB. This would align these major contracts with the consistent belief of Congress and agencies that there should be no preference among socio-economic categories. Alternatively, contracts can be made without tracks (e.g. only large and small pools), but efforts to secure a diverse pool of companies should be made.

The WOSBs that successfully gained access to these MACs have received significant work. This shows that given the opportunity, WOSBs can successfully compete for federal work.

2. Create a WOSB GWAC

The most obvious disparity between socio-economic groups is the existence of exclusive contracts for individual groups—i.e. the STARS I & II 8(a) contracts and VETS I & II for SDVOSBs. These contracts guarantee significant work goes to these communities.

8(a) firms have already received over $8 billion from both STARS contracts and veteran-owned firms have received over $1.6 billion from VETS, with more expected on the follow-on VETS II. WIPP recognizes the need for agencies to achieve individual socio-economic goals, and is seeking a GSA WOSB GWAC to assist agencies in reaching WOSB goals.

3. Add and Enforce Onboarding Processes on Major Contracts

The growing duration of these contracts – some are 10 years long – presents another barrier for women-owned firms that have been overlooked in the award process. Given the disparity found in this report, it seems appropriate that remedies happen sooner rather than later.

One option is to have a robust onboarding process, which effectively allows more firms to join a contract already in process. This could also alleviate disparities found for other groups (as seen in Appendix 3). This change benefits the government as well. Innovations and new ventures, especially in IT, cannot be added without an onboarding process.

This recommendation is not new, particularly for WIPP, which has advocated for improved onboarding process. Agencies can onboard new businesses to a MAC for a number of reasons including specific business contract expiration, small businesses exceeding small business size standards, and agency interest in additional socio-economic groups on the contract[25]. In September 2016, GSA announced plans to open Pool 2 of OASIS Small Business, the largest professional services MAC, to ensure there are multiple small businesses for competitive set-asides from each socio-economic group[26]. The announced steps are a good example of inclusive onboarding, and one GSA should utilize for other contracts where WOSBs are underrepresented.

In the course of research for this report WIPP found a number of women-owned, and other small businesses, were purchased by large businesses. While the acquisition of a business can be optimal for a small business owner, in the cases where the purchase alters the small business size status, agencies should utilize onboarding. In doing so, agencies can ensure a sufficient number of small businesses of all types can perform work on a contract.

More research is necessary to determine the utilization of onboarding authority, however, anecdotal evidence suggests this rarely occurs. WIPP recommends that agencies onboard WOSBs for MAC contracts over $1 billion that do not have a track for WOSB, and where

[25] Aaron Boyd, *NIH wants more veteran, HUBZone small businesses on GWAC,* Federal Times, (March 17, 2016) available at, http://www.federaltimes.com/story/government/it/health/2016/03/17/cio-sp3-ramp-on/81905732/.

[26] Daniel Snyder, Look Ahead: OASIS Small Business Begins Open Season, Bloomberg Government (September 20, 2016) available at, https://www.bgov.com/core/news/#!/articles/ODTB5N6JIJUT?_Procurement_20160923=&etReferrerLink=Contracting_

women-owned firms are underrepresented to an even greater degree than defined in the 2016 U.S. Department of Commerce Report.

4. Report Socio-Economic Status of Contract Holders

While some multiple award contracts publish the socio-economic status of vendors alongside vendor name and contract point of contact, not all agencies make this information easily accessible. For example, GSA published a list of OS3 awardees by both size and socio-economic status[27]. In contrast, GSA did not publish socio-economic status for vendors on the recently awarded HCATS contract[28]. If federal agencies made socio-economic information available for women-owned firms, it would help contracting agencies identify the WOSBs that can assist the agency in reaching contracting goals as well as make diversity among types of firms obvious.

Looking Forward

Over a third of contracts WIPP analyzed are either draft RFPs, recently issued RFPs, or too new to provide spend data. An emphasis was placed on looking forward because WIPP is committed to making more opportunities available for women entrepreneurs.

More than $20 billion will be awarded on these contracts in the coming years. Ensuring that WOSBs have adequate access should be paramount to the nation's economy. Agencies are encouraged to review contracts that expect significant spend to find ways to include women-owned firms.

Agencies can correct this inequity by using strategies they already use such as development of separate tracks and onboarding. Ensuring WOSBs have a fair shot at participating in the federal acquisition process will not only bring parity to the 10 million women entrepreneurs currently contributing to the US economy, but will serve to strengthen the small business industrial base this nation depends upon.

In the course of research for this report errors in individual contracts were identified. Agencies were notified and in many cases made the necessary adjustments. For example, DISA's upcoming $17.5 billion information technology contract, Encore III contained a track for EDWOSB, though the assigned contract NAICS code is for WOSB. DISA was notified of this error, and in September 2016 the Encore III RFP was reissued with the appropriate NAICS code. Given the scale of the federal government's buying – more than $400 billion each year – these

[27] General Services Administration, Awarded Vendors and solution Portals (FSSI OS3) (2016) available at http://gsa.gov/portal/content/207247

[28] General Services Administration, Human Capital and Training Solutions (HCATS) (2016) available at http://www.gsa.gov/portal/content/124018

kinds of issues are to be expected. A shrinking contracting workforce and changing technologies require constant focus and attention of thousands of men and women across the country.

WIPP is grateful to the entire acquisition workforce and looks forward to working with procurement personnel to ensure that women business owners have the access, education, and ability to compete for and win government contracts – ultimately providing the federal government with innovative and cost-effective solutions.

Data Sources and Methodology

The aim of this report is to look at federal contracting outcomes for women-owned small businesses on large MAC contracts, in comparison to other small businesses. To do so, WIPP selected nineteen well known, utilized, and anticipated multiple award contracts (MACs) from seven of the largest buying agencies including the U.S. Department of Defense (DOD), the U.S. Department of Health and Human Services (HHS), the U.S. Department of Veterans Affairs (VA), the U.S. Department of Homeland Security (DHS), The U.S. General Services Administration (GSA), the National Aeronautics and Space Administration (NASA), and the U.S. Department of Justice (DOJ).

Contracts were also selected based on their usage by either components of an agency, like Information Technology Support Services IV at DOJ, or government-wide use like NASAs Solutions for Enterprise Government (SEWP) V.

In order to examine MAC contract scope and spend over time and industry, the contracts all have estimated values greater than $1 billion and span from fiscal year 2004 to 2029. The contracts also cover varied industries including information technology, human capital and training, and office supplies with a total estimated value greater than $250 billion.

Federal contracting data was compiled using Bloomberg Government, federal agency materials, the System for Award Management (SAM), and SBA's Dynamic Small Business Search (DSBS). To look at the MAC contract landscape beyond fiscal year 2016, Bloomberg Government, Federal Business Opportunities (FBO), and industry publications were utilized.

Appendix 1 includes the details of each contract in this research. The data used to support this analysis can be made available upon request.

Appendix 1: Overview of Contracts Included in Analysis

Spending and award data accurate as of August 18, 2016. Contracts are listed in alphabetical order (by MAC acronym).

ALLIANT SMALL BUSINESS (GSA)
FY2009- FY2019
http://www.gsa.gov/portal/content/104964

Alliant Small Business provides agencies flexible access to customized IT solutions from a large, diverse pool of small businesses. Alliant Small Business also allows for long-term planning of agency large-scale program requirements.

Small business set-aside contract
Track: All Small Business
Dollars Obligated: $4.365 billion
Total Estimated Value: $15 billion
Number of firms on Contract: 68
Small business contract dollars: $3.25 billion
WOSB on contract receiving task orders: 24
WOSB contract dollars: $795.3 million
Contract Access Fee: 0.75%
Primary NAICS: 5415

ALLIANT SMALL BUSINESS II (GSA)
FY2018- FY2028
http://www.gsa.gov/portal/content/183035

Alliant Small Business II, is expected to provide agencies flexible access to customized IT solutions from a large, diverse pool of small businesses. Alliant Small Business will allow for long-term planning of agency large-scale program requirements.

Small business set-aside contract
Track: All Small Business
Dollars Obligated: n/a
Total Estimated Value: $15 billion
Number of firms on Contract: 80 are anticipated
Small business contract dollars: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: 0.75%
Primary NAICS: 5415

CHIEF INFORMATION OFFICER- SOLUTIONS AND PARTNERS 3 (CIO SP3 SB) (NIH)[29]
FY2012- FY2022
https://nitaac.nih.gov/services/cio-sp3-small-business

CIO SP3 SB offers a wide range of labor categories for task order in support of everying IT and offers a wide range of IT services, spanning ten task areas.

Single contact with large and small businesses
Track: HUBZone, SDVOSB, 8(a), WOSB, EDWOSB
Dollars Obligated: $164 million
Total Estimated Value: $20 billion
Number of firms on Contract: 94 total (87 small business)
Small business contract dollars: $1.87 billion
WOSB on contract receiving task orders: 13
WOSB contract dollars: $671.7 million
Contract Access Fee: 0.55% with a cap of $150,000 for any task order base or optional period (not to exceed 12 months) with funding in excess of $27 million
Primary NAICS: 5415

ENTERPRISE ACQUISTION GATEWAY FOR LEADING EDGE SOLUTIONS (EAGLE) II (DHS)
FY2013- FY2020
https://www.dhs.gov/eagle-ii

Eagle II is specifically designed as the preferred source of information technology (IT) services for the majority of the Department of Homeland Security's (DHS's) enterprise infrastructure and initiatives.

Single contact with large and small businesses
Track: 8(a), HUBZone, SDVOSB, all small
Dollars Obligated: $1.2 billion
Total Estimated Value: $22 billion
Number of firms on Contract: 90 (61 small businesses)
Small business contract dollars: $554.85 million
WOSB on contract receiving task orders: 20
WOSB contract dollars: $179.8 million
Contract Access Fee: no fee for DHS components
Primary NAICS: 5415

[29] The Primary NAICS for this contract is 541512 (Computer Systems Design Services) was moved from the EDWOSB program to the WOSB program in March 2016.

ENCORE II (DISA-DOD)
FY2008- FY2018
http://www.disa.mil/mission-support/contracting

Encore II provides technical solutions for DOD in support of migration to an integrated and interoperable DOD Information Network, as well as other federal agency IT hardware/software, migration and integration needs.

Single contact with large and small businesses
Track: At least one award to the following categories: HUBZone, WOSB, and SDVOSB, in addition to other small businesses.
Dollars Obligated: $4,866,007,468
Total Estimated Value: $12,225,000,000
Number of firms on Contract: 26 firms (12 small businesses)
Small business contract dollars: $785,779,355
WOSB on contract receiving task orders: 4
WOSB contract dollars: $220,447,947
Contract Access Fee: 1% external agency fee
Primary NAICS: 4517

ENCORE III (DISA-DOD)
FY2018- FY2029
https://www.fbo.gov/index?s=opportunity&mode=form&id=02f89205a546e6874148234739e9ac95&tab=core&_cview=1

Encore III is expected to provide technical solutions for DOD in support of migration to an integrated and interoperable DOD Information Network, as well as other federal agency IT hardware/software, migration and integration needs.

Single contact with large and small businesses
Track: Government intends to maintain at least one small business in each set-aside HUBZone, SDVOSB, and WOSB
Dollars Obligated: n/a
Total Estimated Value: $17.5 billion
Program Duration: tbd
Number of firms on Contract: n/a
Small business contract dollars: n/a
WOSB on contract: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: 1% external agency fee
Primary NAICS: 5415

FLEXIBLE AGILE SUPPORT FOR THE HOMELAND (FLASH) (DHS)
Anticipated FY2017-FY2027
https://fcw.com/articles/2016/06/28/dhs-flash-vehicle.aspx

FLASH is expected to provide DHS with agile design and development support services. The contract will include concepts from the U.S. Digital Services Playbook such as user-centered design, dev-ops, automated testing and agile.

Small Business set-aside contract
Track: all small business
Dollars Obligated: n/a
Total Estimated Value: $1.54 billion
Program Duration: n/a
Number of firms on Contract: n/a
Small business contract dollars: n/a
WOSB on contract: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: tbd
Primary NAICS: 5415

HUMAN CAPITAL AND TRAINING SOLUTIONS (HCATS) (GSA)
FY2016- FY2022
http://www.gsa.gov/portal/category/100378

HCATS is a partnership between the U.S. Office of Personnel Management (OPM) and the General Services Administration (GSA). The solution is a new government-wide contract to support OPM's Training and Management Assistance (TMA) program, and provides customized human capital management and training services to all agencies.

Small business set-aside contract
Track: all small business
Dollars Obligated: n/a
Total Estimated Value: $5 billion
Number of firms on Contract: 37
Small business contract dollars: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: 2%
Primary NAICS: 6114

INFORMATION TECHNOLOGY SUPPORT SERVICES (ITSS-IV) (DOJ)
FY2012-FY2017
https://www.justice.gov/business/itss

ITSS-IV is a competitive contract designed to provide IT services to DOJ components.

Single contact with large and small businesses
Track: all small business
Dollars Obligated: $388 million
Total Estimated Value: $1.1 billion
Number of firms on Contract: 19 (3 small businesses)
Small business contract dollars: $21.49 million
WOSB on contract: 0
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: $0-$1M 3.5%, $1M- $10M 2%, >10M 0.5%
Primary NAICS: 5415

INFORMATION TECHNOLOGY SUPPORT SERVICES (ITSS-V) (DOJ)
FY2016-FY2021
https://www.justice.gov/business/itss

Information Technology Support Services (ITSS-5) is expected to be competitive IDIQ contract providing IT services to DOJ components.

Single contact with large and small businesses
Track: all small business
Dollars Obligated: n/a
Total Estimated Value: $1.4 billion
Number of firms on Contract: n/a
Small business contract dollars: n/a
WOSB on contract: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: fee-for-service
Primary NAICS: 5415

OASIS SMALL BUSINESS (GSA)
FY2014- FY2024
http://www.gsa.gov/portal/category/104731

OASIS Small business provides agencies with flexible and innovative solutions for complex professional services. The contract spans multiple professional services disciplines, and spans many areas of expertise.
Small business set-aside contract
Track: All Small Business
Dollars Obligated: $848.1 million
Total Estimated Value: $60 billion
Number of firms on Contract: 129
Small business contract dollars: $848.1 million
WOSB on contract receiving task orders: 19
WOSB contract dollars: $107 million
Contract Access Fee: < 0.75% (0-100M, 0.75%. 100M-250M,0.5%. 250M-500M, 0.25%. 500M over, 0.1%)
Primary NAICS: 5416

OFFICE SUPPLIES III (OS3) (GSA)
FY2015-FY2020
http://www.gsa.gov/portal/content/195439

OS3 is GSA's government-wide solution for the procurement of office supplies. The solution includes a wide range of products including paper, toner/ink, and features like in-store and express delivery options.

Single contact with large and small businesses
Track: SDVOSB, Partnership Agreement, HUBZone
Dollars Obligated: tbd
Total Estimated Value: $1.25 billion
Number of firms on Contract: 24 (23 small businesses)
Small business contract dollars:
WOSB on contract receiving task orders: 10
WOSB contract dollars: n/a
Contract Access Fee: n/a
Primary NAICS: 3399

SOLUTIONS FOR ENTERPRISE-WIDE PROCUREMENT (SEWP IV) (NASA)
FY2007- FY2015
http://www.sewp.nasa.gov/

SEWP (pronounced 'soup') is a multi-award Government-Wide Acquisition Contract (GWAC) vehicle focused on commercial IT products and product based services.

Single contact with large and small businesses
Track: Small Business, SDVOSB, 8(a) non-competitive with limited work up to $4 million.
Dollars Obligated: $15.5 billion
Total Estimated Value: $5.6 billion
Number of firms on Contract: 38 total (30 small business)
Small business contract dollars: $9.09 billion
WOSB on contract receiving task orders: 7
WOSB contract dollars: $1.1 billion
Contract Access Fee: 0.45% for $0 - $2,222,222, and $10,000 cap for $2,222,222 on up
Primary NAICS: 5415

SOLUTIONS FOR ENTERPRISE-WIDE PROCUREMENT (SEWP V) (NASA)
FY2015- FY2025
http://www.sewp.nasa.gov/

SEWP (pronounced 'soup') is a multi-award Government-Wide Acquisition Contract (GWAC) vehicle focused on commercial IT products and product based services.

Single contact with large and small businesses
Track: Small Business, HUBZone, SDVOSB
Dollars Obligated: $2.6 billion
Total Estimated Value: $20 billion
Number of firms on Contract: 161 total (120 small business)
Small business contract dollars: $2.2 billion
WOSB on contract receiving task orders: 39
WOSB contract dollars: $667.5 million
Contract Access Fee: 0.39%
Primary NAICS: 5415

STARS I (GSA)
FY2004- FY2011
http://www.gsa.gov/portal/content/105243#

8(a) STARS I provided flexible access to customized IT solutions including custom computer programming services, computer systems design services, computer facilities management services; and other computer related services.

Small business set-aside contract
Track: 8(a)
Dollars Obligated: $4.3 billion
Total Estimated Value: $15 billion
Number of firms on Contract: 217
Small business contract dollars: $4.3 billion
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: 0.75%
Primary NAICS: 5415

STARS II (GSA)
FY2011- FY2021
http://www.gsa.gov/portal/content/105243#

8(a) STARS II provides flexible access to customized IT solutions including custom computer programming services, computer systems design services, computer facilities management services; and other computer related services.

Small business set-aside contract
Track: 8(a)
Dollars Obligated: $4 billion
Total Estimated Value: $10 billion
Number of firms on Contract: 581
Small business contract dollars: $4 billion
WOSB on contract receiving task orders: 114
WOSB contract dollars: $526.1 million
Contract Access Fee: 0.75%
Primary NAICS: 5415

TOTAL TECHNOLOGY NEXT GENERATION (T4NG) (VA)
FY2016- FY2026
https://www.voa.va.gov/

T4NG is expected to deliver contractor-provided information technology service solutions, including technical support. program management, strategy planning, and systems/software engineering. The T4NG contract supports the Department of Veterans Affairs MyVA transformation effort.

Single contact with large and small businesses
Track: all small business
Dollars Obligated: $61.6 million
Total Estimated Value: $22.3 billion
Number of firms on Contract: 21 (10 SDVOSB, 2 SB, 9 large business)
Small business contract dollars: $26.3 million
WOSB on contract: 2
WOSB on contract receiving task orders: 1
WOSB contract dollars: $13.1 million
Contract Access Fee: n/a
Primary NAICS: 5415

VETS (GSA)
FY2007- FY2017
http://www.gsa.gov/portal/content/104996

Veterans Technology Services (VETS), a small business set-aside GWAC, provides flexible access to customized IT solutions from a qualified, diverse pool of service-disabled, veteran-owned small businesses.

Small business set-aside contract
Track: SDVOSB
Dollars Obligated: $1.6 billion
Total Estimated Value: $5 billion
Number of firms on Contract: 31
Small business contract dollars: $1.6 billion
WOSB on contract receiving task orders: 3
WOSB contract dollars: $56.3 million
Contract Access Fee: 0.75%
Primary NAICS: 5415

VETS II (GSA)
FY2017- FY2027
http://www.gsa.gov/portal/content/104996

Veterans Technology Services II (VETS), is expected to be an SDVOSB set-aside GWAC, providing flexible access to customized IT solutions from a qualified and diverse pool of service-disabled, veteran-owned small businesses.

Small business set-aside contract
Track: SDVOSB
Dollars Obligated: n/a
Total Estimated Value: $5 billion
Number of firms on Contract: n/a
Small business contract dollars: n/a
WOSB on contract receiving task orders: n/a
WOSB contract dollars: n/a
Contract Access Fee: 0.75%
Primary NAICS: 5415

Appendix 2: Women-Owned Small Business Procurement Program Chronology

12/21/2000	Enactment of P.L. 106-554, the SBA Reauthorization Act of 2000 including Section 811, adds Section 8(m), the Women Owned Small Business (WOSB) Procurement Program, to the Small Business Act
9/2001	SBA completes a study identifying industries under-represented by women-owned small businesses
3/2005	The National Academy of Sciences (NAS) issues an independent evaluation of SBA's study of underrepresented industries, and finds the SBA study to be insufficient
10/2005	SBA issues a solicitation seeking a contractor to perform a revised study in accordance with the NAS report
2/2006	SBA awards a contract to Kauffman-Rand Institute for Entrepreneurship Public Policy (RAND) to complete a revised study of the availability and utilization of women-owned business in federal prime contracting
6/16/2006	SBA issues a proposed rule implementing the WOSB Program
4/2007	RAND completes the revised study
12/27/2007	SBA issues a revised proposed rule to implement the WOSB Program
2/28/2008	SBA reopens comment period for the 12/27/2007 revised proposed rule to make technical corrections
10/1/2008	SBA seeks comments on data used to asses under representation of WOSBs in federal contracting
10/1/2008	SBA issues final rule on WOSB Federal Contract Assistance Procedures
10/16/2008	SBA issues corrected final rule on WOSB Federal Contract Assistance Procedures
1/12/2009	SBA reopens comment period on the data used for the assessment of under-represented industries
3/4/2010	SBA withdraws prior proposed rule published in October 2008, and issues new proposed rules
10/7/2010	SBA issues final rule on WOSB Federal Contract Program, effective February 4, 2011
2/4/2011	WOSB Federal Contract Program begins

1/2/2013	Enactment of P.L. 112-239, the National Defense Authorization Act for fiscal year 2012, includes Section 1697, which removed dollar limitations on the size of contracts women are eligible to receive under the WOSB Federal Contract Program
5/7/2013	SBA issues interim final rule removing dollar limitations in accordance with P.L. 112-239
12/19/2014	Enactment of P.L. 113-291, the National Defense Authorization Act for fiscal year 2015, which includes section 825, requiring a new study of industries by January, 2016, authorizing sole source awards, and requiring advanced certification
5/1/2015	SBA issues a proposed rule implementing WOSB sole source authority
9/14/15	SBA issues final rule implementing WOSB sole source authority
12/18/2015	SBA issues Advanced Notice of Proposed Rulemaking on WOSB Certification
12/30/2015	SBA sends Congress a new report on WOSB underrepresentation by NAICS code
2/20/2016	SBA announces the federal government has achieved the five percent WOSB goal for the first time
03/3/2016	SBA issues a WOSB Program update in the Federal Register, announcing new WOSB Program NAICS codes effective immediately, based on the 12/30/2015 report

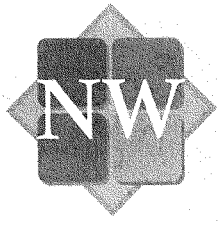
Appendix 3: Overview of "Tracks" on MACs

The below table includes the list of socio-economic tracks on the MACs reviewed (contracts appear in sequential order):

Contract	Total Est. Value	SDVOSB	HUBZone	8(a)	WOSB
STARS	$15 billion			X	
SEWP IV	$5.6 billion	X		X	
VETS	$5 billion	X			
ENCORE II	$12.2 billion	X	X		X
STARS II	$10 billion			X	
CIO SP3-SB	$20 billion	X	X	X	X
EAGLE II	$22 billion	X	X	X	
SEWP V	$20 billion	X	X		
OS3	$1.25 billion	X	X		
T4NG	$22.3 billion	X			
Encore III	$17.5 billion	X	X		X
VETS II	$5 billion	X			

WIPP
Women Impacting Public Policy

ABOUT WIPP The Voice for Women in Business in our Nation's Capital, Women Impacting Public Policy, Inc. (WIPP) is a national nonpartisan public policy organization that advocates for and on behalf of women business owners in the legislative processes of our nation, creating economic opportunities and building bridges and alliances to other small business organizations. Through WIPP, our collective voice makes a powerful impact on Capitol Hill and with the Administration.



ABOUT NEXTWIN NextWin Services is a consulting firm specializing in federal government contracting providing support to firms and organizations engaged in procurement and procurement policy. Services provided include business development and business intelligence, data analysis and trend recognition, as well as strategic advisory consulting.

Utilization of Women-Owned Businesses in Federal Prime Contracting

Report Prepared for the Women-Owned Small Business Program of the Small Business Administration

David N. Beede
Economist

Robert N. Rubinovitz
Deputy Chief Economist

Office of the Chief Economist
Economics and Statistics Administration
U.S. Department of Commerce
December 31, 2015







The authors of this report wish to acknowledge extremely helpful assistance from economists William Hawk, Rudy Telles, Jr., and Mary Vansuch in the Office of the Chief Economist.

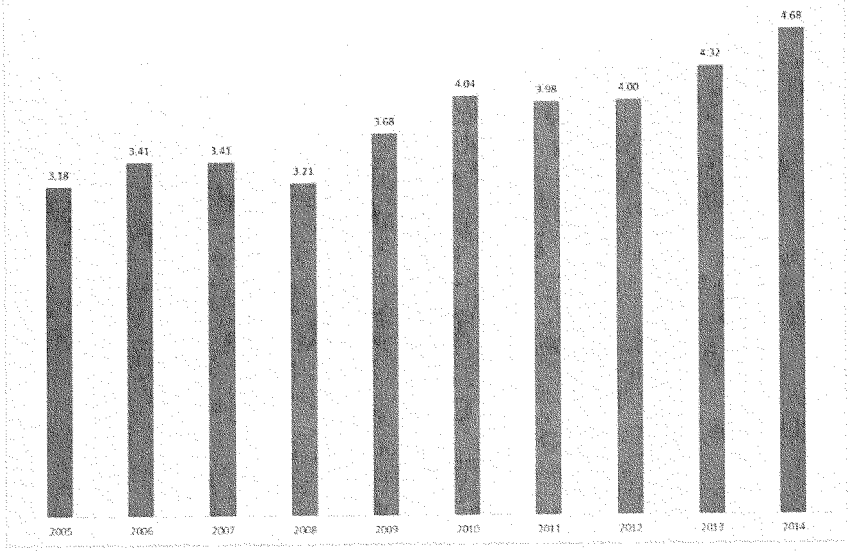
Introduction

The Small Business Administration (SBA) is responsible for implementing and administering the Women-Owned Small Business (WOSB)[1] Federal Contract Program, which went into effect on February 4, 2011. The purpose of the WOSB Program is to ensure that women-owned small business have an equal opportunity to participate in Federal contracting and to help attain the Federal government's goal of awarding five percent of its prime contract dollars to WOSBs.[2] The WOSB Program authorizes Federal contracting officers to restrict competition for an acquisition to WOSBs if there is "a reasonable expectation" that at least two WOSBs will submit offers that meet the requirements of the acquisition "at a fair and reasonable price" and if the acquisition is for a good or service in a North American Industry Classification System (NAICS) industry code in which SBA has determined that WOSBs are "substantially underrepresented." The Program also authorizes contracting officers to award sole source contracts to a WOSB if only one WOSB can be identified that can perform the contract at a fair and reasonable price. Prior to May 7, 2013, competitive contracts under the WOSB Program were capped at $6.5 million for manufacturing contracts and $4 million for all other contracts. SBA issued a rule effective May 7, 2013 that removed the caps on set-aside award size for which WOSBs and Economically Disadvantaged WOSBs (EDWOSBs) concerns are able to compete. EDWOSBs[3] can receive set-asides similar to those described above for WOSBs but in a broader set of industries where SBA has determined that WOSBs are "underrepresented" but not substantially so.

The five percent goal has never been attained (see figure 1), although the share of dollars awarded to WOSBs rose from 3.2 percent in FY 2005 to 4.0 percent in FY 2010 where it remained through FY 2012. The share increased sharply to 4.3 percent in FY 2013 and 4.7 percent in 2014.

[1] A WOSB is a small (as defined by SBA) business that is at least 51 percent owned and controlled by one or more women.
[2] See 13 CFR 127.100.
[3] EDWOSBs are WOSBs that are controlled by one or more women who are citizens and who are economically disadvantaged in accordance with SBA regulations.

Figure 1: Percent of Federal Prime Contracting Dollars Awarded to Women-Owned Small Businesses, FY 2005-2014



Source: https://www.fpds.gov/fpdsng_cms/index.php/en/reports

Table 1 shows the breakdown of dollars obligated under contracts awarded to WOSBs and all firms (including WOSBs) in fiscal years 2012 through 2014. About 62-64 percent of dollars obligated under contracts to WOSBs were under various set aside programs, compared to about 13-15 percent for all firms. Roughly 56-58 percent of net dollars obligated to WOSBs was accounted for by small business set asides and the 8(a) business development program, compared to about 11-13 percent for all firms. Net dollars obligated under the WOSB program accounted for a small share for WOSBs ($71 million or 0.4 percent in FY 2012, the first full year the WOSB program was in effect) but grew rapidly since then (to $179 million or roughly one percent in FY 2014, of which $72 million went to Economically Disadvantaged WOSBs and $107 million to other WOSBs).

Table 1: Dollars Obligated to WOSBs and All Firms under Set Aside Programs FY 2012-2014

	FY 2012				FY 2013				FY 2014			
	WOSB		All Firms		WOSB		All Firms		WOSB		All Firms	
	$Millions	Percent	$Millions	Percent	$Millions	Percent	$Millions	Percent	$Millions	Percent	$Millions	Percent
Total	16,180	100.0%	404,180	100.0%	15,365	100.0%	355,413	100.0%	17,177	100.0%	366,824	100.0%
No Set-Asides	6,130	37.9%	351,380	86.9%	5,633	36.7%	305,437	85.9%	6,177	36.0%	310,011	84.5%
Small Business Set Asides	4,745	29.3%	28,081	6.9%	5,162	33.6%	28,017	7.9%	6,042	35.2%	32,462	8.8%
8(a) Sole Source	2,307	14.3%	8,948	2.2%	1,890	12.3%	7,414	2.1%	2,068	12.0%	8,635	2.4%
8(a) Competed	1,979	12.2%	6,985	1.7%	1,739	11.3%	6,699	1.9%	1,838	10.7%	7,766	2.1%
HUBZone Set Aside and Sole Source	494	3.1%	2,034	0.5%	523	3.4%	1,768	0.5%	532	3.1%	1,683	0.5%
Small Business Partial Set Aside	242	1.5%	1,986	0.5%	104	0.7%	1,384	0.4%	155	0.9%	1,204	0.3%
Service Disabled Veteran Owned Small Business Set-Aside	186	1.1%	4,323	1.1%	195	1.3%	4,343	1.2%	169	1.0%	4,654	1.3%
Economically Disadvantaged Women Owned Small Business	39	0.2%	39	0.0%	61	0.4%	61	0.0%	72	0.4%	72	0.0%
Women Owned Small Business	32	0.2%	32	0.0%	40	0.3%	40	0.0%	107	0.6%	107	0.0%
Service Disabled Veteran Owned Small Business Sole Source	17	0.1%	255	0.1%	14	0.1%	176	0.0%	10	0.1%	121	0.0%
Other	7	0.0%	55	0.0%	1	0.0%	32	0.0%	6	0.0%	61	0.0%
Veteran Set Aside and Sole Source	2	0.0%	63	0.0%	3	0.0%	43	0.0%	2	0.0%	51	0.0%
Memo: Total Under WOSB Program	***71***	0.4%	***71***	0.0%	***100***	0.7%	***100***	0.0%	***179***	1.0%	***179***	0.0%
Memo: WOSB share of total dollars		4.0031%				4.3231%				4.6826%		

Note: "Small Business Set Asides" predominantly consists of net dollars obligated exclusively (as opposed to "partial" set asides) under the Small Business set aside program plus much smaller amounts under the Emerging Small Business and several other largely phased out small business set aside programs. "Other" includes net dollars obligated under the Buy Indian, Historically Black Colleges and Universities/Minority Institution, and Small Disadvantaged Business set aside programs. Sums may not be exact due to rounding.
Source: Federal Procurement Data System

Currently, SBA's designation of industries with underrepresentation or substantial underrepresentation of WOSBs is based on an analysis performed by the RAND Corporation that was published in a 2007 report.[4] In 2015, SBA asked the Office of the Chief Economist (OCE) of the U.S. Department of Commerce (DOC)[5] for assistance in conducting a new study on the WOSB Program, as required by statute, which would analyze data to help SBA determine those NAICS codes in which WOSBs are underrepresented and substantially underrepresented in Federal contracting. As discussed in more detail below, OCE looked at whether, holding constant various factors that might influence the award of a contract, the odds of winning Federal prime contracts by firms that were owned by women were greater or less than the odds of winning contracts by otherwise similar businesses.

Overview of Results

Overall we find (as demonstrated in Table 5) that the odds of winning a contract for Woman-Owned Businesses (WOBs) are estimated to be roughly 21 percent lower relative to the odds of winning contracts by otherwise similar firms that were not identified as WOBs. In our analysis, we control for

[4] Reardon, Elaine, Nancy Nicosia, and Nancy Y. Moore. *The Utilization of Women-Owned Small Businesses in Federal Contracting.* The RAND Corporation. 2007.
(http://www.rand.org/content/dam/rand/pubs/technical_reports/2007/RAND_TR442.pdf)

[5] OCE is located in the Economics and Statistics Administration of the U.S. Department of Commerce.

the size and age of the firm; its membership in various categories of firms for which the Federal government has government-wide prime contracting goals; its legal form of organization; its level of government security clearance; and its Federal prime contracting past performance ratings.

We also looked at whether WOBs typically have significantly different experiences in winning contracts depending on their industry. We performed this analysis at the four-digit NAICS industry group level[6], including each firm in our sample in an industry analysis if the firm had registered as being able to perform work in that industry or if the firm had won a contract assigned to that industry.

The industry-specific results on the odds of winning contracts vary considerably. We find (see Table 6) that in 109 industries (36 percent of the total) WOBs have statistically significant[7] lower odds of winning contracts, covering 62 percent of contracts and nearly two-thirds of dollars obligated under contracts awarded in FY 2013 or 2014. In an additional 145 (48 percent) of the 304 industries included in our study the odds of WOBs winning contracts were lower than those of otherwise similar non-WOBs but in these cases there is not a statistically significant difference between the odds of winning contracts for the two groups. Overall, the industries in which WOBs are less likely to win contracts account for about 85 percent of contracts and of dollars obligated in Fiscal Years 2013-2014 (which is the period in which our data originated).WOBs have *greater* odds (none statistically significant) of winning contracts than otherwise similar non-WOBs in only 16 percent of industries.

Data

The goal of this report is to look at contracting outcomes among WOBs compared to other firms. In order to do this, we constructed a database of firms that might reasonably have been expected to be ready, willing and able to compete for Federal contracts, along with information on which of these firms actually won contract awards, over FY 2013-2014 (that is, the two year period from October 1, 2012 through September 30, 2014). In this database, we also have information on firm characteristics (such as size and age) as well as information identifying which firms belong to certain groups (in addition to ownership by women) for which the federal government has government-wide prime contracting goals. We also obtained information on past performance ratings of firms (reflecting the judgments of Federal contract officers) that have won federal prime contracts in the past.

Data on Entities Registered to Compete for Federal Prime Contracts

Firms that wish to compete for Federal prime contracts generally must register as potential contractors. This involves filling out a form on-line using the System for Award Management (SAM) which is operated by the General Services Administration (GSA) of the U.S. Federal government.[8] Because there is no fee

[6] NAICS is a hierarchical industry classification system in that as more digits are added to the code, the industry classifications become more narrowly defined and more sparsely populated by firms.

[7] By "statistically significant" we mean that the relationship is estimated precisely enough that one can say with a degree of confidence that the odds ratio is different from 1 (an odds ratio of 1 implies the odds of WOBs winning contracts is the same as the odds of other firms winning).

[8] More details about the SAM data are available at www.sam.gov. We define a "firm" as a SAM registrant and use its DUNS number to identify it. A DUNS number is a unique business establishment identifier maintained by Dun & Bradstreet that registrants must obtain in order to register in SAM. Multiple establishments, each with their own DUNS number, can belong to a single parent company (with its own distinct DUNS number). Due to contractual agreements between Dun & Bradstreet and the General Services Administration, we were not able to obtain access to the parent company DUNS numbers. Therefore, we

it is a low-cost way for a firm to self-identify as being interested in competing for Federal contracts. Registration in SAM must be re-certified by the firm each year.

Firms that register in SAM must indicate the industries in which they are able to provide goods or services, using the six-digit North American Industry Classification (NAICS) codes. NAICS is a hierarchical classification system in that as more digits are added to the code, the industry classifications become more narrowly defined – and more sparsely populated. Below we use codes at the four- digit NAICS code level allowing us to have sufficient data in each industry grouping and to take into account the possibility that many firms can switch production of goods or services between the narrower six-digit industry categories encompassed by a four-digit industry category.[9] Firms can identify themselves as simultaneously operating (or having the potential to operate) in multiple NAICS codes, so when the data are analyzed on an industry basis, entities can appear in the data set multiple times.

The SAM data also include self-reported information from each registrant on its company's size both in terms of numbers of employees and average sales over the past three years. Based on this size information, SAM determines whether the firm is defined by the SBA as "small," which generally is defined as 500 or fewer employees in manufacturing industries and $7.5 million or less sales revenues in service industries, but there are many exceptions.[10]

Since WOBs may also belong to other groups for which the Federal government has specific contracting dollar award goals (which may have impacts one way or another on the likelihood and size of winning contracts), it is important to control for membership in such groups when trying to estimate the odds of various groups winning contracts.

Table 2 summarizes the owner characteristics of WOBs and non-WOBs. As discussed below, the data used in this report contain information on more than 600,000 firms, of which about 20 percent are self-identified as women-owned. Virtually all (94 percent) WOBs are small as defined by SBA compared to 77 percent of non-WOBs. Small WOBs are more likely (52 percent) to report belonging to groups for which the Federal government has contracting goals compared to 38 percent of small non-WOBs.[11]

We extracted certain data elements from the SAM file, including NAICS codes, business start date, average number of employees, annual receipts, one or more "business types," type of organization (e.g., sole proprietorship, partnership, and corporation) and DUNS numbers. Business types are various categories of entities that registrants report they belong to, and for many business types (e.g., the minority group and gender of the firm owner), registrants can have multiple business types. Business types include government and non-profit entities; whether the registrant is a Small Disadvantaged Business; the race and ethnicity of the registrant; minority-ownership; woman ownership; service-

---

did our analysis at the establishment level, effectively treating each establishment as if it were independent. Note that we use the terms "firm," "business," "company," and "registrant" interchangeably in this report.

[9] See http://www.census.gov/eos/www/naics/ for more details about NAICS. In this report we use the term "four-digit NAICS code" or just "NAICS code" interchangeably with the term "industry" depending on context.

[10] The SBA size standards are summarized at https://www.sba.gov/content/summary-size-standards-industry-sector and are described in more detail at https://www.sba.gov/content/small-business-size-standards.

[11] We included small registrants that self-identified as "minority-owned" but not as Small Disadvantaged Businesses among the registrants we designated as belonging to business groups for which the federal government has contracting goals.

disabled veteran ownership; and other veteran ownership (a full list of business types reported in the SAM data is in Appendix C).[12] Business types identifying 8(a) and HUBZone firms were only available in the 2014 SAM data; SBA provided us with a dataset of 8(a) and HUBZone firms drawn from SBA's Dynamic Small Business Search database that we matched by DUNS number to identify these types of firms in the 2012 and 2013 SAM data.

Registrants with missing or zero annual receipts or employment were dropped because we didn't believe there was a reasonable way to impute their size. Registrants larger than the largest US company in 2014 (Wal-Mart) were dropped as well as registrants older than 300 years (because such data indicated a problem with the data, such as a typographical error when registrants entered the data into the SAM database.)[13]

[12] Business types also identify if the registrant is only interested in grants and not contracts; located outside of the US; a government entity; and/or an international organization. All of the firms of these types were dropped from all datasets used in our analysis.

[13] The impact on our analysis was immaterial when we dropped the top five percent in sales revenue and employees of the remaining firms.

Table 2: Ownership Characteristics of Women-Owned Businesses

	WOB		non-WOB		All	
All Firms	117,249	100.0%	483,776	100.0%	601,025	100.0%
Not Small	7,301	6.2%	109,948	22.7%	117,249	19.5%
Small	109,948	93.8%	373,828	77.3%	483,776	80.5%
		100.0%		100.0%	100.0%	100.0%
Small:						
Not in other groups	52,641	47.9%	231,267	61.9%	283,908	58.7%
In other groups	57,307	52.1%	142,561	38.1%	199,868	41.3%
		100.0%		100.0%	100.0%	100.0%
In other groups:						
SDB not 8(a) only	17,998	31.4%	40,937	28.7%	58,935	29.5%
All 8(a)	1,960	3.4%	4,125	2.9%	6,085	3.0%
Minority only	11,799	20.6%	23,261	16.3%	35,060	17.5%
HubZone only	487	0.8%	1,204	0.8%	1,691	0.8%
Service-disabled Veteran only	817	1.4%	9,947	7.0%	10,764	5.4%
Non-service-disabled Veteran only	2,174	3.8%	23,725	16.6%	25,899	13.0%
In multiple groups	22,072	38.5%	39,362	27.6%	61,434	30.7%
		100.0%		100.0%	100.0%	100.0%
In multiple groups:						
In SDB not 8(a) and Minority only	16,740	75.8%	22,181	56.4%	38,921	63.4%
Other	5,332	24.2%	17,181	43.6%	22,513	36.6%
		100.0		100.0%		100.0

Percents may not sum to 100% due to rounding.

We combined data from three points of time (October 1, 2012, September 30, 2013, and September 30, 2014) in order to obtain the set of firms that were registered in SAM over the FY2013-14 period. Since registrants may have entered data about themselves more than once during that period, we needed to reconcile differences in data for the same registrant. We did this by choosing the maximum value for continuous variables such as firm size and firm age; and if a registrant belonged to a particular group in either year we designated the registrant as being in that group over the entire period.[14] Many firms were actively registered in SAM over the entire period, but some firms registered for the first time or did not renew their registration, so they were in the sample less than 100 percent of the period. Since one might expect that the probability a firm wins a contract increases the longer the firm is registered in SAM, we created an additional explanatory variable equal to the fraction (greater than zero but less than or equal to one) of the two year period that each firm was registered in SAM.

We also obtained from GSA a list of firms that were excluded from doing business with the federal government (current lists of such firms are also available for public download from www.sam.gov). We matched these firms by DUNS number to the other SAM data sets and dropped from the analysis the very small number of firms (667 or less than 0.1 percent) that were on the exclusions list.

[14] We also performed our analysis using the minimum values for continuous variables and designated group membership if the registrant had reported membership for both fiscal years, and we did not find a material difference between the two methods.

Data on Contractors and Contract Awards

Data on prime contracts with estimated value of $3,000 or more for goods and services purchased using appropriated funds and awarded by federal Executive Branch agencies generally must be reported in the Federal Procurement Data System (FPDS), which is administered by GSA.[15] These data provide two broad types of information. First, the data include contract action characteristics, such as the agency awarding the contract; the six-digit industry NAICS code of the product or service procured by the agency under the contract action; the dollars obligated (or de-obligated) under the contract action; and the place of performance. Second, the data include contractor characteristics (such as company name and DUNS number). Each record in the FPDS represents a single contract action. For purposes of this report, we define a firm as "winning" a contract in an industry in FY 2013 and FY 2014 if it had at least one newly awarded contract in either year.[16] SBA provided us with data on contract actions from the FPDS that allowed us to focus on the large subset of contracts that are covered by Federal government-wide prime contracting goals (but not necessarily won by firms belonging to groups for which the Federal government has contracting goals).[17]

Past Performance Data

We obtained Past Performance Information Retrieval System (PPIRS) data from GSA, which consisted of ten datasets from legacy and current systems with ratings on many different aspects of contractor performance. For each performance rating for each firm, we calculated the median performance rating (unless there was an overall rating available), and then we calculated the median rating for each DUNS

---

[15] For more details, see the Frequently Asked Questions about the FPDS available at https://www.fpds.gov/wiki/index.php/FPDS-NG_FAQ.

[16] SBA advised us that the way to identify newly awarded contracts in a fiscal year is to (1) identify the first (chronologically) contract action record that had a Procurement Instrument Identifier (PIID) but no Indefinite Delivery Vehicle (IDV) PIID and with Modification Number equal to 0 and (2) extract all additional contract actions associated with same PIID in the IDV PIID field.

[17] The following categories of contracts are not included among contracts for which there are Federal goals:

- Javits-Wagner O'Day Program (JWOD, Sheltered Workshops)
- UNICOR or Federal Prison Industries
- American Institute in Taiwan
- Contracts awarded and performed outside the United States
- Acquisitions by Agencies on behalf of foreign governments or entities or international organizations
- Contracts funded predominately with agency generated sources, including the following government agencies:
  - FDIC
  - Postal Service
  - Bureau of Engraving and Printing
  - United States Mint
  - Office of the Comptroller of the Currency
  - Office of Thrift Supervision
  - Transportation Security Administration
  - Federal Aviation Administration
  - Tennessee Valley Authority
  - Defense Commissary Agency contracts are excluded because they are buying for resale in a military commissary.
  - Quasi-government agencies operating with non-tax dollars (known as non-appropriated funds) that were not competed because the products they purchase are being bought to be resold. The money the agency gets from the sale fund the operation of the organization."

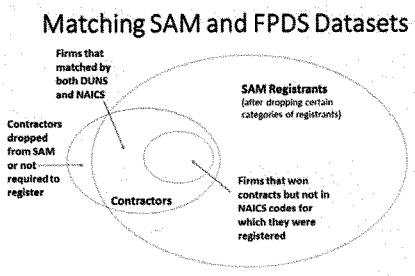
("Frequently Asked Questions About FPDS-NG" http://www.acquisition.gov/faqs_whataboutfpds.asp#q12)

number. Firms with median ratings of "very good" or "above average" or better were deemed to be "higher rated"; all other firms with past performance ratings were deemed to be "lower rated."

Analytical Dataset Construction

We merged the SAM and FPDS data sets by DUNS number and NAICS industry code.[18] Figure 2 provides a schematic description of the matching process. Firms were deemed "winners" of contracts if either they matched by both DUNS and NAICS codes or if they won contracts in NAICS codes for which the firm was not registered in SAM; all other DUNS/NAICS code entities were deemed "non-winners." Past performance data was matched by DUNS number.

Figure 2



Since small firms (as defined by SBA) are one of the groups of firms for which the federal government has contracting goals, we wanted our analysis to control for whether a firm is small. Since SBA has separate definitions for small firms by six-digit NAICS industry codes, and because we were combining two fiscal years' worth of data, we designated a company as "small" in each four-digit NAICS code if it was small in any of the corresponding six-digit NAICS codes for which it was registered in SAM at any point during FY 2013-14.[19]

[18] We dropped several industries as described in the table below:

NAICS Code	Description	Reason Dropped
521X	Monetary Authorities – Central Bank	This industry only consists of one entity – the Federal Reserve System – and no contracts were awarded in this industry.
814X	Private Households	No SBA small business definition.
921X-928X	Public Administration	No SBA small business definition.

[19] As noted above, we also performed our analysis by deeming a registrant as small if it was designated as such in both fiscal years; the difference in results was immaterial.

Summary of Data

In this section we compare the characteristics of women-owned businesses to those of other businesses. As discussed below, women-owned businesses are less likely to win contracts. Furthermore, winners of contracts are larger and older than non-winners, even when focusing only on small businesses. And finally women-owned businesses are smaller and younger than other businesses – characteristics that are associated with the likelihood of winning contracts.

Table 3 shows by group in columns (such as all firms in the first column, WOBs in the second column, etc.) the mean value of the various indicator variables representing various firm characteristics (in rows) included in our analysis. Indicator variables take a value of one (1) if a firm has the characteristic and zero (0) if it does not, so the mean of these variables can be interpreted as the share of firms in each group with each characteristic. The first row shows the number of firms in each column. The second row shows that 21 percent of non-WOBs (column 3) won contracts compared to 17 percent of WOBs (column 2), which is equivalent to WOBs having about 22 percent lower odds of winning contracts before controlling for other factors related to winning contracts (as discussed in the next section of the report).[20] About one-third of WOBs are SDBs not in the 8(a) program or minority-owned (or both); non-WOBs are only half as likely to belong to these groups. WOBs are more likely to be sole proprietors than non-WOBs (22 percent vs. 14 percent, respectively) and less likely to be corporations (54 percent compared to 63 percent, respectively).[21] WOBs are slightly less likely to have higher past performance ratings than non-WOBs.

Columns 4 and 5 of Table 4 compare characteristics of firms that win contracts and those that do not. Winning firms are more likely to belong to some groups for which the Federal government has contracting goals (such as small and 8(a) firms) but less likely to belong to some other groups (WOB, SDB not 8(a), and Minority-owned) than non-winning firms.[22] Winning firms are more likely to be corporations and less likely to be sole proprietors or partnerships than non-winning firms.[23] As expected, winning firms are more likely to have security clearances and to have higher past performance ratings than non-winning firms. These patterns hold when looking separately at WOBs (columns 6-7) and non-WOBs (columns 8-9).

---

[20] The odds ratio = $(P_{WOB}/1 - P_{WOB}) \div (P_{Non\text{-}WOB}/1 - P_{Non\text{-}WOB})$, where P_{WOB} =probability of WOBs winning contracts and $P_{Non\text{-}WOB}$ = probability of Non-WOBs winning contracts. Here $P_{WOB} = 0.173$ and $P_{Non\text{-}WOB} = 0.211$ and the resulting odds ratio is 0.783.

[21] About 14 percent of non-WOB corporations and about seven percent of WOB corporations self-identified as "non-profit."

[22] In Table 3, firms can belong to one or more of these groups: WOB; Small; SDB not 8(a); 8(a); Minority; HubZone; Service-Disabled Veteran; and Other Veteran. However, firms can only belong to one type of organization: Sole Proprietor, Partnership, Corporation, or Other (not shown); one level of security clearance (the "no security clearance" category is not shown), and one level of past performance rating (the "no rating" category is not shown).

[23] About seven percent of corporations winning contracts were non-profit compared to 14 percent of non-winning corporations; only three percent of WOB corporations that won contracts were non-profits compared to seven percent of non-WOB corporations winning contracts.

Table 3: Mean Values of Indicator Variables

						WOB		Non-WOB	
	All	WOB	Non-WOB	Winner	Non-Winner	Winner	Non-Winner	Winner	Non-Winner
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
N	601,025	117,249	483,776	122,179	478,846	20,328	96,921	101,851	381,925
Winner	0.203	0.173	0.211	N/A	N/A	N/A	N/A	N/A	N/A
WOB	0.195	N/A	N/A	0.166	0.202	N/A	N/A	N/A	N/A
Small	0.812	0.938	0.782	0.867	0.798	0.975	0.930	0.846	0.764
SDB not 8(a)	0.203	0.339	0.170	0.191	0.206	0.318	0.344	0.166	0.171
8(a)	0.010	0.017	0.009	0.028	0.006	0.055	0.009	0.023	0.005
Minority	0.176	0.321	0.141	0.136	0.186	0.262	0.333	0.110	0.149
HubZone	0.008	0.012	0.007	0.016	0.006	0.029	0.009	0.013	0.005
Service-Disabled Veteran	0.040	0.026	0.043	0.041	0.039	0.024	0.027	0.044	0.043
Other Veteran	0.069	0.044	0.075	0.071	0.069	0.044	0.044	0.076	0.075
Sole Proprietor	0.160	0.224	0.145	0.147	0.164	0.217	0.226	0.133	0.148
Partnership	0.122	0.127	0.121	0.098	0.128	0.106	0.132	0.097	0.127
Corporation	0.612	0.539	0.630	0.677	0.595	0.602	0.526	0.693	0.613
Non-Classified Security Clearance	0.060	0.075	0.057	0.082	0.055	0.105	0.068	0.077	0.051
Confidential Security Clearance	0.008	0.012	0.008	0.012	0.007	0.016	0.011	0.012	0.006
Secret Security Clearance	0.020	0.021	0.020	0.035	0.016	0.038	0.017	0.034	0.016
Top Secret Security Clearance	0.024	0.022	0.025	0.036	0.021	0.039	0.018	0.035	0.022
Lower Past Performance Rating	0.024	0.018	0.026	0.067	0.013	0.055	0.010	0.070	0.014
Higher Past Performance Rating	0.032	0.027	0.033	0.092	0.016	0.097	0.013	0.091	0.017

Table 4 compares the distribution of continuous variables (which take values that range widely across firms), that is, it shows the values each variable takes at various percentiles for that variable. (For example, the 10th percentile age for all firms is 3 years, which means that 10 percent of firms are age 3 years or less; the median age, also known as the 50th percentile, is 14, which means half of firms are age 14 years or less.) Table 4 shows that WOBs are considerably smaller and younger than non-WOBs. The median annual revenues for WOBs is $250,000, which is one-quarter that of non-WOBs ($1 million), and the median number of WOB employees is one-third that of non-WOBs (three and nine, respectively). The median age of WOBs is 11 years compared to 15 for non-WOBs. At the median, WOBs and non-WOBs were both actively registered in SAM about one-half of the FY 2013-2014 period.

Table 4 also shows that contract winners are larger and older than non-winners. Contract winners' median annual revenues is about $2.1 million, more than triple that of non-winners ($0.6 million). Winners have more than double the median number of employees as non-winners (13 and 6, respectively), and the median age of winners is 18 years compared to 14 years for non-winners. Focusing only on WOBs, winning firms have quadruple the median revenues of non-winning WOBs ($0.8 million compared to $0.2 million); double the median number of employees (six compared to three); and have median age of 14 years compared to 10 years of age for non-winners. At the median, winners were actively registered over the entire FY 2013-2014 period compared to non-winners, which were actively registered for only half that period; this makes sense (all else equal, one would expect that the longer a firm is actively registered in SAM the greater its chances for winning contracts).

Finally, among firms that won contracts, WOBs and non-WOBs have very similar distributions of numbers of contracts and contract dollars awarded. Within each group, the median firm has two

contracts; the median dollars awarded was $24,000 for WOBs, only 8 percent lower than the corresponding value for non-WOB winners.[24]

Table 4: Distribution of Continuous Variables

Variable	Group	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile
Age	All	3	7	14	28	45
	WOB	3	5	11	20	31
	Non-WOB	3	7	15	30	49
	Winner	4	9	18	32	53
	Non-Winner	3	6	14	27	43
	WOB Winner	3	7	14	25	36
	WOB Non-Winner	3	5	10	19	30
	Non-WOB Winner	4	9	19	34	56
	Non-WOB Non-Winner	3	7	15	29	47
Employees	All	1	2	7	31	300
	WOB	1	1	3	10	30
	Non-WOB	1	2	9	45	612
	Winner	1	3	13	60	617
	Non-Winner	1	2	6	25	240
	WOB Winner	1	2	6	18	50
	WOB Non-Winner	1	1	3	9	25
	Non-WOB Winner	1	4	16	83	1,164
	Non-WOB Non-Winner	1	2	7	35	500
Sales Revenue	All	$5,000	$100,000	$800,000	$5,000,000	$54,000,000
	WOB	$300	$32,000	$250,000	$1,259,462	$4,800,000
	Non-WOB	$10,000	$140,000	$1,000,000	$7,500,000	$104,000,000
	Winner	$30,000	$300,000	$2,055,900	$11,900,000	$121,000,000
	Non-Winner	$2,500	$80,000	$600,000	$4,000,000	$40,000,000
	WOB Winner	$10,000	$100,000	$800,000	$3,010,193	$10,000,000
	WOB Non-Winner	$100	$25,000	$200,000	$1,000,000	$3,750,000
	Non-WOB Winner	$40,000	$400,000	$2,750,000	$15,300,000	$212,000,000
	Non-WOB Non-Winner	$5,000	$100,000	$850,000	$5,900,000	$84,900,000
Share of FY 2013-2014 in Sample	All	0.197	0.327	0.519	1.000	1.000
	WOB	0.193	0.321	0.515	1.000	1.000
	Non-WOB	0.197	0.329	0.519	1.000	1.000
	Winner	0.500	0.867	1.000	1.000	1.000
	Non-Winner	0.184	0.282	0.500	1.000	1.000
	WOB Winner	0.500	0.955	1.000	1.000	1.000
	WOB Non-Winner	0.181	0.281	0.500	1.000	1.000
	Non-WOB Winner	0.500	0.849	1.000	1.000	1.000
	Non-WOB Non-Winner	0.184	0.284	0.500	1.000	1.000
Number of Contracts	Winner	1	1	2	4	10
	WOB Winner	1	1	2	3	9
	Non-WOB Winner	1	1	2	4	10
Dollars Awarded	Winner	$2,410	$7,184	$25,646	$133,925	$824,913
	WOB Winner	$1,470	$6,583	$24,000	$115,312	$687,541
	Non-WOB Winner	$2,501	$7,300	$26,157	$137,957	$857,644

[24] Note that dollars awarded and numbers of contracts reported in Table 4 are for contracts won in FY 2013 or FY 2014 and do not necessarily correspond to the total dollars awarded over the lifetimes of these contracts.

Regression Model Specification and Results

Regression Approach

The main question of interest here is whether the data show any difference in the odds that WOBs would win contracts relative to other businesses holding constant other factors that may influence the likelihood of winning a contract. Regression analysis is a tool used by economists to address this type of question. We start with a hypothesis about the relationship between a variable to be explained (the "dependent" variable) and one or more explanatory ("independent") variables and estimate whether these variables are associated with each other in a way that is consistent with the hypothesis. There are many types of regression analyses, but the logit model[25] is widely used to analyze the odds of an event occurring, such as a firm being awarded a contract, and it is this type of model that is used in the analysis described here to address the main question of interest. The standard way to represent this model is:

$$Y = \exp(\beta * X + \varepsilon) \quad (1)$$

In this example, Y, the dependent variable, is equal to the odds of winning a contract, X is one or more independent variables that influence the odds of whether or not a given firm wins a contract, and exp(.) is the exponentiation function.[26] The Greek letter beta (β) is an unknown parameter or set of parameters that is to be estimated and gives the degree to which an independent variable is related to a dependent variable. The final term in the equation, represented by the Greek letter epsilon (ε), is known as the error term and represents the other elements that might influence the dependent variable but which are not explicitly included in the estimation. The error term "arises for several reasons, primarily because we cannot hope to capture every influence on an economic variable in a model, no matter how elaborate."[27]

A key feature of a regression is that it allows the researcher to isolate the effects of one independent variable on the dependent variable separately from the other independent variables. In other words, the first β that is estimated in an equation represents the relationship between Y and the first X variable *holding constant* all the other independent variables. As an example, regression analysis could be used to examine how characteristics of a home affect its sales price. To do this, one might hypothesize that the value of a home depends on factors such as the number of bedrooms in a house, the number of bathrooms and the size of the lot on which the house is found. Then, the β that is associated with the number of bedrooms is a measure of how increasing the number of bedrooms affects the sales price holding constant the number of bathrooms and the size of the lot.

---

[25] We used a variant of the logit model called the Firth method that adjusts for possible estimation biases for industries that have a very low contract win rate and in cases where winning or not winning a contract is perfectly or nearly perfectly equal to a linear function of one of the control variables (for example, in industries where no WOBs won any contracts). (See Firth, D. 1993, "Bias reduction of maximum likelihood estimates." *Biometrika* 80:27-38; Heinze, G. and Schemper, M. 2002, "A solution to the problem of separation in logistic regression," *Statistics in Medicine* 21:2409-19. We used the firthlogit Stata module written by Joseph Coveney to make these estimates (http://econpapers.repec.org/software/bocbocode/s456948.htm).

[26] In other words, the model is represented by $Y = \exp(\beta * X + \varepsilon)$, where $\exp(\beta * X + \varepsilon) = e^{\beta * X + \varepsilon}$ and e is approximately equal to 2.718, the base of the natural logarithm.

[27] Greene, William H., *Econometric Analysis*, Sixth Edition, Pearson Education, 2008 at p. 9.

Another key to estimating regressions successfully and to draw the proper inferences from the results is to make sure that the appropriate variables are included in the model. For example, it may often be the case that a house with more bedrooms is also likely to have more bathrooms. If a regression of housing prices only includes the number of bedrooms it may overstate the influence of this variable on prices as the estimate of the β associated with the number of bedrooms also will include the influence of the number of bathrooms on prices.

In the logit model used in this report, exp(β) is called the "odds ratio" associated with an independent variable, and it indicates the odds of winning a contract associated with the presence of the corresponding independent variable relative to the odds of winning in the absence of that variable. Of special interest in this report, the odds ratio associated with the variable indicating whether a firm is woman-owned is interpreted as the odds of a women-owned business winning a contract relative to businesses not owned by women.

When estimating this model, as with the housing example discussed above, it is important to include other variables that might also influence whether a WOB wins a contract or not. For example, it might be the case that newer firms are less likely to win contracts, on average, than older firms. Thus, it would be important to include a measure of the age of the firm in the model to control for this fact. This is particularly important given that women-owned firms are more likely to be younger than other firms; in this situation, if the age of the firm is not included in the model, one might conclude that the odds of WOBs winning contracts is lower, on average, when, in fact, it is the odds of younger firms winning contracts that is lower.[28]

Here, the independent variables we use are the ownership of the firm (minority-owned, women-owned, and veteran-owned); the type of organization (that is, whether the firm is a corporation, a partnership or some other type); other characteristics of the firm (size, in terms of number of employees and revenues, level of security clearance of the firm, age of the firm, the proportion of time the firm was in the sample during FY13-14, and past performance ratings on recent contracts won by the firm); and whether the firm is small according to the SBA definition.

Table 5 lists estimates of the "odds ratios" of the independent variables described above, holding the other variables constant. Not surprisingly, we see a positive and significant increase in the odds of a firm winning a contract as the age of the firm and the size of the firm, measured either by sales or number of employees, increases. Firms with various levels of security clearance also had higher odds of winning contracts than firms that did not report having a security clearance level, with the largest effect resulting for those firms with "secret" clearance. Ownership structure can also influence the odds of a small firm winning a contract, with the odds of partnerships winning contracts being lower and the odds of sole proprietorships and corporations winning being higher than other forms of organization, holding all other factors constant. And as expected, firms with higher past performance ratings are more likely to win contracts than those with lower (or no) ratings, and the greater the proportion of time a firm was actively registered in SAM, the more likely it is to win contracts.

[28] Why WOBs are younger or smaller is not part of what was studied in this report.

The main variable of interest, however, is whether the business is woman-owned (at the top of the table). Controlling for other factors, the odds of WOBs winning contracts were lower than otherwise similar non-WOBs; specifically, the odds of a WOB winning a contract is roughly 21 percent lower than other types of businesses.

Table 5: Pooled Regression Results

Dependent Variable:	**Winner**
Woman-owned	0.786***
	(0.00767)
SDB not 8(a)	0.925***
	(0.00899)
8(a) certified	2.921***
	(0.0898)
Minority-owned	0.638***
	(0.00746)
HubZone certified	1.202***
	(0.0398)
Service-disabled veteran	0.872***
	(0.0165)
Other veteran	0.926***
	(0.0130)
log age	1.022***
	(0.00431)
log employees	1.058***
	(0.00242)
log sales revenue	1.021***
	(0.00130)
Sole proprietor	1.480***
Omitted: other forms of organization	(0.0205)
Partnership	0.955***
	(0.0138)
Corporation for profit	1.254***
	(0.0139)
Corporation, nonprofit	1.281***
	(0.0264)
Government non-classified	1.060***
(omitted: no security clearance reported	(0.0146)
Government confidential	1.085**
	(0.0375)
Government secret	1.077***
	(0.0239)
Government top-secret	0.761***
	(0.0160)
Share of FY 2013-2014 in sample	21.83***
	(0.306)
Lower past performance rating	3.070***
	(0.0574)
Higher past performance rating	3.229***
	(0.0542)
Small (SBA definition)	2.911***
	(0.0422)
Constant	0.00548***
	(0.000142)
Observations	601,025

Perhaps unsurprisingly, firms that participate in SBA's 8(a) business development program, a program in which firms are awarded contracts through restricted competitions or on a sole-source basis, had odds of winning contracts that were many times higher relative to the odds of winning contracts by other small businesses. Similarly, other types of firms that the federal government allows to participate in sheltered competition programs in prime contracting, such as those owned by service-disabled veterans or those located in Historically Underutilized Business Zones (HUBZones), also appear to have increased odds of winning contracts relative to the odds of firms without such characteristics.

These relationships, as in all regression models, are estimated with some degree of error. Thus, it is common practice to estimate whether the measured relationship is "statistically significant"; that is, given this degree of error, it is possible to distinguish the estimate from some fixed value (usually zero) with a high degree of certainty or whether it is just chance that makes the estimate different from this fixed value. With odds ratios, the estimate is statistically significant if it can be distinguished, with a high degree of certainty, from one (1.0), the point where the odds of the two groups compared (e.g.WOBs and non-WOBs) are the same (or to put it another way, otherwise similar members of the two groups are equally likely, on average, to win contracts). If we cannot distinguish the estimate from one with enough certainty, then we cannot say that the odds of winning a contract for one group are different than the odds of another group winning a contract.

Whether an estimate of a statistical relationship between two variables is significant is a function of two things – how close the estimate is to the value that would indicate no relationship (or, in this case, that represents the odds of winning being equal for two groups) and how precisely we can estimate this relationship. One of the key factors in the degree of precision is the number of observations we have to estimate our model; generally, the more observations, the more precise is the estimate.[29] The measures of precision are represented by the "standard errors" of the estimates, which in Table 4 are the numbers in parentheses below the estimates of the odds ratios.

Typically, when assessing statistical significance, we look at roughly two standard errors above and two standard errors below the relevant estimate to determine the range within which we are confident the true estimate lies (also known as the confidence interval). If 1.0 is in the confidence interval, then the hypothesis of the odds of winning a contract between two groups being the same cannot be rejected.

For the estimate of the WOB odds ratio in the full sample (shown in Table 5), the standard error is estimated to be 0.00767 so we are confident that the true value lies somewhere between 0.771 and 0.801 (0.786 plus or minus two times 0.00767). Therefore, we can say that the estimate of the odds of an WOSB wining a contract is significantly less than one (i.e. the fact that the odds of an WOSB firm winning a contract is estimated to be lower than odds for other firms is not due to chance.)

Table 6 provides a summary of the results when the same model is estimated separately for each four-digit NAICS code. Appendix A provides a more detailed list of the industry-by-industry odds ratio

[29] To illustrate this point, if you flipped a coin 10 times and got 7 heads, you might think the coin is biased, but the number of observations prevent you from drawing that conclusion with certainty. If you flip the same coin 10,000 times and get heads 7,000 times, you can conclude that it is highly likely that the coin is biased.

estimates for WOBs and other industry-level data. Appendix B provides the full set of regression results. The industry-specific results on the odds of winning contracts vary considerably.

We find in Table 6 that in 109 industries (36 percent of the total) WOBs have statistically significant lower odds of winning contracts, covering 62 percent of contracts and nearly two-thirds of dollars obligated. In an additional 145 (48 percent) of the 304 industries included in our study the odds of WOBs winning contracts were lower than those of otherwise similar non-WOBs but in these cases there is not a statistically significant difference between the odds of winning contracts for the two groups. On the other hand, WOBs have greater odds of winning contracts in 50 industries (about 16 percent) than otherwise similar non-WOBs accounting for the same share of contracts and about 15 percent of dollars awarded; in none of these industries are the higher odds statistically significant.

Table 6: Summary of Findings on Likelihood of WOBs Winning Contracts

	Contracts		Awards		Industries	
	Number	Percent	$millions	Percent	Number	Percent
Odds ratio less than 0.40 and statistically significant	2,813	0.3	$442	0.3	8	2.6
Odds ratio 0.40-0.49 and statistically significant	20,577	2.2	$2,079	1.5	13	4.3
Odds ratio 0.50-0.59 and statistically significant	106,672	11.5	$4,150	2.9	21	6.9
Odds ratio 0.60-0.69 and statistically significant	88,164	9.5	$26,085	18.4	27	8.9
Odds ratio 0.70-0.79 and statistically significant	160,809	17.3	$23,831	16.8	30	9.9
Odds ratio 0.80-0.89 and statistically significant	197,691	21.2	$35,813	25.3	10	3.3
Odds ratio 0.90-0.99 and statistically significant	0	0.0	$0	0.0	0	0.0
Subtotal: Odds ratio less than 1.0 and statistically significant	***576,726***	***62.0***	***$92,400***	***65.3***	***109***	***35.9***
Odds ratio less than 1.0 and not statistically significant	208,341	22.4	$28,529	20.2	145	47.7
Odds ratio 1.0 or greater and not statistically significant	145,456	15.6	$20,637	14.6	50	16.4
Odds ratio 1.0 or greater and statistically significant	0	0.0	$0	0.0	0	0.0
Total	***930,523***	***100.0***	***$141,567***	***100.0***	***304***	***100.0***
Memo Subtotal: Odds ratio less than 1.0	*785,067*	*84.4*	*120,930*	*85.4*	*254*	*83.6*

Percents may not sum to 100% due to rounding. Numbers of contracts and dollars awarded are for contracts that began in FY 2013 or FY 2014.

As mentioned above, how close the estimate of the odds ratio is to one and the sizes of the standard errors (which, in turn, depend largely on the number of observations used in a regression) are the key factors in determining the statistical significance of these ratios. Given the relatively large number of observations we have, the standard errors in Table 5 are all small relative to the size of the estimated odds ratios and, thus, all of the estimated odds ratios are statistically significant. In contrast, estimated odds ratios on an industry by industry basis are not statistically significant if they are estimated to be close to one or with very large standard errors. For example, in Appendix B, the WOB odds ratio in NAICS industry 1133 (Logging) is 0.935, which is relatively close to one and it is estimated with a relatively large standard error (0.320) thus rendering it statistically insignificant; the high standard error reflects at least in part the fact that the Federal government does relatively little contracting with firms in the logging industry.

Comparison of DOC's Methodology to the RAND Corporation Report Methodology

Table 7 summarizes the major differences between our methodology and that used by the RAND report, including an explanation about why we did some things differently.[30]

Table 7: Comparison of RAND and DOC Methodologies

Item	RAND approach	DOC approach	Why DOC took a different approach
Time period covered by analysis	FPDS: FY 2005 SAM: 2006*	FPDS: FY 2013-2014 SAM: FY 2013-2014	We used two years' worth of data for two reasons. First, we believe it is necessary to smooth out year-to-year differences in contracting activity and avoid our findings being driven by idiosyncratic activity in one year (e.g., variations in acquisitions by industry). Second, we wanted to have enough data to measure contracting disparities more precisely given our previous experience using one years' worth of data to estimate disparities at the three-digit NAICS industry group level.
Disparity measurement method	Disparity ratios	Logistic regression	We chose to use logistic regression, a very widely used statistical method, so that we could control for firm characteristics associated with winning contracts other than whether a firm was a WOB. This allows us to avoid confounding effects on the odds of winning a contract due to, for example, firm age and size. The disparity ratio method used by RAND did not control for other factors related to winning contracts.
Linked FPDS and SAM data?	No	Yes	We did this in order to use regression analysis to control for firm characteristics other than WOB status. We believe linking the two data sets is generally much more informative about contracting outcomes than using unlinked data.
Method of assessing statistical precision	Power analysis	Statistical significance	We reviewed the statistics and economics literature on "retrospective" or "post hoc" power analysis of the kind RAND performed. Power analysis is appropriate in experimental work to prospectively determine the minimum size sample needed to attain a minimum degree of certainty about measuring the magnitude of a hypothesized effect. Much of the literature cautions against retrospective power analyses in non-experimental conditions (where there is no control over sample size) because it provides no additional information than statistical significance tests.[31]

*RAND actually used data from the Central Contracting Registry which was a predecessor to the SAM database.

Conclusion

We have also shown that women-owned businesses are less likely to win contracts. Furthermore, women-owned businesses are smaller and younger than other businesses, but this fact account for only part of the disparity in the likelihood of winning contracts; even when controlling for firm characteristics, including firm size and age, women-owned businesses are less likely to win contracts than otherwise similar businesses not owned by women. We find that in 109 industries (36 percent of

[30] Nothing in this section of our report should be construed as being critical or disparaging of the RAND report.

[31] See, for example, John M. Hoenig and Dennis M. Heisey, "The Abuse of Power: The Pervasive Fallacy of Power Calculations for Data Analysis." *The American Statistician.* 55(1) February 2001, pp. 1-6 (available at http://www.tc.umn.edu/~alonso/Hoenig_AmericanStat_2001.pdf).

the total) WOBs have statistically significant lower odds of winning contracts, covering 62 percent of contracts and nearly two-thirds of dollars obligated under contracts awarded in FY 2013 or 2014. In an additional 145 (48 percent) of the 304 industries included in our study the odds of WOBs winning contracts were lower than those of otherwise similar non-WOBs but in these cases there is not a statistically significant difference between the odds of winning contracts for the two groups. Overall, the industries in which WOBs are less likely to win contracts account for about 85 percent of contracts and of dollars obligated in Fiscal Years 2013-2014 (which is the period in which our data originated).WOBs have *greater* odds (none statistically significant) of winning contracts than otherwise similar non-WOBs in only 16 percent of industries.

Appendix A
Sorted By
NAICS Code

NAICS4	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
1111	Oilseed and Grain Farming	0.34		1,694	120	1,574	32	0	32	49	$546,219
1112	Vegetable and Melon Farming	0.40		559	133	426	7	0	7	10	$141,926
1113	Fruit and Tree Nut Farming	1.64		650	123	527	7	2	5	10	$357,663
1114	Greenhouse, Nursery, and Floriculture Production	0.87		1,231	270	961	64	13	51	90	$2,498,964
1119	Other Crop Farming	0.78		1,706	247	1,459	175	21	154	401	$35,784,997
1121	Cattle Ranching and Farming	1.57		1,699	179	1,520	61	9	52	114	$2,357,927
1122	Hog and Pig Farming	0.23		170	21	149	15	0	15	47	$446,138
1123	Poultry and Egg Production	0.62		303	65	238	33	4	29	132	$8,969,871
1124	Sheep and Goat Farming	0.48		204	61	143	10	2	8	12	$133,340
1125	Aquaculture	1.00		493	108	385	37	5	32	68	$1,967,900
1129	Other Animal Production	0.55		711	191	520	98	15	83	247	$5,617,220
1131	Timber Tract Operations	0.64		981	169	812	26	2	24	70	$1,097,676
1132	Forest Nurseries and Gathering of Forest Products	0.88		943	189	754	61	8	53	97	$2,492,836
1133	Logging	0.93		2,263	374	1,889	76	11	65	106	$9,851,695
1141	Fishing	0.60		418	63	355	36	3	33	52	$1,298,495
1142	Hunting and Trapping	0.46		492	91	401	32	2	30	70	$957,971
1151	Support Activities for Crop Production	0.72		2,934	562	2,372	231	31	200	380	$18,047,897
1152	Support Activities for Animal Production	0.78		576	132	444	66	11	55	99	$7,678,377
1153	Support Activities for Forestry	0.77	*	8,103	1,587	6,516	2,945	525	2,420	5,497	$201,252,365
2111	Oil and Gas Extraction	0.53		414	73	341	64	6	58	95	$17,329,405
2121	Coal Mining	0.34		150	22	128	7	0	7	12	$15,386,209
2122	Metal Ore Mining	1.46		209	38	171	7	1	6	11	$261,248
2123	Nonmetallic Mineral Mining and Quarrying	0.88		3,698	615	3,083	535	71	464	844	$50,478,110
2131	Support Activities for Mining	1.12		3,687	666	3,021	242	39	203	376	$44,250,481
2211	Electric Power Generation, Transmission and Distribution	0.85		6,276	936	5,340	284	27	257	440	$24,036,281
2212	Natural Gas Distribution	0.66		1,259	192	1,067	161	8	153	708	$114,876,302
2213	Water, Sewage and Other Systems	0.71	*	8,641	1,567	7,074	675	85	590	1,035	$106,964,258
2361	Residential Building Construction	0.57	*	26,691	5,372	21,319	1,018	138	880	2,922	$88,089,159
2362	Nonresidential Building Construction	0.88	*	38,890	7,465	31,425	3,289	632	2,657	8,547	$13,005,918,992
2371	Utility System Construction	0.79	*	26,251	5,038	21,213	1,345	234	1,111	2,088	$1,148,395,485
2372	Land Subdivision	1.37		5,600	1,246	4,354	7	2	5	7	$3,883,566
2373	Highway, Street, and Bridge Construction	0.79	*	19,463	3,744	15,719	1,215	212	1,003	1,965	$1,949,342,536
2379	Other Heavy and Civil Engineering Construction	0.66	*	18,733	3,464	15,269	1,037	169	868	1,738	$5,252,358,987
2381	Foundation, Structure, and Building Exterior Contractors	0.71	*	31,590	6,720	24,870	1,550	292	1,258	2,328	$671,838,664
2382	Building Equipment Contractors	0.73	*	46,213	8,949	37,264	6,064	973	5,091	11,686	$1,565,700,847
2383	Building Finishing Contractors	0.71	*	28,787	6,942	21,845	1,718	356	1,362	2,664	$161,529,530
2389	Other Specialty Trade Contractors	0.72	*	40,739	9,101	31,638	2,854	528	2,326	4,536	$563,267,139
3111	Animal Food Manufacturing	0.73		392	74	318	90	10	80	416	$14,402,696
3112	Grain and Oilseed Milling	0.82		523	118	405	108	15	93	909	$647,939,106
3113	Sugar and Confectionery Product Manufacturing	0.53		267	87	180	12	1	11	42	$35,503,993
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	0.42	*	1,004	235	769	217	22	195	2,801	$1,252,270,006
3115	Dairy Product Manufacturing	0.84		505	90	415	136	14	122	652	$612,510,302
3116	Animal Slaughtering and Processing	0.60		670	113	557	188	22	166	2,170	$1,499,619,397
3117	Seafood Product Preparation and Packaging	0.64		233	59	174	34	6	28	104	$82,796,496
3118	Bakeries and Tortilla Manufacturing	0.55	*	858	216	642	247	21	226	1,119	$135,610,459
3119	Other Food Manufacturing	0.78		2,021	480	1,561	546	90	456	11,295	$659,678,106
3121	Beverage Manufacturing	0.74		1,607	278	1,329	173	22	151	442	$7,073,537
3122	Tobacco Manufacturing	0.99		47	11	36	2	0	2	2	$266,642
3131	Fiber, Yarn, and Thread Mills	1.97		244	68	176	44	14	30	127	$811,876
3132	Fabric Mills	1.00		1,348	359	989	259	53	206	635	$43,617,813
3133	Textile and Fabric Finishing and Fabric Coating Mills	0.88		1,113	268	845	342	57	285	842	$41,022,820
3141	Textile Furnishings Mills	0.54	*	1,261	430	831	226	51	175	442	$14,578,109
3149	Other Textile Product Mills	0.79	*	4,176	1,236	2,940	928	193	735	3,800	$201,735,873
3151	Apparel Knitting Mills	0.68		691	242	449	48	11	35	78	$5,382,282
3152	Cut and Sew Apparel Manufacturing	0.82		2,799	964	1,835	395	95	300	999	$196,446,805
3159	Apparel Accessories and Other Apparel Manufacturing	1.03		2,341	718	1,623	553	139	414	1,500	$207,151,864
3161	Leather and Hide Tanning and Finishing	2.30		181	49	132	21	6	15	22	$1,773,049
3162	Footwear Manufacturing	0.67		1,096	199	897	137	26	111	388	$26,974,905
3169	Other Leather and Allied Product Manufacturing	1.02		1,180	375	805	170	47	123	279	$7,496,563
3211	Sawmills and Wood Preservation	0.64		1,294	275	1,019	152	24	128	233	$5,310,924
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	0.93		796	175	621	100	20	80	216	$4,227,904
3219	Other Wood Product Manufacturing	0.91		5,086	1,167	3,919	583	120	463	1,009	$65,560,629
3221	Pulp, Paper, and Paperboard Mills	0.90		969	286	683	132	33	99	382	$15,408,547
3222	Converted Paper Product Manufacturing	1.12		3,407	988	2,419	591	146	445	1,599	$29,179,951
3231	Printing and Related Support Activities	0.53	*	7,637	2,577	5,060	690	126	564	1,501	$40,077,661

3241	Petroleum and Coal Products Manufacturing	0.65	*	2,636	430	2,206	788	90	698	2,743	$8,150,305,066
3251	Basic Chemical Manufacturing	0.95		2,777	422	2,355	751	103	648	2,656	$239,601,180
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	1.22		1,581	279	1,302	427	77	350	861	$16,948,608
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	0.80		863	181	682	166	30	136	443	$9,197,024
3254	Pharmaceutical and Medicine Manufacturing	0.87		3,040	399	2,641	993	90	903	7,632	$5,952,127,832
3255	Paint, Coating, and Adhesive Manufacturing	0.87		5,514	424	5,090	560	96	464	3,774	$56,063,355
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.86		1,921	537	1,384	255	57	198	607	$7,421,533
3259	Other Chemical Product and Preparation Manufacturing	0.93		4,029	928	3,101	987	178	809	2,585	$238,005,982
3261	Plastics Product Manufacturing	0.85		8,087	1,691	6,396	1,456	273	1,183	4,626	$109,646,304
3262	Rubber Product Manufacturing	0.99		3,830	609	3,221	992	174	818	4,111	$134,781,906
3271	Clay Product and Refractory Manufacturing	1.05		673	182	491	93	24	69	161	$2,550,163
3272	Glass and Glass Product Manufacturing	0.92		1,365	362	1,003	205	42	163	465	$17,427,763
3273	Cement and Concrete Product Manufacturing	0.71		2,179	389	1,790	307	40	267	467	$64,735,258
3274	Lime and Gypsum Product Manufacturing	0.51		190	47	143	12	2	10	17	$241,590
3279	Other Nonmetallic Mineral Product Manufacturing	1.14		2,252	381	1,871	562	108	454	1,729	$116,552,097
3311	Iron and Steel Mills and Ferroalloy Manufacturing	0.71		1,034	235	799	323	62	261	927	$16,828,410
3312	Steel Product Manufacturing from Purchased Steel	0.89		2,692	567	2,125	741	129	612	2,885	$49,332,357
3313	Alumina and Aluminum Production and Processing	0.98		1,402	264	1,138	448	78	370	1,776	$27,532,170
3314	Nonferrous Metal (except Aluminum) Production and Processing	0.97		1,665	339	1,326	563	100	463	2,364	$52,331,794
3315	Foundries	1.36		1,013	167	846	225	39	186	452	$16,827,451
3321	Forging and Stamping	1.18		3,113	629	2,484	777	149	628	2,866	$48,566,189
3322	Cutlery and Handtool Manufacturing	1.08		2,616	488	2,128	728	149	579	2,133	$78,900,457
3323	Architectural and Structural Metals Manufacturing	0.77	*	12,958	2,605	10,353	2,048	333	1,715	4,284	$431,771,759
3324	Boiler, Tank, and Shipping Container Manufacturing	0.81	*	4,576	904	3,672	1,120	192	928	3,527	$1,439,441,543
3325	Hardware Manufacturing	0.78	*	4,961	1,007	3,954	2,343	396	1,947	18,923	$316,163,745
3326	Spring and Wire Product Manufacturing	1.03		2,828	571	2,257	926	167	759	3,160	$54,288,310
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	1.02		12,662	2,371	10,291	2,443	445	1,998	18,544	$280,336,163
3328	Coating, Engraving, Heat Treating, and Allied Activities	0.69	*	3,176	699	2,477	263	40	223	492	$19,404,204
3329	Other Fabricated Metal Product Manufacturing	0.84	*	16,500	3,067	13,433	4,997	799	4,198	66,498	$2,671,834,016
3331	Agriculture, Construction, and Mining Machinery Manufacturing	0.78	*	4,566	675	3,891	1,326	148	1,178	2,770	$241,446,723
3332	Industrial Machinery Manufacturing	0.91		4,305	711	3,594	853	113	740	1,850	$148,934,473
3333	Commercial and Service Industry Machinery Manufacturing	0.92		7,681	1,371	6,310	2,389	366	2,023	8,080	$721,485,074
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	0.82	*	5,796	902	4,894	1,754	256	1,498	7,063	$238,481,633
3335	Metalworking Machinery Manufacturing	0.75	*	6,659	1,194	5,465	1,030	152	878	2,356	$144,535,512
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	0.99		4,657	692	3,965	2,050	307	1,743	16,545	$586,489,756
3339	Other General Purpose Machinery Manufacturing	0.81	*	15,127	2,302	12,825	5,316	739	4,577	24,883	$852,418,965
3341	Computer and Peripheral Equipment Manufacturing	1.07		8,097	1,618	6,479	2,525	464	2,061	10,179	$799,255,170
3342	Communications Equipment Manufacturing	0.89		11,289	1,930	9,359	3,591	527	3,064	14,494	$1,824,391,498
3343	Audio and Video Equipment Manufacturing	1.09		3,407	709	2,698	1,142	235	907	3,247	$179,955,678
3344	Semiconductor and Other Electronic Component Manufacturing	1.10		11,043	1,826	9,217	4,193	633	3,560	41,613	$1,254,953,823
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.85	*	19,674	2,781	16,893	7,743	937	6,806	47,303	$6,680,462,531
3346	Manufacturing and Reproducing Magnetic and Optical Media	0.72	*	2,523	569	1,954	802	109	693	1,379	$64,481,501
3351	Electric Lighting Equipment Manufacturing	0.89		3,939	880	3,059	993	183	810	3,619	$77,842,146
3352	Household Appliance Manufacturing	0.83		1,156	275	881	298	59	239	569	$15,441,781
3353	Electrical Equipment Manufacturing	0.98		7,118	1,193	5,925	2,484	383	2,101	14,108	$803,853,958
3359	Other Electrical Equipment and Component Manufacturing	0.94		10,474	1,934	8,540	3,653	604	3,049	19,024	$704,980,502
3361	Motor Vehicle Manufacturing	0.80		1,506	202	1,304	315	31	284	698	$113,881,681
3362	Motor Vehicle Body and Trailer Manufacturing	0.87		2,942	458	2,484	886	124	762	2,430	$114,162,650
3363	Motor Vehicle Parts Manufacturing	0.80	*	5,705	889	4,816	1,807	258	1,549	15,290	$517,747,537
3364	Aerospace Product and Parts Manufacturing	1.12		10,301	1,744	8,557	3,799	633	3,166	49,447	$16,182,595,091
3365	Railroad Rolling Stock Manufacturing	0.54		687	49	638	32	2	30	54	$13,114,457
3366	Ship and Boat Building	0.87		3,816	563	3,253	1,845	227	1,618	6,363	$5,854,636,066
3369	Other Transportation Equipment Manufacturing	0.76	*	4,508	804	3,704	864	124	740	3,199	$2,073,503,158
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	0.79	*	4,172	1,045	3,127	753	146	607	1,686	$117,544,342
3372	Office Furniture (including Fixtures) Manufacturing	0.89		5,398	1,452	3,946	1,293	303	990	3,867	$210,445,625

3379	Other Furniture Related Product Manufacturing	0.79		959	316	643	140	36	104	274	$8,284,164
3391	Medical Equipment and Supplies Manufacturing	0.59	*	12,543	2,107	10,436	5,849	777	5,072	81,087	$1,980,724,576
3399	Other Miscellaneous Manufacturing	0.81	*	15,272	3,531	11,741	4,076	750	3,326	16,717	$484,665,100
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	0.75	*	5,309	939	4,370	614	88	526	1,182	$28,545,679
4232	Furniture and Home Furnishing Merchant Wholesalers	0.78		4,421	1,554	2,867	385	98	287	664	$21,405,937
4233	Lumber and Other Construction Materials Merchant Wholesalers	0.77	*	6,287	1,572	4,715	518	95	423	845	$35,726,145
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	0.72	*	25,993	6,005	19,988	5,619	920	4,699	24,502	$745,297,697
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	0.72		2,550	573	1,977	235	36	199	401	$7,147,529
4236	Electrical and Electronic Goods Merchant Wholesalers	0.93		14,714	3,328	11,386	1,677	318	1,359	3,312	$142,107,449
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	0.66	*	10,836	2,104	8,732	1,149	167	982	2,362	$38,133,285
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	0.67	*	20,131	3,911	16,220	2,532	332	2,200	5,688	$542,224,233
4239	Miscellaneous Durable Goods Merchant Wholesalers	0.62	*	9,074	2,231	6,843	746	127	619	1,384	$39,082,503
4241	Paper and Paper Product Merchant Wholesalers	1.18		4,994	1,743	3,251	357	120	237	884	$10,157,463
4242	Drugs and Druggists' Sundries Merchant Wholesalers	0.50	*	1,643	420	1,223	225	18	207	1,769	$72,578,259
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	0.71		2,557	945	1,612	128	31	97	383	$4,499,995
4244	Grocery and Related Product Merchant Wholesalers	0.85		3,246	761	2,485	642	97	545	6,762	$252,480,204
4245	Farm Product Raw Material Merchant Wholesalers	0.48		663	126	537	79	7	72	450	$401,426,247
4246	Chemical and Allied Products Merchant Wholesalers	0.64	*	5,439	1,235	4,204	352	56	296	661	$10,482,961
4247	Petroleum and Petroleum Products Merchant Wholesalers	0.87		2,967	456	2,511	590	79	511	2,210	$132,596,533
4248	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	0.66		280	65	215	3	0	3	7	$39,598
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	0.64	*	5,628	1,392	4,236	450	75	375	889	$23,404,389
4251	Wholesale Electronic Markets and Agents and Brokers	0.50	*	3,641	1,084	2,557	119	18	101	203	$2,140,262
4411	Automobile Dealers	0.41	*	1,757	230	1,527	128	6	122	173	$4,531,017
4412	Other Motor Vehicle Dealers	0.88		3,314	457	2,857	544	72	472	1,372	$46,322,219
4413	Automotive Parts, Accessories, and Tire Stores	0.84		3,706	470	3,236	329	34	295	524	$5,942,404
4421	Furniture Stores	0.58	*	2,401	799	1,602	230	51	179	331	$6,858,806
4422	Home Furnishings Stores	0.63	*	2,517	825	1,692	180	41	139	231	$3,168,419
4431	Electronics and Appliance Stores	1.24		5,546	1,309	4,237	312	72	240	451	$10,794,059
4441	Building Material and Supplies Dealers	0.64	*	9,885	1,533	8,352	560	97	463	1,091	$17,460,888
4442	Lawn and Garden Equipment and Supplies Stores	0.54	*	2,312	413	1,899	192	17	175	257	$3,023,333
4451	Grocery Stores	1.09		662	144	518	102	19	83	246	$3,053,040
4452	Specialty Food Stores	0.83		766	246	520	56	10	46	182	$1,685,422
4453	Beer, Wine, and Liquor Stores	0.80		101	25	76	1	0	1	1	$9,298
4461	Health and Personal Care Stores	0.82		4,281	1,131	3,150	360	62	298	990	$24,667,002
4471	Gasoline Stations	1.27		687	113	574	71	11	60	124	$2,424,745
4481	Clothing Stores	0.76		1,899	713	1,186	227	53	174	554	$8,773,643
4482	Shoe Stores	0.89		1,108	171	937	33	5	28	61	$502,878
4483	Jewelry, Luggage, and Leather Goods Stores	0.79		486	166	320	18	4	14	29	$207,249
4511	Sporting Goods, Hobby, and Musical Instrument Stores	0.87		2,769	640	2,129	200	36	164	332	$5,281,743
4512	Book, Periodical, and Music Stores	0.41	*	722	195	527	56	8	48	96	$839,118
4521	Department Stores	1.07		161	57	104	16	3	13	29	$455,815
4529	Other General Merchandise Stores	0.70		979	325	654	85	13	72	137	$3,036,966
4531	Florists	0.99		215	93	122	5	2	3	5	$7,600
4532	Office Supplies, Stationery, and Gift Stores	0.94		3,545	1,228	2,317	406	118	288	1,124	$12,027,510
4533	Used Merchandise Stores	0.37		708	140	568	21	2	19	32	$654,101
4539	Other Miscellaneous Store Retailers	0.82		5,428	1,627	3,801	436	110	326	802	$24,283,141
4541	Electronic Shopping and Mail-Order Houses	0.54		3,037	880	2,157	101	12	89	254	$4,725,657
4542	Vending Machine Operators	1.85		293	86	207	2	1	1	3	$26,611
4543	Direct Selling Establishments	0.61	*	3,494	709	2,785	378	44	334	869	$21,537,143
4811	Scheduled Air Transportation	0.40		1,024	255	769	76	4	72	169	$3,952,559
4812	Nonscheduled Air Transportation	0.95		2,195	408	1,787	335	51	284	2,432	$1,853,218,214
4821	Rail Transportation	0.62		406	82	324	7	0	7	17	$319,149
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	0.51	*	1,389	258	1,131	167	15	152	344	$430,946,083
4832	Inland Water Transportation	0.69		759	154	605	65	8	57	89	$19,800,092
4841	General Freight Trucking	0.74		6,958	1,834	5,124	259	43	216	378	$13,141,818
4842	Specialized Freight Trucking	0.78	*	9,743	2,371	7,372	904	147	657	1,448	$88,243,071
4851	Urban Transit Systems	0.74		1,193	250	943	77	10	67	157	$11,883,218
4852	Interurban and Rural Bus Transportation	0.23		448	95	353	14	0	14	40	$1,541,622
4853	Taxi and Limousine Service	0.68		921	249	672	41	7	34	66	$5,125,686

4854	School and Employee Bus Transportation	0.55		691	183	508	28	4	24	38	$4,275,612
4855	Charter Bus Industry	1.18		1,026	240	786	151	32	119	438	$7,620,462
4859	Other Transit and Ground Passenger Transportation	0.83		2,603	729	1,874	417	90	327	566	$96,533,030
4861	Pipeline Transportation of Crude Oil	1.63		543	30	513	1	0	1	2	$52,925
4862	Pipeline Transportation of Natural Gas	1.69		619	36	583	6	1	5	11	$2,067,157
4869	Other Pipeline Transportation	2.02		709	59	650	3	1	2	4	$25,222
4871	Scenic and Sightseeing Transportation, Land	0.43		456	136	320	16	2	14	21	$145,347
4872	Scenic and Sightseeing Transportation, Water	0.68		288	66	222	15	2	13	20	$350,089
4879	Scenic and Sightseeing Transportation, Other	0.34		298	80	218	2	0	2	4	$140,530
4881	Support Activities for Air Transportation	1.11		4,757	881	3,876	884	139	745	2,356	$915,232,580
4882	Support Activities for Rail Transportation	0.50		639	159	480	11	1	10	16	$2,424,479
4883	Support Activities for Water Transportation	0.80		2,194	413	1,781	250	30	220	523	$77,639,033
4884	Support Activities for Road Transportation	0.52	*	2,746	677	2,069	148	21	127	259	$5,934,622
4885	Freight Transportation Arrangement	0.90		2,944	755	2,189	92	15	77	159	$8,184,794
4889	Other Support Activities for Transportation	0.96		4,114	1,037	3,077	239	45	194	371	$13,309,333
4911	Postal Service	0.88		734	228	506	36	6	30	91	$6,457,321
4921	Couriers and Express Delivery Services	0.78		1,708	489	1,219	160	30	130	389	$16,724,192
4922	Local Messengers and Local Delivery	0.57		1,225	373	852	66	10	56	103	$1,648,346
4931	Warehousing and Storage	0.71	*	7,387	1,665	5,722	441	71	370	755	$337,930,430
5111	Newspaper, Periodical, Book, and Directory Publishers	0.50	*	5,050	1,413	3,637	880	97	783	3,389	$107,693,421
5112	Software Publishers	0.66	*	12,466	2,123	10,343	3,206	318	2,888	11,627	$750,903,195
5121	Motion Picture and Video Industries	0.59	*	5,790	1,740	4,050	381	77	304	613	$37,868,909
5122	Sound Recording Industries	0.48	*	1,698	510	1,188	81	13	68	117	$22,481,240
5151	Radio and Television Broadcasting	0.63	*	1,785	353	1,432	355	53	302	551	$17,208,864
5152	Cable and Other Subscription Programming	0.53		794	129	665	247	12	235	928	$10,382,651
5171	Wired Telecommunications Carriers	0.75		5,714	914	4,800	829	60	769	4,985	$402,985,788
5172	Wireless Telecommunications Carriers (except Satellite)	0.64	*	2,868	578	2,290	390	40	350	1,315	$91,601,498
5174	Satellite Telecommunications	0.57	*	2,379	459	1,920	249	28	221	733	$178,665,535
5179	Other Telecommunications	0.63	*	7,779	1,672	6,107	883	103	780	1,826	$242,838,679
5182	Data Processing, Hosting, and Related Services	0.67	*	14,786	4,038	10,748	932	141	791	1,566	$387,486,660
5191	Other Information Services	0.59	*	11,506	3,455	8,051	978	135	843	2,860	$216,429,049
5221	Depository Credit Intermediation	0.52		820	56	764	37	0	37	90	$30,549,619
5222	Nondepository Credit Intermediation	1.45		1,365	283	1,082	27	3	24	35	$759,120
5223	Activities Related to Credit Intermediation	0.76		1,154	319	835	47	6	41	67	$45,992,489
5231	Securities and Commodity Contracts Intermediation and Brokerage	0.64		623	145	478	17	1	16	22	$217,958,426
5232	Securities and Commodity Exchanges	0.56		101	12	89	4	0	4	7	$112,045
5239	Other Financial Investment Activities	0.71		1,898	490	1,408	115	14	101	243	$23,473,530
5241	Insurance Carriers	0.31	*	1,186	235	951	107	8	99	212	$201,780,074
5242	Agencies, Brokerages, and Other Insurance Related Activities	0.33	*	2,150	653	1,497	79	8	71	179	$115,844,241
5251	Insurance and Employee Benefit Funds	1.15		360	130	230	14	3	11	22	$539,446
5259	Other Investment Pools and Funds	0.37		675	158	517	10	0	10	14	$1,204,996
5311	Lessors of Real Estate	0.95		25,350	2,337	23,013	712	55	657	1,146	$68,802,948
5312	Offices of Real Estate Agents and Brokers	1.09		4,030	1,591	2,439	55	15	40	86	$1,076,979
5313	Activities Related to Real Estate	0.91		13,992	2,721	11,271	1,403	252	1,151	4,754	$141,501,091
5321	Automotive Equipment Rental and Leasing	0.54	*	2,187	375	1,812	330	32	298	965	$45,614,410
5322	Consumer Goods Rental	0.86		2,977	720	2,257	428	79	349	1,053	$83,041,733
5323	General Rental Centers	0.51		737	163	574	61	7	54	76	$1,542,571
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.62	*	10,405	2,073	8,332	1,417	163	1,254	3,738	$155,523,147
5331	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	1.16		179	45	134	15	1	14	40	$7,037,211
5411	Legal Services	0.60	*	7,265	2,207	5,058	1,419	290	1,129	4,230	$186,996,839
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	0.54	*	6,052	2,541	3,511	231	51	180	368	$86,294,885
5413	Architectural, Engineering, and Related Services	0.84	*	64,160	12,634	51,526	5,743	856	4,887	9,790	$5,018,420,242
5414	Specialized Design Services	0.82		20,532	6,939	13,593	471	149	322	622	$36,199,821
5415	Computer Systems Design and Related Services	0.72	*	55,480	13,587	41,893	5,843	1,039	4,804	14,361	$5,068,324,188
5416	Management, Scientific, and Technical Consulting Services	0.81	*	89,197	27,434	61,763	5,803	1,437	4,366	9,852	$4,601,102,896
5417	Scientific Research and Development Services	0.63	*	30,958	6,830	24,128	4,746	665	4,081	13,008	$8,659,555,483
5418	Advertising, Public Relations, and Related Services	0.45	*	11,133	4,831	6,302	592	134	458	946	$255,066,403
5419	Other Professional, Scientific, and Technical Services	0.73	*	41,412	13,178	28,234	4,162	995	3,167	7,186	$3,450,378,598
5511	Management of Companies and Enterprises	1.69		797	182	615	2	0	2	4	$804,600
5611	Office Administrative Services	0.81		12,414	5,289	7,125	463	166	297	721	$160,602,915
5612	Facilities Support Services	0.76	*	17,490	4,524	12,966	1,278	297	981	2,354	$1,381,824,141
5613	Employment Services	1.07		11,905	4,919	6,986	604	236	368	1,228	$180,038,613
5614	Business Support Services	0.94		16,926	7,513	9,413	1,386	578	808	4,082	$645,510,756
5615	Travel Arrangement and Reservation Services	0.51	*	1,820	724	1,096	97	20	77	136	$8,196,695

5616	Investigation and Security Services	0.77	*	17,225	3,549	13,676	2,158	384	1,774	6,332	$627,393,793
5617	Services to Buildings and Dwellings	0.79	*	28,508	8,310	20,198	3,538	922	2,616	6,519	$676,507,796
5619	Other Support Services	0.62	*	12,528	4,383	8,145	1,065	237	828	1,671	$140,131,570
5621	Waste Collection	0.86		6,832	1,488	5,344	1,014	167	847	2,366	$116,372,870
5622	Waste Treatment and Disposal	0.70	*	5,092	933	4,159	459	70	389	1,584	$66,560,587
5629	Remediation and Other Waste Management Services	0.84	*	16,366	3,436	12,930	1,627	338	1,289	3,511	$819,941,258
6111	Elementary and Secondary Schools	0.73		2,105	471	1,634	32	4	28	60	$8,176,719
6112	Junior Colleges	0.35		660	215	445	16	1	15	22	$394,835
6113	Colleges, Universities, and Professional Schools	0.24	*	3,309	585	2,724	390	9	381	1,152	$93,027,030
6114	Business Schools and Computer and Management Training	0.77	*	30,472	10,827	19,645	2,433	607	1,826	4,899	$270,418,974
6115	Technical and Trade Schools	0.78		6,716	1,709	5,007	361	53	308	581	$356,788,731
6116	Other Schools and Instruction	0.64	*	11,436	3,802	7,634	725	150	575	1,196	$103,710,099
6117	Educational Support Services	0.45	*	16,222	5,825	10,397	1,920	406	1,514	5,682	$168,682,059
6211	Offices of Physicians	0.75	*	7,376	1,282	6,094	1,042	153	889	3,356	$576,840,283
6212	Offices of Dentists	0.64		1,599	352	1,247	93	18	75	173	$15,463,121
6213	Offices of Other Health Practitioners	0.84		7,848	2,607	5,239	781	228	553	1,527	$181,156,083
6214	Outpatient Care Centers	0.55	*	9,618	1,274	8,244	311	51	260	554	$138,901,347
6215	Medical and Diagnostic Laboratories	0.57	*	2,983	654	2,329	674	68	606	1,660	$123,226,154
6216	Home Health Care Services	0.80		3,844	1,281	2,563	274	69	205	433	$35,691,942
6219	Other Ambulatory Health Care Services	0.68	*	3,954	1,115	2,839	557	82	475	1,683	$209,889,784
6221	General Medical and Surgical Hospitals	0.54	*	3,074	522	2,552	711	72	639	5,779	$380,222,902
6222	Psychiatric and Substance Abuse Hospitals	0.47		541	140	401	18	2	16	23	$3,304,133
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	0.78		552	153	399	22	1	21	275	$13,983,185
6231	Nursing Care Facilities	0.51	*	4,105	389	3,716	934	39	895	1,047	$69,780,775
6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	1.96		2,528	423	2,105	103	13	90	139	$34,994,914
6233	Community Care Facilities for the Elderly	1.94		1,399	359	1,040	4	3	1	4	$0
6239	Other Residential Care Facilities	1.77		1,957	421	1,536	62	12	50	119	$104,869,647
6241	Individual and Family Services	0.84		14,164	3,625	10,539	380	98	282	530	$211,320,231
6242	Community Food and Housing, and Emergency and Other Relief Services	0.52	*	8,070	1,918	6,152	209	18	191	306	$51,547,495
6243	Vocational Rehabilitation Services	0.75		4,956	1,729	3,227	197	70	127	223	$27,680,398
6244	Child Day Care Services	1.27		3,339	1,162	2,177	65	39	26	199	$6,528,244
7111	Performing Arts Companies	1.03		2,229	775	1,454	214	88	126	326	$4,160,651
7112	Spectator Sports	0.22	*	803	179	624	89	4	85	129	$5,384,691
7113	Promoters of Performing Arts, Sports, and Similar Events	0.34	*	1,782	653	1,129	83	8	75	122	$5,187,249
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	0.25	*	694	319	375	19	3	16	23	$269,110
7115	Independent Artists, Writers, and Performers	0.33	*	5,839	2,636	3,203	605	156	449	959	$20,116,426
7121	Museums, Historical Sites, and Similar Institutions	1.11		3,052	798	2,254	163	54	109	198	$13,362,004
7131	Amusement Parks and Arcades	0.27		265	81	184	6	0	6	19	$494,873
7132	Gambling Industries	3.22		125	38	87	3	2	1	3	$60,613
7139	Other Amusement and Recreation Industries	0.71		3,310	781	2,529	294	45	249	436	$14,309,908
7211	Traveler Accommodation	0.49	*	11,540	921	10,619	2,501	132	2,369	5,140	$168,452,082
7212	RV (Recreational Vehicle) Parks and Recreational Camps	0.69	*	1,717	494	1,223	485	128	357	590	$7,769,398
7213	Rooming and Boarding Houses	0.05		1,500	161	1,339	8	0	8	11	$411,606
7221	Full-Service Restaurants	1.11		1,097	199	898	0	0	0	0	$0
7222	Limited-Service Eating Places	1.60		884	240	644	0	0	0	0	$0
7223	Special Food Services	0.85		4,671	1,401	3,270	907	217	690	3,128	$97,358,090
7224	Drinking Places (Alcoholic Beverages)	1.43		655	87	568	0	0	0	0	$0
7225	Restaurants and Other Eating Places	0.46	*	1,275	213	1,062	87	8	79	123	$1,080,179
8111	Automotive Repair and Maintenance	0.70	*	11,655	1,606	10,049	1,843	185	1,658	3,307	$65,694,674
8112	Electronic and Precision Equipment Repair and Maintenance	0.61	*	18,129	3,501	14,628	4,268	503	3,765	16,720	$679,655,443
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.65	*	12,357	1,994	10,363	3,245	376	2,869	6,093	$208,897,229
8114	Personal and Household Goods Repair and Maintenance	0.81		4,681	1,021	3,660	528	92	436	700	$19,256,209
8121	Personal Care Services	0.17	*	1,048	534	514	24	4	20	37	$582,795
8122	Death Care Services	0.82		828	121	707	186	21	165	361	$57,585,753
8123	Drycleaning and Laundry Services	0.62	*	2,366	649	1,717	450	75	375	895	$59,085,089
8129	Other Personal Services	0.42	*	3,654	1,347	2,307	336	55	281	874	$57,529,438
8131	Religious Organizations	0.47	*	2,336	611	1,725	480	103	377	918	$14,123,890
8132	Grantmaking and Giving Services	0.10		1,746	368	1,378	31	0	31	52	$842,496
8133	Social Advocacy Organizations	0.84		5,615	1,107	4,508	152	21	131	215	$6,698,601
8134	Civic and Social Organizations	0.37		2,144	401	1,743	53	1	52	76	$1,239,399
8139	Business, Professional, Labor, Political, and Similar Organizations	0.41	*	4,531	809	3,722	568	20	548	1,735	$59,662,861

Appendix A
Sorted by
Odds Ratio

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
8121	Personal Care Services	0.17	*	1,048	534	514	24	4	20	37	$582,795
7112	Spectator Sports	0.22	*	803	179	624	89	4	85	129	$5,384,691
6113	Colleges, Universities, and Professional Schools	0.24	*	3,309	585	2,724	390	9	381	1,152	$93,027,030
7114	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	0.25	*	694	319	375	19	3	16	23	$269,110
5241	Insurance Carriers	0.31	*	1,186	235	951	107	8	99	212	$201,760,074
5242	Agencies, Brokerages, and Other Insurance Related Activities	0.33	*	2,150	653	1,497	79	8	71	179	$115,844,241
7115	Independent Artists, Writers, and Performers	0.33	*	5,839	2,636	3,203	605	156	449	959	$20,116,426
7113	Promoters of Performing Arts, Sports, and Similar Events	0.34	*	1,782	653	1,129	83	8	75	122	$5,187,249
8139	Business, Professional, Labor, Political, and Similar Organizations	0.41	*	4,531	809	3,722	568	20	548	1,735	$59,662,861
4512	Book, Periodical, and Music Stores	0.41	*	722	195	527	56	8	48	96	$839,118
4411	Automobile Dealers	0.41	*	1,757	230	1,527	128	6	122	173	$4,531,017
8129	Other Personal Services	0.42	*	3,654	1,347	2,307	336	55	281	874	$57,529,438
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing	0.42	*	1,004	235	769	217	22	195	2,801	$1,252,270,006
6117	Educational Support Services	0.45	*	16,222	5,825	10,397	1,920	406	1,514	5,682	$168,682,059
5418	Advertising, Public Relations, and Related Services	0.45	*	11,133	4,831	6,302	592	134	458	946	$255,066,403
7225	Restaurants and Other Eating Places	0.46	*	1,275	213	1,062	87	8	79	123	$1,060,179
8131	Religious Organizations	0.47	*	2,336	611	1,725	480	103	377	918	$14,123,890
5122	Sound Recording Industries	0.48	*	1,698	510	1,188	81	13	68	117	$22,481,240
7211	Traveler Accommodation	0.49	*	11,540	921	10,619	2,501	132	2,369	5,140	$168,452,082
4242	Drugs and Druggists' Sundries Merchant Wholesalers	0.50	*	1,643	420	1,223	225	18	207	1,769	$72,578,259
4251	Wholesale Electronic Markets and Agents and Brokers	0.50	*	3,641	1,084	2,557	119	18	101	203	$2,140,262
5111	Newspaper, Periodical, Book, and Directory Publishers	0.50	*	5,050	1,413	3,637	880	97	783	3,389	$107,693,421
5615	Travel Arrangement and Reservation Services	0.51	*	1,820	724	1,096	97	20	77	136	$8,196,695
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	0.51	*	1,389	258	1,131	167	15	152	344	$430,946,083
6231	Nursing Care Facilities	0.51	*	4,105	389	3,716	934	39	895	1,047	$69,780,775
6242	Community Food and Housing, and Emergency and Other Relief Services	0.52	*	8,070	1,918	6,152	209	18	191	306	$51,547,495
4884	Support Activities for Road Transportation	0.52	*	2,746	677	2,069	148	21	127	259	$5,934,622
3231	Printing and Related Support Activities	0.53	*	7,637	2,577	5,060	690	126	564	1,501	$40,077,661

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
6221	General Medical and Surgical Hospitals	0.54	*	3,074	522	2,552	711	72	639	5,779	$380,222,902
3141	Textile Furnishings Mills	0.54	*	1,261	430	831	226	51	175	442	$14,578,109
5321	Automotive Equipment Rental and Leasing	0.54	*	2,187	375	1,812	330	32	298	965	$45,614,410
5412	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	0.54	*	6,052	2,541	3,511	231	51	180	368	$86,294,885
4442	Lawn and Garden Equipment and Supplies Stores	0.54	*	2,312	413	1,899	192	17	175	257	$3,023,333
6214	Outpatient Care Centers	0.55	*	9,518	1,274	8,244	311	51	260	554	$138,901,347
3118	Bakeries and Tortilla Manufacturing	0.55	*	858	216	642	247	21	226	1,119	$135,610,459
5174	Satellite Telecommunications	0.57	*	2,379	459	1,920	249	28	221	733	$178,665,535
6215	Medical and Diagnostic Laboratories	0.57	*	2,983	654	2,329	674	68	606	1,660	$123,226,154
2361	Residential Building Construction	0.57	*	26,691	5,372	21,319	1,016	136	880	2,922	$88,089,159
4421	Furniture Stores	0.58	*	2,401	799	1,602	230	51	179	331	$6,858,806
5191	Other Information Services	0.59	*	11,506	3,455	8,051	978	135	843	2,860	$216,429,049
3391	Medical Equipment and Supplies Manufacturing	0.59	*	12,543	2,107	10,436	5,849	777	5,072	81,087	$1,980,724,576
5121	Motion Picture and Video Industries	0.59	*	5,790	1,740	4,050	381	77	304	613	$37,868,909
5411	Legal Services	0.60	*	7,265	2,207	5,058	1,419	290	1,129	4,230	$186,996,839
8112	Electronic and Precision Equipment Repair and Maintenance	0.61	*	18,129	3,501	14,628	4,268	503	3,765	16,720	$679,655,443
4543	Direct Selling Establishments	0.61	*	3,494	709	2,785	378	44	334	869	$21,537,143
8123	Drycleaning and Laundry Services	0.62	*	2,366	649	1,717	450	75	375	895	$59,085,089
4239	Miscellaneous Durable Goods Merchant Wholesalers	0.62	*	9,074	2,231	6,843	746	127	619	1,384	$39,082,503
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	0.62	*	10,405	2,073	8,332	1,417	163	1,254	3,738	$155,523,147
5619	Other Support Services	0.62	*	12,528	4,383	8,145	1,065	237	828	1,671	$140,131,570
5179	Other Telecommunications	0.63	*	7,779	1,672	6,107	883	103	780	1,826	$242,838,679
5417	Scientific Research and Development Services	0.63	*	30,958	6,830	24,128	4,746	665	4,081	13,008	$8,659,555,483
5151	Radio and Television Broadcasting	0.63	*	1,785	353	1,432	355	53	302	551	$17,208,884
4422	Home Furnishings Stores	0.63	*	2,517	825	1,692	180	41	139	231	$3,168,419
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	0.64	*	5,628	1,392	4,236	450	75	375	889	$23,404,389
5172	Wireless Telecommunications Carriers (except Satellite)	0.64	*	2,868	578	2,290	390	40	350	1,315	$91,601,498
4246	Chemical and Allied Products Merchant Wholesalers	0.64	*	5,439	1,235	4,204	352	56	296	661	$10,482,961
6116	Other Schools and Instruction	0.64	*	11,436	3,802	7,634	725	150	575	1,196	$103,710,099
4441	Building Material and Supplies Dealers	0.64	*	9,885	1,533	8,352	560	97	463	1,091	$17,460,888

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
3241	Petroleum and Coal Products Manufacturing	0.65	*	2,636	430	2,206	788	90	698	2,743	$8,150,305,066
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	0.65	*	12,357	1,994	10,363	3,245	376	2,869	6,093	$208,897,229
4237	Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	0.66	*	10,836	2,104	8,732	1,149	167	982	2,362	$38,133,285
2379	Other Heavy and Civil Engineering Construction	0.66	*	18,733	3,464	15,269	1,037	169	868	1,738	$5,252,358,987
5112	Software Publishers	0.66	*	12,466	2,123	10,343	3,206	318	2,888	11,627	$750,903,195
5182	Data Processing, Hosting, and Related Services	0.67	*	14,786	4,038	10,748	932	141	791	1,566	$387,486,660
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	0.67	*	20,131	3,911	16,220	2,532	332	2,200	5,688	$542,224,233
6219	Other Ambulatory Health Care Services	0.68	*	3,954	1,115	2,839	557	82	475	1,683	$209,889,784
3328	Coating, Engraving, Heat Treating, and Allied Activities	0.69	*	3,176	699	2,477	263	40	223	492	$19,404,204
7212	RV (Recreational Vehicle) Parks and Recreational Camps	0.69	*	1,717	494	1,223	485	128	357	590	$7,769,398
8111	Automotive Repair and Maintenance	0.70	*	11,655	1,606	10,049	1,843	185	1,658	3,307	$65,694,874
5622	Waste Treatment and Disposal	0.70	*	5,092	933	4,159	459	70	389	1,584	$66,560,587
2213	Water, Sewage and Other Systems	0.71	*	8,641	1,567	7,074	675	85	590	1,035	$106,964,258
4931	Warehousing and Storage	0.71	*	7,387	1,665	5,722	441	71	370	755	$337,930,430
2383	Building Finishing Contractors	0.71	*	28,787	6,942	21,845	1,718	356	1,362	2,664	$161,529,530
2381	Foundation, Structure, and Building Exterior Contractors	0.71	*	31,590	6,720	24,870	1,550	292	1,258	2,328	$671,838,664
2389	Other Specialty Trade Contractors	0.72	*	40,739	9,101	31,638	2,854	528	2,326	4,536	$563,267,139
4234	Professional and Commercial Equipment and Supplies Merchant Wholesalers	0.72	*	25,993	6,005	19,988	5,619	920	4,699	24,502	$745,297,697
5415	Computer Systems Design and Related Services	0.72	*	55,480	13,587	41,893	5,843	1,039	4,804	14,361	$5,068,324,188
3346	Manufacturing and Reproducing Magnetic and Optical Media	0.72	*	2,523	569	1,954	802	109	693	1,379	$64,481,501
2382	Building Equipment Contractors	0.73	*	46,213	8,949	37,264	6,064	973	5,091	11,686	$1,565,700,847
5419	Other Professional, Scientific, and Technical Services	0.73	*	41,412	13,178	28,234	4,162	995	3,167	7,186	$3,450,378,598
4231	Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	0.75	*	5,309	939	4,370	614	88	526	1,182	$28,545,679
3335	Metalworking Machinery Manufacturing	0.75	*	6,659	1,194	5,465	1,030	152	878	2,356	$144,535,512
6211	Offices of Physicians	0.75	*	7,376	1,282	6,094	1,042	153	889	3,356	$576,840,283
3369	Other Transportation Equipment Manufacturing	0.76	*	4,508	804	3,704	864	124	740	3,199	$2,073,503,158

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
5612	Facilities Support Services	0.76	*	17,490	4,524	12,966	1,278	297	981	2,354	$1,381,824,141
3323	Architectural and Structural Metals Manufacturing	0.77	*	12,958	2,605	10,353	2,048	333	1,715	4,284	$431,771,759
1153	Support Activities for Forestry	0.77	*	8,103	1,587	6,516	2,945	525	2,420	5,497	$201,252,365
6114	Business Schools and Computer and Management Training	0.77	*	30,472	10,827	19,645	2,433	607	1,826	4,899	$270,418,974
4233	Lumber and Other Construction Materials Merchant Wholesalers	0.77	*	6,287	1,572	4,715	518	95	423	845	$35,726,145
5616	Investigation and Security Services	0.77	*	17,225	3,549	13,676	2,158	384	1,774	6,332	$627,393,793
4842	Specialized Freight Trucking	0.78	*	9,743	2,371	7,372	804	147	657	1,448	$88,243,071
3331	Agriculture, Construction, and Mining Machinery Manufacturing	0.78	*	4,566	675	3,891	1,326	148	1,178	2,770	$241,446,723
3325	Hardware Manufacturing	0.78	*	4,961	1,007	3,954	2,343	396	1,947	18,923	$316,163,745
3149	Other Textile Product Mills	0.79	*	4,176	1,236	2,940	928	193	735	3,800	$201,735,873
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	0.79	*	4,172	1,045	3,127	753	146	607	1,686	$117,544,342
2373	Highway, Street, and Bridge Construction	0.79	*	19,463	3,744	15,719	1,215	212	1,003	1,965	$1,949,342,536
2371	Utility System Construction	0.79	*	26,251	5,038	21,213	1,345	234	1,111	2,088	$1,148,395,485
5617	Services to Buildings and Dwellings	0.79	*	28,508	8,310	20,198	3,538	922	2,616	6,519	$676,507,796
3363	Motor Vehicle Parts Manufacturing	0.80	*	5,705	889	4,816	1,807	258	1,549	15,290	$517,747,537
3324	Boiler, Tank, and Shipping Container Manufacturing	0.81	*	4,576	904	3,672	1,120	192	928	3,527	$1,439,441,543
3339	Other General Purpose Machinery Manufacturing	0.81	*	15,127	2,302	12,825	5,316	739	4,577	24,883	$852,418,965
3399	Other Miscellaneous Manufacturing	0.81	*	15,272	3,531	11,741	4,076	750	3,326	16,717	$484,665,100
5416	Management, Scientific, and Technical Consulting Services	0.81	*	89,197	27,434	61,763	5,803	1,437	4,366	9,852	$4,601,102,896
3334	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	0.82	*	5,796	902	4,894	1,754	256	1,498	7,063	$238,481,633
5413	Architectural, Engineering, and Related Services	0.84	*	64,160	12,634	51,526	5,743	856	4,887	9,790	$5,018,420,242
5629	Remediation and Other Waste Management Services	0.84	*	16,366	3,436	12,930	1,627	338	1,289	3,511	$819,941,258
3329	Other Fabricated Metal Product Manufacturing	0.84	*	16,500	3,067	13,433	4,997	799	4,198	66,498	$2,671,834,016
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	0.85	*	19,674	2,781	16,893	7,743	937	6,806	47,303	$6,680,462,531
2362	Nonresidential Building Construction	0.88	*	38,890	7,465	31,425	3,289	632	2,657	8,547	$13,005,918,992
7213	Rooming and Boarding Houses	0.05		1,500	161	1,339	8	0	8	11	$411,606
8132	Grantmaking and Giving Services	0.10		1,746	368	1,378	31	0	31	52	$642,496
1122	Hog and Pig Farming	0.23		170	21	149	15	0	15	47	$446,138

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
4852	Interurban and Rural Bus Transportation	0.23		448	95	353	14	0	14	40	$1,541,622
7131	Amusement Parks and Arcades	0.27		265	81	184	6	0	6	19	$494,873
1111	Oilseed and Grain Farming	0.34		1,694	120	1,574	32	0	32	49	$546,219
2121	Coal Mining	0.34		150	22	128	7	0	7	12	$15,386,209
4879	Scenic and Sightseeing Transportation, Other	0.34		298	80	218	2	0	2	4	$140,530
6112	Junior Colleges	0.35		660	215	445	16	1	15	22	$394,835
8134	Civic and Social Organizations	0.37		2,144	401	1,743	53	1	52	76	$1,239,399
4533	Used Merchandise Stores	0.37		708	140	568	21	2	19	32	$654,101
5259	Other Investment Pools and Funds	0.37		675	158	517	10	0	10	14	$1,204,996
1112	Vegetable and Melon Farming	0.40		559	133	426	7	0	7	10	$141,926
4811	Scheduled Air Transportation	0.40		1,024	255	769	76	4	72	169	$3,952,559
4871	Scenic and Sightseeing Transportation, Land	0.43		456	136	320	16	2	14	21	$145,347
1142	Hunting and Trapping	0.46		492	91	401	32	2	30	70	$957,971
6222	Psychiatric and Substance Abuse Hospitals	0.47		541	140	401	18	2	16	23	$3,304,133
1124	Sheep and Goat Farming	0.48		204	61	143	10	2	8	12	$133,340
4245	Farm Product Raw Material Merchant Wholesalers	0.48		663	126	537	79	7	72	450	$401,426,247
4882	Support Activities for Rail Transportation	0.50		639	159	480	11	1	10	16	$2,424,479
3274	Lime and Gypsum Product Manufacturing	0.51		190	47	143	12	2	10	17	$241,590
5323	General Rental Centers	0.51		737	163	574	61	7	54	76	$1,542,571
5221	Depository Credit Intermediation	0.52		820	56	764	37	0	37	90	$30,549,619
2111	Oil and Gas Extraction	0.53		414	73	341	64	6	58	95	$17,329,405
3113	Sugar and Confectionery Product Manufacturing	0.53		267	87	180	12	1	11	42	$35,503,993
5152	Cable and Other Subscription Programming	0.53		794	129	665	247	12	235	928	$10,382,651
3365	Railroad Rolling Stock Manufacturing	0.54		687	49	638	32	2	30	54	$13,114,457
4541	Electronic Shopping and Mail-Order Houses	0.54		3,037	880	2,157	101	12	89	254	$4,725,657
1129	Other Animal Production	0.55		711	191	520	98	15	83	247	$5,617,220
4854	School and Employee Bus Transportation	0.55		691	183	508	28	4	24	38	$4,275,612
5232	Securities and Commodity Exchanges	0.56		101	12	89	4	0	4	7	$112,045
4922	Local Messengers and Local Delivery	0.57		1,225	373	852	66	10	56	103	$1,648,346
3116	Animal Slaughtering and Processing	0.60		670	113	557	188	22	166	2,170	$1,499,619,397
1141	Fishing	0.60		418	63	355	36	3	33	52	$1,298,495
1123	Poultry and Egg Production	0.62		303	65	238	33	4	29	132	$8,969,871

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
4821	Rail Transportation	0.62		406	82	324	7	0	7	17	$319,149
3117	Seafood Product Preparation and Packaging	0.64		233	59	174	34	6	28	104	$82,796,496
3211	Sawmills and Wood Preservation	0.64		1,294	275	1,019	152	24	128	233	$5,310,924
1131	Timber Tract Operations	0.64		981	169	812	26	2	24	70	$1,097,676
5231	Securities and Commodity Contracts Intermediation and Brokerage	0.64		623	145	478	17	1	16	22	$217,958,426
6212	Offices of Dentists	0.64		1,599	352	1,247	93	18	75	173	$15,463,121
4248	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	0.66		280	65	215	3	0	3	7	$39,598
2212	Natural Gas Distribution	0.66		1,259	192	1,067	161	8	153	708	$114,876,302
3162	Footwear Manufacturing	0.67		1,096	199	897	137	26	111	388	$26,974,905
3151	Apparel Knitting Mills	0.68		691	242	449	46	11	35	78	$5,382,282
4872	Scenic and Sightseeing Transportation, Water	0.68		288	66	222	15	2	13	20	$350,089
4853	Taxi and Limousine Service	0.68		921	249	672	41	7	34	66	$5,125,686
4832	Inland Water Transportation	0.69		759	154	605	65	8	57	89	$19,800,092
4529	Other General Merchandise Stores	0.70		979	325	654	85	13	72	137	$3,036,966
3311	Iron and Steel Mills and Ferroalloy Manufacturing	0.71		1,034	235	799	323	62	261	927	$16,828,410
4243	Apparel, Piece Goods, and Notions Merchant Wholesalers	0.71		2,557	945	1,612	128	31	97	383	$4,499,995
3273	Cement and Concrete Product Manufacturing	0.71		2,179	389	1,790	307	40	267	467	$64,735,258
7139	Other Amusement and Recreation Industries	0.71		3,310	781	2,529	294	45	249	436	$14,309,908
5239	Other Financial Investment Activities	0.71		1,898	490	1,408	115	14	101	243	$23,473,530
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers	0.72		2,550	573	1,977	235	36	199	401	$7,147,529
1151	Support Activities for Crop Production	0.72		2,934	562	2,372	231	31	200	380	$18,047,897
6111	Elementary and Secondary Schools	0.73		2,105	471	1,634	32	4	28	60	$8,176,719
3111	Animal Food Manufacturing	0.73		392	74	318	90	10	80	416	$14,402,696
3121	Beverage Manufacturing	0.74		1,607	278	1,329	173	22	151	442	$7,073,537
4841	General Freight Trucking	0.74		6,958	1,834	5,124	259	43	216	376	$13,141,818
4851	Urban Transit Systems	0.74		1,193	250	943	77	10	67	157	$11,883,218
6243	Vocational Rehabilitation Services	0.75		4,956	1,729	3,227	197	70	127	223	$27,680,398
5171	Wired Telecommunications Carriers	0.75		5,714	914	4,800	829	60	769	4,985	$402,985,788
4481	Clothing Stores	0.76		1,899	713	1,186	227	53	174	554	$8,773,643
5223	Activities Related to Credit Intermediation	0.76		1,154	319	835	47	6	41	67	$45,992,489
3119	Other Food Manufacturing	0.78		2,021	460	1,561	546	90	456	11,295	$659,678,106

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
6115	Technical and Trade Schools	0.78		6,716	1,709	5,007	361	53	308	581	$356,788,731
4232	Furniture and Home Furnishing Merchant Wholesalers	0.78		4,421	1,554	2,867	385	98	287	664	$21,405,937
1152	Support Activities for Animal Production	0.78		576	132	444	66	11	55	99	$7,678,377
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	0.78		552	153	399	22	1	21	275	$13,983,185
4921	Couriers and Express Delivery Services	0.78		1,708	489	1,219	160	30	130	389	$16,724,192
1119	Other Crop Farming	0.78		1,706	247	1,459	175	21	154	401	$35,784,997
3379	Other Furniture Related Product Manufacturing	0.79		959	316	643	140	36	104	274	$8,284,164
4483	Jewelry, Luggage, and Leather Goods Stores	0.79		486	166	320	18	4	14	29	$207,249
4453	Beer, Wine, and Liquor Stores	0.80		101	25	76	1	0	1	1	$9,298
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	0.80		863	181	682	166	30	136	443	$9,197,024
6216	Home Health Care Services	0.80		3,844	1,281	2,563	274	69	205	433	$35,691,942
3361	Motor Vehicle Manufacturing	0.80		1,506	202	1,304	315	31	284	698	$113,881,681
4883	Support Activities for Water Transportation	0.80		2,194	413	1,781	250	30	220	523	$77,639,033
5611	Office Administrative Services	0.81		12,414	5,289	7,125	463	166	297	721	$160,602,915
8114	Personal and Household Goods Repair and Maintenance	0.81		4,681	1,021	3,660	528	92	436	700	$19,256,209
5414	Specialized Design Services	0.82		20,532	6,939	13,593	471	149	322	622	$36,199,821
4539	Other Miscellaneous Store Retailers	0.82		5,428	1,627	3,801	436	110	326	802	$24,283,141
3112	Grain and Oilseed Milling	0.82		523	118	405	108	15	93	909	$647,939,106
3152	Cut and Sew Apparel Manufacturing	0.82		2,799	964	1,835	395	95	300	999	$196,446,805
4461	Health and Personal Care Stores	0.82		4,281	1,131	3,150	360	62	298	990	$24,667,002
8122	Death Care Services	0.82		828	121	707	186	21	165	361	$57,585,753
4859	Other Transit and Ground Passenger Transportation	0.83		2,603	729	1,874	417	90	327	566	$96,533,030
3352	Household Appliance Manufacturing	0.83		1,156	275	881	298	59	239	569	$15,441,781
4452	Specialty Food Stores	0.83		766	246	520	56	10	46	182	$1,685,422
4413	Automotive Parts, Accessories, and Tire Stores	0.84		3,706	470	3,236	329	34	295	524	$5,942,404
6241	Individual and Family Services	0.84		14,164	3,625	10,539	380	98	282	530	$211,320,231
8133	Social Advocacy Organizations	0.84		5,615	1,107	4,508	152	21	131	215	$6,698,601
6213	Offices of Other Health Practitioners	0.84		7,846	2,607	5,239	781	228	553	1,527	$181,156,083
3115	Dairy Product Manufacturing	0.84		505	90	415	136	14	122	652	$612,510,302
2211	Electric Power Generation, Transmission and Distribution	0.85		6,276	936	5,340	284	27	257	440	$24,036,281
7223	Special Food Services	0.85		4,671	1,401	3,270	907	217	690	3,128	$97,358,090

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
4244	Grocery and Related Product Merchant Wholesalers	0.85		3,246	761	2,485	642	97	545	6,762	$252,480,204
3261	Plastics Product Manufacturing	0.85		8,087	1,691	6,396	1,456	273	1,183	4,626	$109,646,304
3256	Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.86		1,921	537	1,384	255	57	198	607	$7,421,533
5322	Consumer Goods Rental	0.86		2,977	720	2,257	428	79	349	1,053	$83,041,733
5621	Waste Collection	0.86		6,832	1,488	5,344	1,014	167	847	2,366	$116,372,870
1114	Greenhouse, Nursery, and Floriculture Production	0.87		1,231	270	961	64	13	51	90	$2,498,964
4247	Petroleum and Petroleum Products Merchant Wholesalers	0.87		2,967	456	2,511	590	79	511	2,210	$132,596,533
3366	Ship and Boat Building	0.87		3,816	563	3,253	1,845	227	1,618	6,363	$5,854,636,066
3254	Pharmaceutical and Medicine Manufacturing	0.87		3,040	399	2,641	993	90	903	7,632	$5,952,127,832
3255	Paint, Coating, and Adhesive Manufacturing	0.87		5,514	424	5,090	560	96	464	3,774	$56,063,355
4511	Sporting Goods, Hobby, and Musical Instrument Stores	0.87		2,769	640	2,129	200	36	164	332	$5,281,743
3362	Motor Vehicle Body and Trailer Manufacturing	0.87		2,942	458	2,484	886	124	762	2,430	$114,162,650
2123	Nonmetallic Mineral Mining and Quarrying	0.88		3,698	615	3,083	535	71	464	844	$50,478,110
3133	Textile and Fabric Finishing and Fabric Coating Mills	0.88		1,113	268	845	342	57	285	842	$41,022,820
4911	Postal Service	0.88		734	228	506	36	6	30	91	$6,457,321
1132	Forest Nurseries and Gathering of Forest Products	0.88		943	189	754	61	8	53	97	$2,492,836
4412	Other Motor Vehicle Dealers	0.88		3,314	457	2,857	544	72	472	1,372	$46,322,219
3372	Office Furniture (including Fixtures) Manufacturing	0.89		5,398	1,452	3,946	1,293	303	990	3,867	$210,445,625
3312	Steel Product Manufacturing from Purchased Steel	0.89		2,692	567	2,125	741	129	612	2,885	$49,332,357
3351	Electric Lighting Equipment Manufacturing	0.89		3,939	880	3,059	993	183	810	3,619	$77,842,146
3342	Communications Equipment Manufacturing	0.89		11,289	1,930	9,359	3,591	527	3,064	14,494	$1,824,391,498
4482	Shoe Stores	0.89		1,108	171	937	33	5	28	61	$502,878
3221	Pulp, Paper, and Paperboard Mills	0.90		969	286	683	132	33	99	382	$15,408,547
4885	Freight Transportation Arrangement	0.90		2,944	755	2,189	92	15	77	159	$8,184,794
5313	Activities Related to Real Estate	0.91		13,992	2,721	11,271	1,403	252	1,151	4,754	$141,501,091
3219	Other Wood Product Manufacturing	0.91		5,086	1,167	3,919	583	120	463	1,009	$65,560,629
3332	Industrial Machinery Manufacturing	0.91		4,305	711	3,594	853	113	740	1,850	$148,934,473
3272	Glass and Glass Product Manufacturing	0.92		1,365	362	1,003	205	42	163	465	$17,427,763

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
3333	Commercial and Service Industry Machinery Manufacturing	0.92		7,681	1,371	6,310	2,389	366	2,023	8,080	$721,485,074
3259	Other Chemical Product and Preparation Manufacturing	0.93		4,029	928	3,101	987	178	809	2,585	$238,005,982
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	0.93		796	175	621	100	20	80	216	$4,227,904
4236	Electrical and Electronic Goods Merchant Wholesalers	0.93		14,714	3,328	11,386	1,677	318	1,359	3,312	$142,107,449
1133	Logging	0.93		2,263	374	1,889	76	11	65	106	$9,851,695
4532	Office Supplies, Stationery, and Gift Stores	0.94		3,545	1,228	2,317	406	118	288	1,124	$12,027,510
3359	Other Electrical Equipment and Component Manufacturing	0.94		10,474	1,934	8,540	3,653	604	3,049	19,024	$704,980,502
5614	Business Support Services	0.94		16,926	7,513	9,413	1,386	578	808	4,082	$645,510,756
5311	Lessors of Real Estate	0.95		25,350	2,337	23,013	712	55	657	1,146	$68,802,948
3251	Basic Chemical Manufacturing	0.95		2,777	422	2,355	751	103	648	2,656	$239,601,180
4812	Nonscheduled Air Transportation	0.95		2,195	408	1,787	335	51	284	2,432	$1,853,218,214
4889	Other Support Activities for Transportation	0.96		4,114	1,037	3,077	239	45	194	371	$13,309,333
3314	Nonferrous Metal (except Aluminum) Production and Processing	0.97		1,665	339	1,326	563	100	463	2,364	$52,331,794
3313	Alumina and Aluminum Production and Processing	0.98		1,402	264	1,138	448	78	370	1,776	$27,532,170
3353	Electrical Equipment Manufacturing	0.98		7,118	1,193	5,925	2,484	383	2,101	14,108	$603,853,958
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing	0.99		4,657	692	3,965	2,050	307	1,743	16,545	$586,489,756
3262	Rubber Product Manufacturing	0.99		3,830	609	3,221	992	174	818	4,111	$134,781,906
3122	Tobacco Manufacturing	0.99		47	11	36	2	0	2	2	$266,642
4531	Florists	0.99		215	93	122	5	2	3	5	$7,600
3132	Fabric Mills	1.00		1,348	359	989	259	53	206	635	$43,617,813
1125	Aquaculture	1.00		493	108	385	37	5	32	68	$1,967,900
3327	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	1.02		12,662	2,371	10,291	2,443	445	1,998	18,544	$280,336,163
3169	Other Leather and Allied Product Manufacturing	1.02		1,180	375	805	170	47	123	279	$7,496,563
7111	Performing Arts Companies	1.03		2,229	775	1,454	214	88	126	326	$4,160,651
3159	Apparel Accessories and Other Apparel Manufacturing	1.03		2,341	718	1,623	553	139	414	1,500	$207,151,864
3326	Spring and Wire Product Manufacturing	1.03		2,828	571	2,257	926	167	759	3,160	$54,288,310
3271	Clay Product and Refractory Manufacturing	1.05		673	182	491	93	24	69	161	$2,550,163
4521	Department Stores	1.07		161	57	104	16	3	13	29	$455,815

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
3341	Computer and Peripheral Equipment Manufacturing	1.07		8,097	1,618	6,479	2,525	464	2,061	10,179	$799,255,170
5613	Employment Services	1.07		11,905	4,919	6,986	604	236	368	1,228	$180,038,613
3322	Cutlery and Handtool Manufacturing	1.08		2,616	488	2,128	728	149	579	2,133	$78,900,457
4451	Grocery Stores	1.09		662	144	518	102	19	83	246	$3,053,040
3343	Audio and Video Equipment Manufacturing	1.09		3,407	709	2,698	1,142	235	907	3,247	$179,955,878
5312	Offices of Real Estate Agents and Brokers	1.09		4,030	1,591	2,439	55	15	40	86	$1,076,979
3344	Semiconductor and Other Electronic Component Manufacturing	1.10		11,043	1,826	9,217	4,193	633	3,560	41,613	$1,254,953,823
7121	Museums, Historical Sites, and Similar Institutions	1.11		3,052	798	2,254	163	54	109	198	$13,362,004
4881	Support Activities for Air Transportation	1.11		4,757	881	3,876	884	139	745	2,356	$915,232,580
7221	Full-Service Restaurants	1.11		1,097	199	898	0	0	0	0	$0
3222	Converted Paper Product Manufacturing	1.12		3,407	988	2,419	591	146	445	1,599	$29,179,951
2131	Support Activities for Mining	1.12		3,687	666	3,021	242	39	203	376	$44,250,481
3364	Aerospace Product and Parts Manufacturing	1.12		10,301	1,744	8,557	3,799	633	3,166	49,447	$16,182,595,091
3279	Other Nonmetallic Mineral Product Manufacturing	1.14		2,252	381	1,871	562	108	454	1,729	$116,552,097
5251	Insurance and Employee Benefit Funds	1.15		360	130	230	14	3	11	22	$539,446
5331	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	1.16		179	45	134	15	1	14	40	$7,037,211
3321	Forging and Stamping	1.18		3,113	629	2,484	777	149	628	2,866	$48,566,189
4241	Paper and Paper Product Merchant Wholesalers	1.18		4,994	1,743	3,251	357	120	237	884	$10,157,463
4855	Charter Bus Industry	1.18		1,026	240	786	151	32	119	438	$7,620,462
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing	1.22		1,581	279	1,302	427	77	350	861	$16,948,608
4431	Electronics and Appliance Stores	1.24		5,546	1,309	4,237	312	72	240	451	$10,794,059
6244	Child Day Care Services	1.27		3,339	1,162	2,177	65	39	26	199	$6,528,244
4471	Gasoline Stations	1.27		687	113	574	71	11	60	124	$2,424,745
3315	Foundries	1.36		1,013	167	846	225	39	186	452	$16,827,451
2372	Land Subdivision	1.37		5,600	1,246	4,354	7	2	5	7	$3,883,566
7224	Drinking Places (Alcoholic Beverages)	1.43		655	87	568	0	0	0	0	$0
5222	Nondepository Credit Intermediation	1.45		1,365	283	1,082	27	3	24	35	$759,120
2122	Metal Ore Mining	1.46		209	38	171	7	1	6	11	$261,248
1121	Cattle Ranching and Farming	1.57		1,699	179	1,520	61	9	52	114	$2,357,927
7222	Limited-Service Eating Places	1.60		884	240	644	0	0	0	0	$0

NAICS Code	NAICS4 Title	Odds Ratio	Statistically Significant	Total Number of Firms	Number of WOBs	Number of Non-WOBS	Number of Winners	Number of WOB Winners	Number of Non-WOB Winners	Number of Contracts	Dollars Awarded
4861	Pipeline Transportation of Crude Oil	1.63		543	30	513	1	0	1	2	$52,925
1113	Fruit and Tree Nut Farming	1.64		650	123	527	7	2	5	10	$357,663
4862	Pipeline Transportation of Natural Gas	1.69		619	36	583	6	1	5	11	$2,067,157
5511	Management of Companies and Enterprises	1.69		797	182	615	2	0	2	4	$804,600
6239	Other Residential Care Facilities	1.77		1,957	421	1,536	62	12	50	119	$104,869,647
4542	Vending Machine Operators	1.85		293	86	207	2	1	1	3	$26,611
6233	Community Care Facilities for the Elderly	1.94		1,399	359	1,040	4	3	1	4	$0
6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	1.96		2,528	423	2,105	103	13	90	139	$34,994,914
3131	Fiber, Yarn, and Thread Mills	1.97		244	68	176	44	14	30	127	$811,876
4869	Other Pipeline Transportation	2.02		709	59	650	3	1	2	4	$25,222
3161	Leather and Hide Tanning and Finishing	2.30		181	49	132	21	6	15	22	$1,773,049
7132	Gambling Industries	3.22		125	38	87	3	2	1	3	$60,613

Appendix B

NAICS Code	1111	1112	1113	1114	1119	1121	1122	1123	1124	1125	1129	1131
Woman-owned	0.336	0.399	1.639	0.866	0.784	1.573	0.228	0.621	0.484	1.002	0.546*	0.641
	(0.467)	(0.702)	(1.452)	(0.305)	(0.215)	(0.624)	(0.317)	(0.455)	(0.423)	(0.527)	(0.176)	(0.426)
SDB not 8(a)	0.495	0.351	2.048	0.657	0.981	1.116	1.109	2.909	8.963	0.643	0.487*	1.589
	(0.419)	(0.516)	(1.941)	(0.240)	(0.246)	(0.434)	(0.784)	(2.081)	(13.05)	(0.362)	(0.188)	(0.703)
8(a) certified	0.206	0.578	81.16	2.156	1.890	4.516		1.486		2.898	1.233	9.655
	(0.715)	(1.437)	(229.2)	(1.624)	(1.608)	(8.979)		(3.109)		(6.261)	(2.079)	(19.71)
Minority-owned	0.445	7.165	0.954	0.371*	0.525*	0.330	0.271	0.477	0.251	0.172	0.314*	0.145
	(0.639)	(8.603)	(1.747)	(0.196)	(0.188)	(0.231)	(0.420)	(0.466)	(0.421)	(0.249)	(0.213)	(0.205)
HubZone certified	4.600		1.620	0.591	0.485	0.305		0.144	5.198	7.021	0.307	1.040
	(8.730)		(3.803)	(0.560)	(0.465)	(0.511)		(0.344)	(10.69)	(12.49)	(0.472)	(0.928)
Service-disabled veteran	0.318	0.345	0.281	1.222	0.679	0.945	0.758	0.392	0.00707	1.370	0.449	0.932
	(0.559)	(0.667)	(0.694)	(0.704)	(0.385)	(0.961)	(1.197)	(0.630)	(0.0317)	(2.108)	(0.388)	(0.867)
Other veteran	0.790	13.77	0.602	0.138	0.974	0.616	2.062	6.771	0.637	0.785	0.392	1.679
	(1.152)	(26.88)	(1.510)	(0.199)	(0.379)	(0.528)	(2.299)	(8.079)	(0.833)	(0.710)	(0.268)	(1.015)
log age	0.755	0.934	1.259	1.444*	0.953	1.142	0.972	2.531***	2.698	1.291	1.337*	0.964
	(0.199)	(0.652)	(0.705)	(0.282)	(0.104)	(0.189)	(0.260)	(0.869)	(2.325)	(0.310)	(0.203)	(0.242)
log employees	1.477**	0.565	0.950	0.933	1.120*	1.336***	0.927	0.815	1.026	0.849	1.175*	0.726
	(0.248)	(0.200)	(0.544)	(0.0748)	(0.0672)	(0.111)	(0.212)	(0.150)	(0.260)	(0.174)	(0.107)	(0.179)
log sales revenue	1.603***	2.199***	1.561	0.960	1.150***	1.023	1.225	1.231	2.168*	1.273*	1.020	1.003
	(0.214)	(0.672)	(0.953)	(0.0439)	(0.0485)	(0.0471)	(0.214)	(0.172)	(0.886)	(0.170)	(0.0472)	(0.0713)
Sole proprietor	1.287	0.453	1.916	0.499	1.123	0.648	0.913	0.211	29.66*	0.470	1.122	1.621
Omitted: other forms of organization	(1.514)	(0.951)	(2.965)	(0.248)	(0.358)	(0.328)	(0.968)	(0.230)	(51.86)	(0.330)	(0.462)	(1.050)
Partnership	1.030	1.145	0.753	0.257**	0.422**	0.533	0.619	0.861	7.921	1.193	0.914	1.100
	(1.232)	(1.835)	(1.096)	(0.169)	(0.147)	(0.274)	(0.625)	(0.769)	(13.44)	(0.801)	(0.433)	(0.830)
Corporation for profit	5.510	0.750	0.645	0.737	0.762	0.945	0.489	0.436	6.423	0.806	1.204	0.971
	(5.795)	(1.137)	(0.876)	(0.309)	(0.222)	(0.407)	(0.469)	(0.321)	(8.244)	(0.420)	(0.482)	(0.638)
Corporation, nonprofit	5.898	1.519	0.383	0.276	0.999	1.701	0.474	0.352	9.182	1.160	1.285	6.528
	(7.028)	(2.870)	(1.430)	(0.257)	(0.557)	(1.104)	(0.867)	(0.615)	(17.36)	(0.761)	(0.809)	(12.03)
Government non-classified	0.147	1.506	10.96	0.599	0.390*	0.705	4.391	3.279	0.312	0.651	0.297	0.911
(omitted: no security clearance repor	(0.296)	(2.559)	(30.63)	(0.426)	(0.219)	(0.520)	(7.712)	(4.854)	(0.695)	(0.617)	(0.263)	(0.823)
Government confidential	7.166	8.103	0.690	1.468	0.252	11.19	76.68*	6.868	6.951	0.873	0.649	16.91*
	(13.63)	(18.56)	(2.955)	(2.348)	(0.381)	(18.05)	(196.3)	(21.20)	(18.36)	(1.542)	(0.835)	(28.80)
Government secret	69.12**	0.267	4.079	0.271	0.375	4.326	2.935	0.256	31.77	1.049	0.125	1.819
	(131.0)	(0.586)	(8.783)	(0.404)	(0.575)	(7.507)	(6.592)	(0.606)	(98.48)	(1.899)	(0.190)	(3.515)
Government top-secret	355.0***	107.6	30.41	0.296	0.534	0.340	2.443	0.823	14,339*	0.178	1.942	7.391
	(723.3)	(384.6)	(107.8)	(0.445)	(0.852)	(0.690)	(4.581)	(1.653)	(74,682)	(0.352)	(1.864)	(13.68)
Share of FY 2013-2014 in sample	19.03***	112.3	17.01*	69.95***	24.43***	27.22***	37.69***	97.96***	12.34*	11.49***	18.77***	17.34***
	(15.85)	(325.4)	(28.42)	(50.48)	(8.148)	(14.82)	(43.29)	(125.8)	(16.13)	(7.733)	(8.703)	(15.29)
Lower past performance rating	53.12**	112.6**	1.747	1.001	1.856	1.253	1.013	3.903		0.528	1.026	1.135
	(97.46)	(252.0)	(3.142)	(0.701)	(0.985)	(1.136)	(2.378)	(4.811)		(0.850)	(0.788)	(1.006)
Higher past performance rating	1.213	9.783	1.935	2.655**	6.097***	3.478**	1.803	3.625	0.362	2.708	1.378	0.802
	(1.626)	(18.76)	(4.649)	(1.141)	(2.063)	(1.898)	(4.265)	(3.892)	(0.633)	(2.636)	(0.641)	(0.732)
Small (SBA definition)	22.59***	43.57**	45.96**	1.996*	2.719***	1.866*	1.868	3.022*	112.9*	1.831	1.657	1.383
	(17.91)	(63.85)	(75.07)	(0.755)	(0.728)	(0.682)	(1.623)	(1.821)	(277.3)	(0.966)	(0.601)	(2.265)
Constant	2.39e-07***	4.17e-09***	2.41e-07**	0.00208***	0.00153***	0.00121***	0.00129**	1.90e-05***	9.42e-11**	0.000598***	0.00561***	0.00356***
	(5.67e-07)	(2.17e-08)	(1.75e-06)	(0.00219)	(0.00110)	(0.00109)	(0.00373)	(4.58e-05)	(9.12e-10)	(0.00110)	(0.00435)	(0.00755)
Observations	1,694	559	650	1,231	1,706	1,699	170	303	204	493	711	981

standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

NAICS Code	1132	1133	1141	1142	1151	1152	1153	2111	2121	2122	2123	2131
Woman-owned	0.880	0.935	0.603	0.465	0.723	0.782	0.771***	0.527	0.340	1.463	0.876	1.124
	(0.351)	(0.320)	(0.354)	(0.313)	(0.153)	(0.297)	(0.0516)	(0.309)	(0.486)	(1.350)	(0.129)	(0.225)
SDB not 8(a)	0.390**	1.259	1.957	1.227	0.654**	0.671	0.856**	1.550	2.154	0.844	0.945	0.495***
	(0.167)	(0.367)	(0.916)	(0.569)	(0.131)	(0.268)	(0.0571)	(0.854)	(2.484)	(0.754)	(0.126)	(0.112)
8(a) certified	1.902	2.105	2.065	0.787	1.240	0.249	0.469***	16.76	2.936	4.076	0.881	0.264**
	(1.363)	(1.455)	(3.836)	(1.352)	(0.586)	(0.377)	(0.0880)	(31.26)	(6.823)	(8.617)	(0.282)	(0.144)
Minority-owned	0.779	0.783	0.318	0.565	0.491***	0.615	0.888	0.230**	0.782	0.329	0.484***	1.103
	(0.387)	(0.308)	(0.276)	(0.394)	(0.135)	(0.329)	(0.0777)	(0.163)	(1.030)	(0.465)	(0.0843)	(0.275)
HubZone certified	0.667	0.279*		1.076	0.232**	1.175	1.405***	2.945	0.231	0.519	0.462***	0.442
	(0.478)	(0.185)		(1.629)	(0.154)	(1.115)	(0.152)	(3.745)	(0.535)	(1.001)	(0.104)	(0.222)
Service-disabled veteran	1.625	0.509	1.806	0.922	0.457	1.021	0.840	0.148	2.143	1.096	0.811	0.803
	(1.067)	(0.428)	(1.655)	(0.813)	(0.231)	(0.902)	(0.101)	(0.221)	(2.448)	(1.492)	(0.187)	(0.279)
Other veteran	0.400	1.331	0.979	0.547	0.628	0.675	0.712***	0.458	0.393	1.862	0.480**	0.726
	(0.343)	(0.567)	(0.831)	(0.474)	(0.215)	(0.410)	(0.0673)	(0.433)	(0.712)	(2.048)	(0.138)	(0.238)
log age	1.426*	0.911	1.102	1.442	1.097	1.574**	1.089**	1.397	1.066	0.789	1.208***	1.508***
	(0.276)	(0.142)	(0.259)	(0.386)	(0.103)	(0.287)	(0.0371)	(0.295)	(0.635)	(0.326)	(0.0774)	(0.146)
log employees	1.143	1.182*	1.230	1.162	0.976	0.765*	0.929***	1.025	0.945	0.989	0.925*	1.026
	(0.134)	(0.109)	(0.180)	(0.193)	(0.0553)	(0.121)	(0.0206)	(0.113)	(0.289)	(0.276)	(0.0404)	(0.0523)
log sales revenue	0.935	1.070	1.013	1.000	1.064*	1.063	1.003	1.013	1.014	1.112	1.033	1.031
	(0.0458)	(0.0549)	(0.0615)	(0.0801)	(0.0350)	(0.0685)	(0.00914)	(0.0489)	(0.123)	(0.153)	(0.0231)	(0.0356)
Sole proprietor	1.505	1.911*	1.755	0.785	1.126	2.711**	1.254***	0.543	0.395	0.529	0.751	1.006
Omitted: other forms of organization	(0.663)	(0.710)	(1.031)	(0.453)	(0.270)	(1.310)	(0.103)	(0.520)	(0.823)	(0.916)	(0.178)	(0.358)
Partnership	0.680	0.781	1.373	0.538	1.151	2.364	1.337***	0.732	3.720	1.908	0.883	0.535*
	(0.368)	(0.368)	(0.970)	(0.383)	(0.284)	(1.318)	(0.132)	(0.520)	(4.889)	(2.085)	(0.185)	(0.180)
Corporation for profit	1.158	0.954	1.126	0.404	0.863	1.260	1.047	0.464	0.568	0.942	1.228	1.172
	(0.484)	(0.327)	(0.613)	(0.232)	(0.178)	(0.627)	(0.0834)	(0.237)	(0.608)	(0.884)	(0.180)	(0.253)
Corporation, nonprofit	6.738*	1.351	3.739*	3.093	0.616	0.737	0.334***	3.377	1.957	8.436	1.374	3.828***
	(7.412)	(1.212)	(2.616)	(2.902)	(0.345)	(0.613)	(0.0662)	(3.885)	(4.240)	(11.20)	(0.567)	(1.913)
Government non-classified	0.553	1.368	0.353	1.077	0.409**	0.912	0.458***	0.500	0.375	0.477	1.077	1.496*
(omitted: no security clearance report	(0.387)	(0.721)	(0.521)	(0.765)	(0.172)	(0.570)	(0.0581)	(0.402)	(0.519)	(0.695)	(0.228)	(0.350)
Government confidential	2.542	2.751	0.769	3.630	1.132	3.022	0.716	1.145	5.055	4.611	1.480	1.176
	(4.974)	(4.125)	(1.265)	(3.876)	(1.024)	(5.791)	(0.261)	(1.979)	(11.05)	(10.38)	(0.699)	(0.626)
Government secret	0.428	0.458	4.236	0.926	0.359	0.646	0.274***	0.0798	2.867	0.946	1.187	1.148
	(0.642)	(0.700)	(9.189)	(1.525)	(0.520)	(1.037)	(0.0999)	(0.137)	(3.841)	(1.762)	(0.537)	(0.390)
Government top-secret	0.580	2.276	0.893	1.896	0.306	0.479	0.331***	0.596	2.371	3.449	0.522	0.542
	(0.873)	(3.419)	(1.401)	(3.201)	(0.448)	(0.798)	(0.133)	(0.863)	(4.550)	(6.214)	(0.355)	(0.223)
Share of FY 2013-2014 in sample	60.45***	6.667***	2.151	6.614***	34.04***	10.13***	42.92***	7.992***	14.32	2.243	14.03***	36.75***
	(50.67)	(3.245)	(1.317)	(4.844)	(11.88)	(5.547)	(5.148)	(5.429)	(33.31)	(2.748)	(3.002)	(15.37)
Lower past performance rating	0.671	2.194*	0.512	0.271	1.132	3.398*	1.162	9.232***	1.677	2.192	0.886	2.745***
	(0.409)	(0.879)	(0.980)	(0.413)	(0.404)	(2.336)	(0.134)	(4.104)	(2.686)	(3.857)	(0.186)	(0.631)
Higher past performance rating	1.103	1.889*	3.198*	1.787	2.083***	2.438*	1.186*	3.246*	6.299*	2.757	1.275	1.657**
	(0.448)	(0.676)	(2.201)	(1.009)	(0.451)	(1.256)	(0.111)	(2.125)	(6.314)	(3.081)	(0.215)	(0.352)
Small (SBA definition)	7.250**	0.556	1.778	1.427	2.484***	0.762	1.163***	0.531	0.752	1.552	0.750	2.485***
	(6.677)	(0.373)	(1.134)	(1.123)	(0.786)	(0.466)	(0.0632)	(0.293)	(1.421)	(2.381)	(0.179)	(0.643)
Constant	0.000346***	0.00470***	0.0137***	0.00801***	0.00124***	0.00431***	0.0214***	0.0286***	0.00818	0.0105*	0.0137***	0.000294***
	(0.000482)	(0.00484)	(0.0150)	(0.0107)	(0.000795)	(0.00484)	(0.00342)	(0.0317)	(0.0241)	(0.0252)	(0.00576)	(0.000201)
Observations	943	2,263	418	492	2,934	576	8,103	414	150	209	3,698	3,686

standard errors in parentheses (*** p

Additional Findings

Certain MAC RFPs Inherently Create Barriers for Small Firms

In reviewing the Request for Proposals (RFPs) for each of these contracts, WIPP identified concerning requirements that may act as barriers for participation of WOSBs, and small businesses more generally.

Specifically, GSA recently issued an RFP for an Alliant 2 Small Business and an Alliant 2 unrestricted contract, as a follow-on to the popular first generation IT-based Alliant contracts. While the total value for Alliant 2 unrestricted increased, the past performance requirements on both Alliant unrestricted and the small business contract are so burdensome there are few firms that can meet the requirements. The unrestricted contract requirements are burdensome, including DCAA audits, and disproportionate past task order awards; they effectively exclude all but the largest firms from competing. The small business contract will only accept prime contractor experience for past performance requirements. While this is just one example, it shows that barriers women face are not only written in the FAR, but also in individual RFPs.

Disparities Not Limited to WOSBs

In the research, WOSBs were not the only socio-economic group inexplicably excluded from certain contracts. One contract (ENCORE III) had no track for 8(a), while another (SEWP IV) lacked a HUBZone track. As a matter of principle, socio-economic groups under the Small Business Act should experience parity with respect to government contracts. In addition, many WOSBs also qualify for SDVOSB, 8(a) and the HUBZone program; in fact WOSBs are more likely (52%) to report belonging to groups for which the Federal government has contracting goals compared to 38% of other small businesses[24].

Conclusions and Recommendations

The federal market is in the midst of a seismic change. Beginning decades ago, new contract types and strategies are developed in efforts to improve the acquisition process and assure the government best value. These changes, however, affect women-owned companies. While there are certainly benefits to MACs, including federal supply schedules, GWACS and IDIQs, they all constrain participation especially for small and midsize companies. Government acquisition experts may consider them necessary for 21st century procurement, but by their very definition,

[24]David N. Beede, Robert N. Rubinovitz, *Utilization of Women-Owned Businesses in Federal Prime Contracting*U.S. Department of Commerce, Office of the Chief Economist, Economics and Statistics Administration, (December 31, 2015), *available at* https://www.sba.gov/sites/default/files/wosb_study_report.pdf

NAICS Code	2389	3111	3112	3113	3114	3115	3116	3117	3118	3119	3121	3122
Woman-owned	0.716***	0.732	0.816	0.530	0.423***	0.844	0.601*	0.636	0.551**	0.781	0.736	0.991
	(0.0386)	(0.294)	(0.308)	(0.523)	(0.120)	(0.318)	(0.176)	(0.413)	(0.166)	(0.122)	(0.194)	(2.030)
SDB not 8(a)	0.942	1.345	0.356**	0.837	0.934	0.591	1.089	0.923	0.657	0.804	1.228	1.074
	(0.0506)	(0.498)	(0.162)	(0.740)	(0.253)	(0.231)	(0.285)	(0.560)	(0.208)	(0.132)	(0.289)	(1.567)
8(a) certified	3.946***	0.347	3.757		1.260	20.27	3.412	1.264	0.0939	0.783	2.118	
	(0.329)	(0.648)	(4.857)		(1.279)	(39.37)	(3.355)	(2.834)	(0.164)	(0.540)	(2.063)	
Minority-owned	0.510***	0.425	0.331*	0.600	0.282***	1.162	0.341***	0.167*	0.973	0.481***	0.691	1.031
	(0.0331)	(0.235)	(0.191)	(0.719)	(0.0920)	(0.556)	(0.118)	(0.155)	(0.297)	(0.0880)	(0.201)	(2.000)
HubZone certified	0.926		0.213	2.363	0.193	0.439	0.865	0.506	3.710	0.834	0.202	
	(0.0776)		(0.316)	(5.482)	(0.283)	(0.461)	(0.851)	(1.085)	(3.016)	(0.427)	(0.313)	
Service-disabled veteran	0.753***	0.183*	0.436	0.207	0.233**	0.385	0.299*	0.0996	0.344	0.322***	0.427*	1.045
	(0.0560)	(0.165)	(0.437)	(0.477)	(0.133)	(0.302)	(0.192)	(0.158)	(0.249)	(0.106)	(0.201)	(2.134)
Other veteran	0.780***	1.163	0.457	4.238	0.242**	0.563	0.450	2.066	0.693	0.471***	1.187	1.517
	(0.0674)	(0.629)	(0.309)	(5.970)	(0.134)	(0.422)	(0.251)	(1.824)	(0.367)	(0.137)	(0.380)	(4.224)
log age	1.144***	1.009	0.914	0.483*	1.075	1.458***	0.728***	0.721	1.005	1.055	1.261**	1.046
	(0.0321)	(0.157)	(0.134)	(0.207)	(0.110)	(0.207)	(0.0743)	(0.199)	(0.111)	(0.0680)	(0.139)	(0.925)
log employees	0.985	0.887	0.930	0.801	0.867**	0.919	0.877*	0.755*	1.097	0.978	0.936	1.049
	(0.0171)	(0.0910)	(0.0895)	(0.293)	(0.0552)	(0.0676)	(0.0588)	(0.121)	(0.0724)	(0.0368)	(0.0651)	(0.409)
log sales revenue	1.013	1.074	1.143**	1.276	1.070**	1.015	1.099**	1.090	1.087**	1.043**	1.037	0.986
	(0.00896)	(0.0598)	(0.0635)	(0.267)	(0.0352)	(0.0349)	(0.0415)	(0.0865)	(0.0367)	(0.0207)	(0.0323)	(0.139)
Sole proprietor	1.366***	1.133	3.320*	0.198	2.655**	1.114	1.687	0.612	0.775	0.857	0.465*	1.350
Omitted: other forms of organization	(0.108)	(0.599)	(2.228)	(0.331)	(1.192)	(0.725)	(0.749)	(0.705)	(0.402)	(0.244)	(0.212)	(3.771)
Partnership	1.187**	1.602	1.335	0.617	1.273	0.850	1.668	2.457	1.719	1.556*	0.687	1.247
	(0.0944)	(0.758)	(0.647)	(0.729)	(0.450)	(0.353)	(0.606)	(2.185)	(0.704)	(0.360)	(0.233)	(3.736)
Corporation for profit	1.072	0.700	1.659	0.224*	1.227	0.873	1.078	1.750	1.037	1.130	0.626*	0.842
	(0.0626)	(0.252)	(0.626)	(0.185)	(0.347)	(0.281)	(0.293)	(1.065)	(0.296)	(0.200)	(0.164)	(1.923)
Corporation, nonprofit	1.534**	0.925	1.137	0.808	0.230**	0.802	0.543	0.976	0.0742***	0.811	0.177	16.59
	(0.287)	(0.683)	(0.846)	(1.000)	(0.171)	(0.595)	(0.422)	(1.112)	(0.0590)	(0.329)	(0.258)	(55.92)
Government non-classified	1.201***	0.822	0.861	0.350	0.998	1.288	0.679	1.097	1.215	0.720	1.038	1.755
(omitted: no security clearance repor	(0.0800)	(0.444)	(0.505)	(0.618)	(0.424)	(0.674)	(0.306)	(1.065)	(0.590)	(0.206)	(0.374)	(3.115)
Government confidential	1.310*	0.274	1.758	7.183	1.677	0.491	0.241	18.44	3.480	3.551*	2.447	
	(0.209)	(0.456)	(1.545)	(14.73)	(1.686)	(0.626)	(0.388)	(40.52)	(3.462)	(2.330)	(1.713)	
Government secret	1.061	1.337	1.487	9.979	1.251	0.248	0.609	4.137	1.414	0.454	1.321	2.002
	(0.134)	(1.531)	(1.997)	(21.74)	(1.297)	(0.413)	(1.014)	(8.054)	(1.489)	(0.357)	(1.053)	(5.695)
Government top-secret	0.903	0.329	2.536	7.590	0.157	0.0691	0.166	0.513	1.173	0.119	0.372	3.430
	(0.125)	(0.577)	(3.985)	(19.18)	(0.238)	(0.121)	(0.253)	(1.055)	(1.808)	(0.177)	(0.363)	(5.122)
Share of FY 2013-2014 in sample	15.69***	14.54***	97.46***	58.21**	132.9***	74.71***	14.33***	191.3***	39.21***	33.98***	7.586***	0.925
	(1.476)	(7.928)	(73.04)	(93.20)	(66.75)	(52.30)	(5.358)	(246.9)	(15.81)	(8.618)	(2.650)	(1.991)
Lower past performance rating	1.895***	2.726	4.175**	1.805	1.862	5.166***	1.411	0.161	5.003**	1.795**	3.006**	0.677
	(0.134)	(1.806)	(2.857)	(2.296)	(1.084)	(2.695)	(1.180)	(0.333)	(3.992)	(0.525)	(1.352)	(2.532)
Higher past performance rating	2.297***	1.602	2.706	642.5***	0.818	2.635*	1.029	0.318	6.813***	2.366***	7.009***	0.195
	(0.141)	(1.046)	(1.983)	(1,535)	(0.359)	(1.424)	(0.787)	(0.569)	(3.584)	(0.627)	(3.063)	(0.444)
Small (SBA definition)	1.989***	0.615	1.184	1.639	1.101	0.889	0.709	0.681	1.031	2.533***	3.143***	0.885
	(0.170)	(0.309)	(0.569)	(2.007)	(0.374)	(0.324)	(0.248)	(0.539)	(0.345)	(0.543)	(1.196)	(1.861)
Constant	0.00260***	0.0390***	0.00109***	0.00267**	0.00319***	0.00452***	0.0735***	0.00615***	0.00415***	0.00614***	0.00615***	0.135
	(0.000451)	(0.0368)	(0.00120)	(0.00689)	(0.00235)	(0.00431)	(0.0530)	(0.0112)	(0.00319)	(0.00260)	(0.00415)	(0.582)
Observations	40,738	392	523	267	1,004	505	670	233	858	2,021	1,607	47
standard errors in parentheses (*** p												

NAICS Code	3131	3132	3133	3141	3149	3151	3152	3159	3161	3162	3169	3211
Woman-owned	1.968	0.998	0.877	0.539***	0.786**	0.676	0.821	1.030	2.296	0.670	1.019	0.638*
	(1.043)	(0.199)	(0.188)	(0.104)	(0.0821)	(0.272)	(0.122)	(0.142)	(1.844)	(0.199)	(0.218)	(0.168)
SDB not 8(a)	0.896	0.794	0.628*	0.671*	0.616***	0.809	0.593***	0.497***	0.190*	0.297***	0.656*	0.877
	(0.591)	(0.187)	(0.153)	(0.150)	(0.0734)	(0.390)	(0.101)	(0.0791)	(0.180)	(0.103)	(0.160)	(0.210)
8(a) certified		0.234*	0.202	1.124	0.501*	2.801	1.776	0.456**	0.142	0.419	0.545	0.512
		(0.181)	(0.313)	(0.508)	(0.183)	(2.523)	(0.660)	(0.175)	(0.274)	(0.378)	(0.431)	(0.485)
Minority-owned	0.576	0.708	1.005	0.797	0.932	1.044	0.580***	1.100	1.155	0.710	1.207	0.386**
	(0.458)	(0.189)	(0.276)	(0.197)	(0.127)	(0.544)	(0.112)	(0.191)	(0.943)	(0.272)	(0.312)	(0.155)
HubZone certified	5.214	0.263**	0.277*	1.160	0.952	0.674	0.741	0.984	0.685	1.643	1.244	0.398
	(10.14)	(0.156)	(0.182)	(0.567)	(0.219)	(0.646)	(0.214)	(0.278)	(1.111)	(1.248)	(0.577)	(0.235)
Service-disabled veteran	0.514	1.130	0.464**	0.262***	0.773	0.913	0.766	0.541**	0.732	0.237**	0.740	0.848
	(0.495)	(0.353)	(0.178)	(0.0971)	(0.137)	(0.544)	(0.192)	(0.132)	(1.130)	(0.148)	(0.281)	(0.356)
Other veteran	0.302	1.052	0.564*	0.908	0.989	1.005	0.751	0.881	0.0622	0.533	1.056	0.787
	(0.289)	(0.316)	(0.174)	(0.267)	(0.143)	(0.560)	(0.180)	(0.172)	(0.154)	(0.232)	(0.282)	(0.269)
log age	0.823	1.255**	1.362***	0.979	1.101*	1.086	1.075	1.153**	0.688	0.856	1.024	1.434***
	(0.232)	(0.127)	(0.137)	(0.0996)	(0.0590)	(0.222)	(0.0815)	(0.0815)	(0.255)	(0.111)	(0.118)	(0.169)
log employees	0.762	1.078	0.971	0.899	1.068**	0.924	1.017	0.920**	0.682	0.791***	0.970	0.757***
	(0.157)	(0.0595)	(0.0569)	(0.0590)	(0.0358)	(0.126)	(0.0442)	(0.0382)	(0.239)	(0.0678)	(0.0732)	(0.0676)
log sales revenue	1.267	1.016	1.013	1.088**	1.047***	1.211*	1.027	1.081***	1.290	1.105*	1.101**	1.130**
	(0.194)	(0.0282)	(0.0270)	(0.0409)	(0.0179)	(0.122)	(0.0239)	(0.0256)	(0.306)	(0.0571)	(0.0496)	(0.0640)
Sole proprietor	0.248	0.904	0.709	1.688	1.358*	4.066**	1.387	0.932	0.364	1.026	0.967	1.252
Omitted: other forms of organization	(0.415)	(0.336)	(0.308)	(0.563)	(0.253)	(2.792)	(0.362)	(0.229)	(0.666)	(0.526)	(0.390)	(0.465)
Partnership	0.384	0.380**	0.515	0.477*	0.726*	1.789	1.052	1.001	0.777	1.420	1.016	1.367
	(0.409)	(0.149)	(0.224)	(0.182)	(0.141)	(1.233)	(0.280)	(0.227)	(0.956)	(0.699)	(0.351)	(0.488)
Corporation for profit	0.365	0.550**	1.178	1.242	1.023	1.671	1.175	0.959	0.818	1.412	0.769	1.127
	(0.283)	(0.130)	(0.293)	(0.308)	(0.131)	(0.875)	(0.226)	(0.162)	(0.803)	(0.531)	(0.205)	(0.303)
Corporation, nonprofit	0.0769	0.225**	0.0784***	0.358*	0.343***	0.589	0.0670***	0.0487***	0.738	0.480	0.110***	0.370
	(0.132)	(0.155)	(0.0521)	(0.191)	(0.111)	(0.596)	(0.0412)	(0.0295)	(1.287)	(0.310)	(0.0862)	(0.270)
Government non-classified	0.318	1.207	0.843	1.098	1.277*	0.823	0.749	1.081	0.206	1.204	0.634	0.959
(omitted: no security clearance repor	(0.285)	(0.314)	(0.239)	(0.316)	(0.169)	(0.496)	(0.168)	(0.200)	(0.254)	(0.496)	(0.196)	(0.373)
Government confidential	153.3*	0.731	0.375	0.871	1.996**	2.483	0.0829*	1.759	16.58	0.0631	0.853	1.692
	(394.7)	(0.709)	(0.321)	(0.591)	(0.681)	(3.903)	(0.121)	(0.941)	(59.80)	(0.108)	(0.625)	(1.366)
Government secret	0.722	1.856	0.837	1.380	0.871	2.365	1.305	1.405	0.146	1.860	0.777	0.533
	(0.757)	(0.858)	(0.398)	(0.770)	(0.225)	(2.005)	(0.513)	(0.394)	(0.344)	(2.772)	(0.402)	(0.500)
Government top-secret	0.667	1.025	0.528	1.452	0.990	2.557	0.701	0.542	0.589	0.940	0.787	1.262
	(0.724)	(0.836)	(0.361)	(0.943)	(0.398)	(3.149)	(0.363)	(0.264)	(0.841)	(1.035)	(0.518)	(1.214)
Share of FY 2013-2014 in sample	652.7***	32.49***	147.2***	19.38***	62.07***	85.08***	34.39***	57.70***	255.7***	58.00***	43.26***	32.68***
	(1,335)	(13.59)	(71.95)	(7.030)	(14.97)	(104.3)	(11.00)	(18.93)	(508.5)	(39.82)	(24.27)	(13.76)
Lower past performance rating	5.321**	2.555***	2.088**	1.838**	2.041***	1.144	3.110***	2.413***	1.706	2.853**	2.928***	2.048*
	(3.705)	(0.710)	(0.667)	(0.529)	(0.338)	(0.674)	(0.693)	(0.490)	(1.788)	(1.237)	(0.911)	(0.805)
Higher past performance rating	3.029*	3.098***	2.450***	3.071***	1.842***	1.543	3.948***	2.606***	6.490*	15.53***	1.685	0.642
	(1.881)	(0.852)	(0.713)	(0.941)	(0.297)	(0.742)	(0.806)	(0.515)	(7.074)	(6.057)	(0.612)	(0.313)
Small (SBA definition)	0.778	1.345	0.400***	0.550	0.925	0.902	0.859	0.596**	0.101*	2.077*	0.522	0.321***
	(0.658)	(0.488)	(0.136)	(0.205)	(0.205)	(0.623)	(0.220)	(0.143)	(0.127)	(0.887)	(0.218)	(0.138)
Constant	0.000352***	0.00499***	0.00577***	0.0180***	0.00345***	8.39e-05***	0.00613***	0.00503***	0.00465	0.00215***	0.00418***	0.00381***
	(0.00100)	(0.00333)	(0.00404)	(0.0121)	(0.00136)	(0.000152)	(0.00302)	(0.00247)	(0.0166)	(0.00219)	(0.00365)	(0.00343)
Observations	244	1,348	1,113	1,261	4,176	691	2,799	2,341	181	1,096	1,180	1,294
standard errors in parentheses (*** p												

NAICS Code	3212	3219	3221	3222	3231	3241	3251	3252	3253	3254	3255	3256
Woman-owned	0.934	0.906	0.896	1.117	0.529***	0.646***	0.949	1.224	0.798	0.869	0.870	0.857
	(0.303)	(0.108)	(0.222)	(0.140)	(0.0604)	(0.0962)	(0.139)	(0.213)	(0.203)	(0.125)	(0.137)	(0.156)
SDB not 8(a)	0.573	0.682***	0.881	0.666***	0.675***	0.871	0.855	0.568***	0.988	0.880	0.613***	0.822
	(0.206)	(0.0885)	(0.241)	(0.0944)	(0.0857)	(0.122)	(0.129)	(0.111)	(0.246)	(0.121)	(0.105)	(0.164)
8(a) certified	0.666	0.785	0.648	0.618	0.490*	0.382***	0.419	0.575	0.727	1.149	0.173***	0.940
	(0.818)	(0.274)	(0.424)	(0.262)	(0.198)	(0.141)	(0.272)	(0.386)	(0.699)	(0.568)	(0.103)	(0.645)
Minority-owned	0.468	0.384***	0.982	0.725*	0.622***	0.612***	0.615***	0.806	0.481**	0.813	0.841	0.704
	(0.222)	(0.0727)	(0.279)	(0.121)	(0.0955)	(0.104)	(0.113)	(0.201)	(0.154)	(0.117)	(0.170)	(0.168)
HubZone certified	0.173**	1.324	0.321*	0.818	1.266	0.560*	0.722	0.616	0.899	0.451	0.610	0.977
	(0.154)	(0.317)	(0.221)	(0.248)	(0.429)	(0.170)	(0.303)	(0.310)	(0.592)	(0.295)	(0.257)	(0.496)
Service-disabled veteran	0.481	0.862	0.502*	0.881	0.549**	0.425***	0.671	0.452**	0.927	1.175	0.214***	0.500**
	(0.266)	(0.169)	(0.193)	(0.190)	(0.129)	(0.115)	(0.168)	(0.162)	(0.320)	(0.295)	(0.0685)	(0.173)
Other veteran	0.695	0.858	0.752	1.121	0.819	0.972	0.958	1.237	0.845	0.934	0.978	1.004
	(0.309)	(0.145)	(0.279)	(0.195)	(0.143)	(0.189)	(0.191)	(0.282)	(0.341)	(0.200)	(0.211)	(0.251)
log age	1.375**	1.151**	1.418**	1.080	0.999	1.217***	1.543***	1.211**	1.272**	1.043	0.985	1.197*
	(0.219)	(0.0697)	(0.201)	(0.0730)	(0.0576)	(0.0741)	(0.0959)	(0.0920)	(0.143)	(0.0588)	(0.0760)	(0.118)
log employees	0.635***	0.884***	0.902	0.984	0.945	0.838***	0.999	0.875***	0.888	1.083***	0.892**	0.956
	(0.0824)	(0.0393)	(0.0727)	(0.0407)	(0.0343)	(0.0310)	(0.0368)	(0.0437)	(0.0673)	(0.0308)	(0.0425)	(0.0574)
log sales revenue	1.332***	1.127***	1.082*	1.063***	1.064***	1.079***	1.048***	1.084***	1.046	1.038***	1.031	1.080**
	(0.130)	(0.0312)	(0.0506)	(0.0237)	(0.0239)	(0.0196)	(0.0189)	(0.0301)	(0.0388)	(0.0141)	(0.0241)	(0.0394)
Sole proprietor	3.825**	1.418*	0.903	0.952	0.992	0.841	1.580	0.915	0.888	0.773	0.878	0.682
Omitted: other forms of organization	(2.127)	(0.289)	(0.417)	(0.241)	(0.196)	(0.224)	(0.468)	(0.329)	(0.369)	(0.236)	(0.274)	(0.276)
Partnership	1.031	1.070	0.747	0.649*	1.382*	0.885	0.674*	0.694	0.849	1.089	0.586*	1.247
	(0.567)	(0.203)	(0.363)	(0.149)	(0.253)	(0.174)	(0.147)	(0.199)	(0.363)	(0.215)	(0.166)	(0.366)
Corporation for profit	1.397	1.099	0.803	0.984	0.980	1.140	0.846	1.030	1.125	0.916	0.832	0.851
	(0.493)	(0.149)	(0.248)	(0.153)	(0.135)	(0.169)	(0.133)	(0.201)	(0.313)	(0.145)	(0.154)	(0.196)
Corporation, nonprofit	0.924	0.454**	0.127**	0.309***	1.258	1.104	1.772*	0.662	1.209	1.172	2.148*	0.201**
	(0.994)	(0.173)	(0.107)	(0.117)	(0.283)	(0.411)	(0.569)	(0.332)	(0.994)	(0.326)	(0.925)	(0.132)
Government non-classified	0.732	1.058	0.616	1.058	1.272	0.959	1.421*	1.231	0.542	0.738	1.167	1.140
(omitted: no security clearance report	(0.311)	(0.177)	(0.257)	(0.188)	(0.208)	(0.189)	(0.267)	(0.269)	(0.209)	(0.156)	(0.251)	(0.322)
Government confidential	1.521	0.519	0.554	1.725	0.702	0.712	1.760	0.792	0.267	1.013	1.642	1.447
	(1.292)	(0.265)	(0.559)	(0.708)	(0.263)	(0.478)	(0.745)	(0.355)	(0.412)	(0.484)	(0.825)	(0.971)
Government secret	0.124	0.841	2.046	1.484	1.175	0.515	0.997	0.471**	1.550	0.639	1.583	2.436*
	(0.191)	(0.296)	(1.350)	(0.590)	(0.376)	(0.264)	(0.307)	(0.170)	(1.095)	(0.262)	(0.590)	(1.306)
Government top-secret	0.558	0.612	1.078	0.618	0.486**	0.365**	0.394***	0.913	1.229	0.651	1.022	1.096
	(0.877)	(0.293)	(0.832)	(0.309)	(0.159)	(0.169)	(0.134)	(0.471)	(1.174)	(0.309)	(0.619)	(0.875)
Share of FY 2013-2014 in sample	64.75***	21.02***	51.37***	41.49***	30.73***	29.39***	25.48***	38.19***	16.12***	14.70***	73.09***	83.06***
	(42.33)	(4.365)	(30.20)	(11.68)	(6.211)	(6.869)	(5.725)	(12.48)	(6.410)	(2.803)	(23.16)	(41.25)
Lower past performance rating	1.960	1.545**	2.630**	3.180***	3.800***	3.402***	2.235***	3.104***	0.942	2.916***	8.056***	3.163***
	(0.873)	(0.279)	(0.998)	(0.618)	(0.749)	(0.503)	(0.442)	(0.821)	(0.375)	(0.456)	(1.846)	(0.883)
Higher past performance rating	2.086	1.776***	2.149**	3.496***	2.246***	2.499***	3.067***	2.983***	1.636	2.022***	7.453***	2.987***
	(0.934)	(0.343)	(0.807)	(0.694)	(0.399)	(0.470)	(0.633)	(0.880)	(0.631)	(0.349)	(2.119)	(1.020)
Small (SBA definition)	0.683	1.017	0.458	0.994	0.408***	0.669**	1.406*	0.841	0.860	0.818	7.273***	0.944
	(0.410)	(0.249)	(0.230)	(0.239)	(0.0688)	(0.122)	(0.281)	(0.227)	(0.350)	(0.127)	(2.024)	(0.328)
Constant	0.000136***	0.00222***	0.00269***	0.00335***	0.00966***	0.0115***	0.00308***	0.00538***	0.0140***	0.0234***	0.00139***	0.00105***
	(0.000202)	(0.00104)	(0.00266)	(0.00157)	(0.00364)	(0.00430)	(0.00122)	(0.00314)	(0.00986)	(0.00722)	(0.000724)	(0.000796)
Observations	796	5,086	969	3,407	7,637	2,636	2,777	1,581	863	3,040	5,514	1,921

standard errors in parentheses (*** p

NAICS Code	3259	3261	3262	3271	3272	3273	3274	3279	3311	3312	3313	3314
Woman-owned	0.933	0.854*	0.987	1.046	0.917	0.710*	0.511	1.140	0.709*	0.889	0.978	0.974
	(0.100)	(0.0718)	(0.117)	(0.312)	(0.200)	(0.140)	(0.552)	(0.176)	(0.146)	(0.115)	(0.174)	(0.155)
SDB not 8(a)	0.700***	0.685***	0.573***	1.409	1.176	1.087	0.541	0.689**	0.486***	0.535***	0.410***	0.609***
	(0.0846)	(0.0641)	(0.0783)	(0.476)	(0.274)	(0.185)	(0.697)	(0.121)	(0.108)	(0.0774)	(0.0856)	(0.108)
8(a) certified	0.613	0.355***	0.391**	0.526	0.596	1.222	0.491	1.233	0.111**	0.200***	0.466	0.303
	(0.216)	(0.116)	(0.182)	(0.864)	(0.563)	(0.462)	(1.040)	(0.682)	(0.102)	(0.0958)	(0.284)	(0.224)
Minority-owned	0.808	0.793**	0.699**	0.809	0.640	0.582**	0.414	0.677*	1.074	1.107	1.258	1.011
	(0.110)	(0.0923)	(0.108)	(0.319)	(0.191)	(0.134)	(0.555)	(0.148)	(0.289)	(0.186)	(0.276)	(0.192)
HubZone certified	0.815	0.766	0.466**	0.579	0.593	0.701	1.164	0.297***	1.966	0.652	0.921	0.443**
	(0.271)	(0.175)	(0.168)	(0.579)	(0.440)	(0.225)	(1.894)	(0.122)	(0.870)	(0.192)	(0.421)	(0.178)
Service-disabled veteran	0.706**	0.449***	0.445***	0.202**	0.448*	0.591*	0.389	0.207***	0.217***	0.474***	0.564	0.575*
	(0.123)	(0.0743)	(0.100)	(0.144)	(0.216)	(0.171)	(0.524)	(0.0556)	(0.101)	(0.115)	(0.210)	(0.174)
Other veteran	0.894	1.103	0.937	0.756	0.630	0.907	6.388*	1.255	0.574**	0.867	1.008	0.680*
	(0.136)	(0.122)	(0.150)	(0.375)	(0.210)	(0.258)	(6.194)	(0.258)	(0.162)	(0.152)	(0.232)	(0.158)
log age	1.146***	1.106**	0.881**	1.011	1.424***	1.493***	1.587	1.016	1.516***	1.048	0.993	1.308***
	(0.0602)	(0.0459)	(0.0486)	(0.157)	(0.152)	(0.129)	(0.864)	(0.0739)	(0.152)	(0.0639)	(0.0848)	(0.105)
log employees	0.997	0.909***	0.960	0.966	1.217***	0.878**	0.809	0.975	0.961	0.986	0.994	1.013
	(0.0305)	(0.0233)	(0.0321)	(0.0897)	(0.0770)	(0.0519)	(0.291)	(0.0469)	(0.0550)	(0.0361)	(0.0469)	(0.0411)
log sales revenue	1.041**	1.061***	1.008	1.090	0.962	1.060*	1.031	1.021	1.010	1.029	1.036	1.027
	(0.0166)	(0.0159)	(0.0170)	(0.0616)	(0.0303)	(0.0357)	(0.145)	(0.0267)	(0.0292)	(0.0201)	(0.0233)	(0.0216)
Sole proprietor	0.695	0.868	1.126	0.645	1.364	1.352	0.535	1.684*	1.379	1.077	0.966	0.954
Omitted: other forms of organization	(0.171)	(0.145)	(0.250)	(0.380)	(0.541)	(0.442)	(1.004)	(0.461)	(0.500)	(0.243)	(0.303)	(0.311)
Partnership	0.855	0.960	0.834	0.536	2.065**	1.329	0.138	0.803	1.774*	1.316	1.268	0.623
	(0.150)	(0.133)	(0.166)	(0.307)	(0.736)	(0.370)	(0.309)	(0.231)	(0.616)	(0.281)	(0.368)	(0.184)
Corporation for profit	0.866	0.961	1.131	0.759	1.302	1.148	0.898	1.322	1.250	0.915	0.899	0.940
	(0.108)	(0.0932)	(0.141)	(0.272)	(0.354)	(0.220)	(0.903)	(0.227)	(0.299)	(0.137)	(0.181)	(0.179)
Corporation, nonprofit	0.939	0.959	1.095	4.303	0.847	1.152	0.256	2.051*	0.388*	1.717*	0.600	0.591
	(0.236)	(0.206)	(0.342)	(3.863)	(0.539)	(0.596)	(0.747)	(0.848)	(0.197)	(0.494)	(0.243)	(0.209)
Government non-classified	1.067	1.060	1.103	0.809	1.202	0.755	11.29**	1.193	1.288	1.059	1.374	1.202
(omitted: no security clearance repor	(0.150)	(0.118)	(0.167)	(0.359)	(0.348)	(0.222)	(11.37)	(0.244)	(0.349)	(0.172)	(0.285)	(0.226)
Government confidential	1.807*	1.622**	1.653*	5.189**	2.032	0.733		2.208*	1.391	2.441***	2.654**	1.586
	(0.562)	(0.377)	(0.462)	(4.029)	(1.105)	(0.520)		(0.949)	(0.884)	(0.805)	(1.066)	(0.622)
Government secret	0.687*	1.294	2.521***	1.374	0.814	0.350	6.124	4.178***	0.821	0.968	1.364	0.839
	(0.148)	(0.251)	(0.716)	(0.878)	(0.327)	(0.240)	(13.15)	(1.483)	(0.459)	(0.318)	(0.553)	(0.292)
Government top-secret	0.792	0.862	1.369	2.872	0.377	2.197	2.409	1.608	2.464	0.984	1.695	1.529
	(0.215)	(0.289)	(0.614)	(2.552)	(0.262)	(1.272)	(4.072)	(0.845)	(1.756)	(0.409)	(0.802)	(0.654)
Share of FY 2013-2014 in sample	29.45***	36.51***	50.85***	54.51***	24.21***	10.97***	2.843	34.51***	136.7***	68.20***	106.6***	149.1***
	(6.667)	(6.312)	(12.70)	(36.34)	(9.805)	(2.864)	(4.099)	(10.63)	(64.90)	(19.43)	(48.81)	(60.16)
Lower past performance rating	2.458***	3.222***	5.988***	0.637	3.762***	0.781	3.036	8.717***	2.253*	2.649***	2.014***	2.114***
	(0.372)	(0.405)	(1.109)	(0.381)	(1.318)	(0.239)	(3.976)	(2.029)	(0.979)	(0.528)	(0.518)	(0.526)
Higher past performance rating	2.660***	2.757***	4.762***	1.705	2.986***	2.282***	4.929	3.979***	1.494	2.264***	3.316***	1.557*
	(0.419)	(0.382)	(0.929)	(0.898)	(1.085)	(0.504)	(5.853)	(0.952)	(0.481)	(0.498)	(0.957)	(0.400)
Small (SBA definition)	0.555***	2.256***	3.037***	0.903	1.299	0.716	0.273	6.224***	1.153	0.996	1.299	1.092
	(0.0934)	(0.325)	(0.537)	(0.473)	(0.488)	(0.205)	(0.473)	(1.554)	(0.379)	(0.199)	(0.336)	(0.261)
Constant	0.0131***	0.00237***	0.00681***	0.00282***	0.00278***	0.00675***	0.0465	0.00188***	0.00179***	0.00672***	0.00393***	0.00205***
	(0.00447)	(0.000718)	(0.00268)	(0.00321)	(0.00206)	(0.00395)	(0.116)	(0.000989)	(0.00131)	(0.00296)	(0.00242)	(0.00115)
Observations	4,029	8,087	3,830	673	1,365	2,179	190	2,252	1,034	2,692	1,402	1,665
standard errors in parentheses (*** p												

NAICS Code	3315	3321	3322	3323	3324	3325	3326	3327	3328	3329	3331	3332
Woman-owned	1.365	1.179	1.079	0.769***	0.807**	0.785***	1.032	1.018	0.685**	0.837***	0.783**	0.908
	(0.325)	(0.147)	(0.149)	(0.0542)	(0.0820)	(0.0681)	(0.127)	(0.0682)	(0.129)	(0.0443)	(0.0876)	(0.111)
SDB not 8(a)	0.436***	0.571***	0.373***	0.712***	0.735***	0.673***	0.528***	0.586***	0.651**	0.618***	0.673***	0.715***
	(0.115)	(0.0842)	(0.0617)	(0.0533)	(0.0820)	(0.0661)	(0.0719)	(0.0457)	(0.137)	(0.0360)	(0.0753)	(0.0883)
8(a) certified	0.0661*	0.0718***	0.243**	0.634**	0.318***	0.399**	0.222***	0.184***	0.507	0.270***	0.349***	0.674
	(0.102)	(0.0501)	(0.136)	(0.114)	(0.117)	(0.144)	(0.0842)	(0.0613)	(0.310)	(0.0523)	(0.132)	(0.302)
Minority-owned	0.677	1.430**	1.277	0.602***	0.785*	1.019	0.855	1.050	0.936	1.008	0.688**	0.790
	(0.225)	(0.238)	(0.231)	(0.0580)	(0.111)	(0.113)	(0.136)	(0.0950)	(0.241)	(0.0701)	(0.102)	(0.128)
HubZone certified	0.383	0.573*	0.800	0.835	0.826	0.705	0.464**	0.533***	0.460	0.643***	0.534**	1.082
	(0.239)	(0.192)	(0.295)	(0.123)	(0.183)	(0.157)	(0.143)	(0.105)	(0.303)	(0.0883)	(0.145)	(0.373)
Service-disabled veteran	0.811	0.702	0.474***	0.561***	0.504***	0.558***	0.814	0.659***	0.468*	0.690***	0.487***	0.761
	(0.433)	(0.189)	(0.122)	(0.0714)	(0.0917)	(0.0860)	(0.175)	(0.0908)	(0.201)	(0.0625)	(0.0975)	(0.176)
Other veteran	0.665	1.105	0.754	0.980	0.810	0.941	0.857	0.978	0.856	0.918	0.766*	1.016
	(0.217)	(0.184)	(0.135)	(0.0872)	(0.105)	(0.106)	(0.139)	(0.0861)	(0.192)	(0.0607)	(0.110)	(0.155)
log age	1.182*	0.889*	1.020	1.027	1.008	1.052	1.037	0.929**	1.061	0.993	1.113**	1.003
	(0.119)	(0.0539)	(0.0626)	(0.0343)	(0.0478)	(0.0439)	(0.0612)	(0.0306)	(0.0935)	(0.0235)	(0.0498)	(0.0528)
log employees	1.011	0.957	0.944	0.925***	0.878***	1.091***	0.981	1.003	1.053	1.000	0.981	0.991
	(0.0620)	(0.0363)	(0.0393)	(0.0202)	(0.0275)	(0.0272)	(0.0364)	(0.0209)	(0.0589)	(0.0146)	(0.0277)	(0.0311)
log sales revenue	1.004	1.042**	0.995	1.042***	1.058***	1.016	1.015	1.002	0.992	1.014*	1.039***	1.037**
	(0.0328)	(0.0210)	(0.0200)	(0.0128)	(0.0188)	(0.0125)	(0.0195)	(0.0101)	(0.0326)	(0.00764)	(0.0148)	(0.0181)
Sole proprietor	1.849	1.446	1.037	1.281**	1.402*	2.079***	1.871***	1.525***	0.796	1.605***	0.994	0.889
Omitted: other forms of organization	(0.742)	(0.329)	(0.241)	(0.161)	(0.263)	(0.318)	(0.396)	(0.179)	(0.270)	(0.146)	(0.186)	(0.211)
Partnership	0.785	0.624*	0.646*	1.043	1.188	0.902	1.004	1.021	0.779	0.812**	1.025	1.218
	(0.336)	(0.151)	(0.155)	(0.120)	(0.195)	(0.138)	(0.214)	(0.127)	(0.236)	(0.0694)	(0.157)	(0.231)
Corporation for profit	0.837	1.056	0.989	1.135	1.201	1.097	1.233	1.307***	0.920	1.117*	1.295**	1.211
	(0.230)	(0.160)	(0.155)	(0.0891)	(0.140)	(0.113)	(0.174)	(0.105)	(0.184)	(0.0644)	(0.142)	(0.166)
Corporation, nonprofit	0.593	0.439**	0.984	1.102	0.541**	1.051	0.445**	1.015	1.086	1.104	0.598**	0.559**
	(0.327)	(0.153)	(0.330)	(0.184)	(0.150)	(0.238)	(0.156)	(0.165)	(0.427)	(0.133)	(0.152)	(0.154)
Government non-classified	1.235	0.935	1.143	0.985	0.992	0.838*	1.026	1.085	1.119	1.131**	0.808	0.719**
(omitted: no security clearance repor	(0.323)	(0.137)	(0.197)	(0.0834)	(0.115)	(0.0848)	(0.151)	(0.0835)	(0.221)	(0.0688)	(0.113)	(0.107)
Government confidential	0.556	1.215	3.384***	1.184	1.329	1.134	1.501	1.793***	2.510***	1.476***	1.592	0.878
	(0.316)	(0.374)	(1.330)	(0.215)	(0.339)	(0.241)	(0.440)	(0.263)	(0.852)	(0.189)	(0.498)	(0.290)
Government secret	1.153	1.291	1.740	1.147	0.741	0.832	1.398	1.569***	0.772	1.192*	1.898***	0.862
	(0.666)	(0.358)	(0.618)	(0.161)	(0.167)	(0.151)	(0.398)	(0.208)	(0.330)	(0.123)	(0.420)	(0.229)
Government top-secret	1.540	0.944	2.637*	0.803	0.556*	0.343***	0.131***	0.986	0.277	0.523***	1.643	1.247
	(1.162)	(0.367)	(1.330)	(0.141)	(0.168)	(0.0727)	(0.0407)	(0.186)	(0.237)	(0.0698)	(0.506)	(0.435)
Share of FY 2013-2014 in sample	88.37***	439.4***	126.1***	29.41***	45.92***	109.6***	110.8***	98.22***	31.56***	51.49***	17.80***	22.07***
	(43.98)	(182.4)	(43.45)	(3.791)	(9.732)	(20.92)	(32.34)	(16.13)	(11.27)	(5.375)	(2.679)	(4.392)
Lower past performance rating	4.317***	2.967***	4.840***	2.024***	2.647***	2.517***	3.294***	5.283***	2.415***	3.628***	2.416***	3.469***
	(1.642)	(0.571)	(0.949)	(0.197)	(0.369)	(0.377)	(0.659)	(0.578)	(0.666)	(0.294)	(0.371)	(0.623)
Higher past performance rating	2.625***	2.567***	3.677***	2.300***	1.976***	2.151***	2.081***	3.469***	1.963**	2.628***	1.821***	3.168***
	(0.970)	(0.500)	(0.742)	(0.225)	(0.285)	(0.325)	(0.385)	(0.389)	(0.561)	(0.218)	(0.293)	(0.543)
Small (SBA definition)	1.440	0.439***	2.578***	0.732**	0.311***	0.941	0.542***	1.317**	1.296	1.661***	0.814	0.580***
	(0.543)	(0.0922)	(0.588)	(0.0887)	(0.0522)	(0.144)	(0.119)	(0.152)	(0.400)	(0.131)	(0.121)	(0.0939)
Constant	0.00308***	0.00259***	0.00331***	0.0102***	0.0215***	0.00823***	0.00982***	0.00328***	0.00431***	0.00749***	0.0207***	0.0169***
	(0.00244)	(0.00138)	(0.00157)	(0.00240)	(0.00745)	(0.00239)	(0.00434)	(0.000794)	(0.00265)	(0.00124)	(0.00596)	(0.00588)
Observations	1,013	3,113	2,616	12,958	4,576	4,961	2,828	12,662	3,176	16,500	4,566	4,305

standard errors in parentheses (*** p

NAICS Code	3333	3334	3335	3336	3339	3341	3342	3343	3344	3345	3346	3351
Woman-owned	0.920	0.824**	0.750***	0.986	0.808***	1.066	0.892*	1.093	1.101	0.847***	0.722**	0.892
	(0.0701)	(0.0779)	(0.0792)	(0.0995)	(0.0453)	(0.0759)	(0.0574)	(0.114)	(0.0704)	(0.0423)	(0.102)	(0.0956)
SDB not 8(a)	0.686***	0.619***	0.609***	0.643***	0.728***	0.671***	0.624***	0.806*	0.632***	0.734***	0.765*	0.685***
	(0.0564)	(0.0608)	(0.0746)	(0.0715)	(0.0429)	(0.0523)	(0.0431)	(0.0904)	(0.0437)	(0.0379)	(0.108)	(0.0779)
8(a) certified	0.483***	0.510***	0.215***	0.138***	0.382***	0.736**	0.748**	1.075	0.417***	0.379***	0.822	0.599
	(0.124)	(0.127)	(0.117)	(0.0671)	(0.0739)	(0.110)	(0.106)	(0.225)	(0.0823)	(0.0622)	(0.254)	(0.204)
Minority-owned	0.975	0.698***	0.887	0.862	0.764***	0.824**	0.783***	0.623***	0.839**	0.706***	0.484***	0.769**
	(0.0907)	(0.0798)	(0.131)	(0.110)	(0.0564)	(0.0650)	(0.0581)	(0.0748)	(0.0617)	(0.0426)	(0.0732)	(0.0970)
HubZone certified	0.926	0.536**	0.683	0.713	0.636***	1.404*	0.806	1.140	0.551***	0.589***	1.007	0.670
	(0.211)	(0.143)	(0.225)	(0.204)	(0.103)	(0.256)	(0.135)	(0.305)	(0.105)	(0.0961)	(0.338)	(0.195)
Service-disabled veteran	0.673***	0.506***	0.644**	0.418***	0.488***	0.550***	0.522***	0.652***	0.687***	0.519***	0.865	0.581***
	(0.0874)	(0.0783)	(0.143)	(0.0769)	(0.0492)	(0.0609)	(0.0515)	(0.0985)	(0.0783)	(0.0460)	(0.185)	(0.0949)
Other veteran	0.949	0.992	0.803	0.994	0.815***	0.719***	0.930	0.772*	0.913	0.877**	1.061	0.997
	(0.0920)	(0.123)	(0.111)	(0.125)	(0.0565)	(0.0762)	(0.0752)	(0.111)	(0.0750)	(0.0541)	(0.209)	(0.147)
log age	1.125***	1.065	0.974	1.016	1.015	1.013	1.366***	1.153**	1.280***	1.137***	0.874*	1.077
	(0.0393)	(0.0451)	(0.0452)	(0.0416)	(0.0241)	(0.0388)	(0.0429)	(0.0665)	(0.0374)	(0.0235)	(0.0636)	(0.0554)
log employees	1.003	0.963	0.902***	0.952**	0.982	0.948***	0.957***	0.982	1.005	0.973**	1.004	1.055*
	(0.0198)	(0.0245)	(0.0290)	(0.0228)	(0.0141)	(0.0184)	(0.0155)	(0.0308)	(0.0157)	(0.0111)	(0.0353)	(0.0330)
log sales revenue	1.026**	1.023*	1.073***	1.008	0.994	1.077***	1.029***	1.073***	1.011	1.024***	1.077***	1.038**
	(0.0109)	(0.0125)	(0.0206)	(0.0121)	(0.00723)	(0.0122)	(0.00931)	(0.0190)	(0.00795)	(0.00629)	(0.0219)	(0.0172)
Sole proprietor	1.172	1.166	1.164	1.149	1.246**	0.642***	1.290**	1.223	1.267**	0.909	0.861	1.346
Omitted: other forms of organization	(0.161)	(0.198)	(0.217)	(0.196)	(0.124)	(0.100)	(0.152)	(0.241)	(0.151)	(0.0803)	(0.225)	(0.254)
Partnership	1.055	0.830	1.158	0.685**	1.019	0.918	1.023	1.133	0.970	0.919	0.922	0.919
	(0.130)	(0.124)	(0.203)	(0.111)	(0.0890)	(0.111)	(0.102)	(0.190)	(0.105)	(0.0686)	(0.200)	(0.162)
Corporation for profit	1.081	0.938	1.301**	0.896	1.150**	0.953	1.026	1.063	0.908	1.037	1.101	1.165
	(0.0933)	(0.0986)	(0.151)	(0.0964)	(0.0677)	(0.0816)	(0.0735)	(0.130)	(0.0662)	(0.0551)	(0.180)	(0.147)
Corporation, nonprofit	0.662**	1.369	0.952	1.303	1.100	0.637**	0.851	0.995	1.261	1.200	0.871	0.891
	(0.133)	(0.289)	(0.225)	(0.299)	(0.139)	(0.135)	(0.149)	(0.308)	(0.194)	(0.136)	(0.342)	(0.273)
Government non-classified	0.873	1.077	0.850	1.108	0.983	0.870*	0.970	0.899	0.971	0.718***	0.709**	0.753**
(omitted: no security clearance report	(0.0784)	(0.123)	(0.107)	(0.119)	(0.0666)	(0.0694)	(0.0653)	(0.108)	(0.0645)	(0.0392)	(0.111)	(0.105)
Government confidential	1.377	1.237	0.804	1.112	1.496***	0.822	0.995	0.886	1.292*	0.699***	0.666	0.957
	(0.283)	(0.265)	(0.208)	(0.208)	(0.210)	(0.161)	(0.155)	(0.248)	(0.194)	(0.0879)	(0.225)	(0.284)
Government secret	0.719***	1.316	1.160	1.665***	1.219*	0.709***	0.996	0.774	1.100	0.675***	0.697	0.767
	(0.0867)	(0.246)	(0.276)	(0.322)	(0.138)	(0.0738)	(0.0752)	(0.124)	(0.0912)	(0.0454)	(0.155)	(0.189)
Government top-secret	0.218***	1.162	1.424	1.414	0.978	0.500***	0.555***	0.639***	0.524***	0.222***	0.628***	0.786
	(0.0322)	(0.277)	(0.434)	(0.424)	(0.157)	(0.0458)	(0.0425)	(0.102)	(0.0543)	(0.0166)	(0.110)	(0.248)
Share of FY 2013-2014 in sample	31.17***	53.45***	43.88***	69.81***	42.20***	42.08***	42.87***	28.56***	50.06***	33.51***	60.20***	49.19***
	(4.466)	(9.049)	(9.064)	(13.15)	(4.155)	(6.697)	(5.958)	(6.352)	(6.455)	(2.804)	(17.26)	(10.97)
Lower past performance rating	2.530***	2.677***	4.997***	4.061***	3.355***	2.737***	2.638***	2.002***	3.746***	3.149***	3.044***	2.431***
	(0.263)	(0.351)	(0.792)	(0.584)	(0.270)	(0.258)	(0.207)	(0.284)	(0.348)	(0.211)	(0.534)	(0.412)
Higher past performance rating	2.207***	2.199***	4.518***	3.004***	2.665***	1.901***	2.131***	2.217***	2.841***	2.058***	1.871***	1.907***
	(0.227)	(0.301)	(0.796)	(0.473)	(0.226)	(0.171)	(0.159)	(0.320)	(0.252)	(0.125)	(0.316)	(0.318)
Small (SBA definition)	0.780**	2.184***	1.567***	1.714***	1.504***	0.573***	0.875	0.531***	1.189*	1.085	0.547***	1.082
	(0.0895)	(0.291)	(0.254)	(0.232)	(0.117)	(0.0616)	(0.0822)	(0.0990)	(0.107)	(0.0718)	(0.0958)	(0.204)
Constant	0.0144***	0.00651***	0.00239***	0.0139***	0.0166***	0.0135***	0.00665***	0.0137***	0.00740***	0.0185***	0.0136***	0.00531***
	(0.00334)	(0.00179)	(0.000884)	(0.00396)	(0.00269)	(0.00320)	(0.00137)	(0.00496)	(0.00142)	(0.00247)	(0.00556)	(0.00190)
Observations	7,681	5,796	6,659	4,657	15,127	8,097	11,289	3,407	11,043	19,674	2,523	3,939

standard errors in parentheses (*** p

NAICS Code	3352	3353	3359	3361	3362	3363	3364	3365	3366	3369	3371	3372
Woman-owned	0.833	0.984	0.940	0.802	0.874	0.799**	1.124*	0.539	0.869	0.761**	0.790**	0.888
	(0.163)	(0.0797)	(0.0593)	(0.185)	(0.111)	(0.0759)	(0.0729)	(0.397)	(0.0974)	(0.0886)	(0.0881)	(0.0769)
SDB not 8(a)	0.632**	0.656***	0.680***	1.060	0.798*	0.657***	0.637***	0.827	0.675***	0.675***	0.628***	0.854
	(0.131)	(0.0578)	(0.0472)	(0.230)	(0.106)	(0.0672)	(0.0473)	(0.561)	(0.0750)	(0.0872)	(0.0818)	(0.0843)
8(a) certified	0.441	0.227***	0.443***	1.012	0.640	0.252***	0.354***	7.406	0.452***	0.707	0.685	0.950
	(0.253)	(0.0564)	(0.0739)	(0.649)	(0.293)	(0.0957)	(0.0794)	(15.09)	(0.130)	(0.280)	(0.194)	(0.186)
Minority-owned	0.882	0.784**	0.896	0.634*	0.652**	0.802*	1.108	0.423	0.797*	0.551***	0.753*	0.589***
	(0.202)	(0.0780)	(0.0675)	(0.174)	(0.111)	(0.0952)	(0.0886)	(0.426)	(0.105)	(0.0878)	(0.111)	(0.0699)
HubZone certified	1.029	0.577**	0.717*	1.209	0.787	0.559**	0.795	0.941	1.054	0.866	0.707	1.484**
	(0.459)	(0.128)	(0.124)	(0.557)	(0.225)	(0.146)	(0.140)	(1.071)	(0.297)	(0.223)	(0.200)	(0.273)
Service-disabled veteran	0.779	0.541***	0.485***	0.383**	0.616**	0.497***	0.615***	0.769	0.596***	0.580***	0.746*	0.656***
	(0.212)	(0.0725)	(0.0518)	(0.162)	(0.132)	(0.0831)	(0.0698)	(0.768)	(0.104)	(0.109)	(0.130)	(0.0904)
Other veteran	0.790	0.963	0.897	1.224	1.082	0.825*	1.016	0.425	0.912	0.734**	0.953	0.759**
	(0.217)	(0.0986)	(0.0756)	(0.292)	(0.165)	(0.0946)	(0.0815)	(0.387)	(0.118)	(0.110)	(0.153)	(0.102)
log age	1.199*	1.079**	1.088***	1.171*	1.073	0.965	1.429***	1.520	1.481***	1.126**	1.025	1.106**
	(0.119)	(0.0380)	(0.0313)	(0.0975)	(0.0579)	(0.0378)	(0.0417)	(0.440)	(0.0715)	(0.0570)	(0.0613)	(0.0551)
log employees	0.926	1.014	0.992	0.849***	0.876***	0.918***	0.916***	1.071	0.932***	0.820***	1.047	0.964
	(0.0540)	(0.0206)	(0.0163)	(0.0466)	(0.0304)	(0.0224)	(0.0149)	(0.154)	(0.0245)	(0.0264)	(0.0351)	(0.0296)
log sales revenue	1.066**	1.006	1.028***	1.113***	1.052***	1.004	1.018**	0.961	1.040**	1.069***	1.036*	1.083***
	(0.0345)	(0.0112)	(0.00885)	(0.0404)	(0.0198)	(0.0126)	(0.00898)	(0.0582)	(0.0164)	(0.0199)	(0.0190)	(0.0194)
Sole proprietor	1.360	1.700***	1.375***	0.647	2.176***	1.258	1.205	4.246	0.832	1.128	1.121	1.112
Omitted: other forms of organization	(0.489)	(0.261)	(0.166)	(0.245)	(0.462)	(0.195)	(0.142)	(4.109)	(0.155)	(0.229)	(0.240)	(0.192)
Partnership	1.338	0.967	1.071	0.780	1.273	0.843	0.910	0.158	1.304*	1.077	1.305	1.138
	(0.436)	(0.133)	(0.112)	(0.222)	(0.233)	(0.124)	(0.0984)	(0.237)	(0.207)	(0.183)	(0.240)	(0.162)
Corporation for profit	1.125	1.111	1.141*	0.741	1.508***	1.036	1.043	0.998	1.299**	0.995	1.280*	1.063
	(0.278)	(0.0937)	(0.0800)	(0.145)	(0.199)	(0.104)	(0.0782)	(0.638)	(0.139)	(0.122)	(0.168)	(0.109)
Corporation, nonprofit	0.197**	1.116	1.262	0.555	0.583	0.846	0.812	5.533*	0.891	0.710	0.501**	0.544**
	(0.138)	(0.213)	(0.202)	(0.283)	(0.192)	(0.178)	(0.128)	(5.597)	(0.250)	(0.209)	(0.165)	(0.154)
Government non-classified	0.890	1.176*	1.032	0.645*	0.723**	0.892	0.806***	0.924	0.746**	0.582***	0.904	1.094
(omitted: no security clearance repor	(0.208)	(0.105)	(0.0719)	(0.155)	(0.119)	(0.0946)	(0.0547)	(0.756)	(0.0910)	(0.0770)	(0.141)	(0.131)
Government confidential	0.910	1.257	0.976	0.584	1.057	0.984	1.034	2.546	0.929	1.382	1.339	0.943
	(0.560)	(0.226)	(0.150)	(0.333)	(0.361)	(0.186)	(0.151)	(2.823)	(0.190)	(0.343)	(0.563)	(0.261)
Government secret	1.330	1.359**	1.133	0.482**	0.554**	1.039	0.516***	0.325	0.407***	0.536***	1.245	0.753
	(0.735)	(0.167)	(0.105)	(0.147)	(0.147)	(0.185)	(0.0430)	(0.858)	(0.0626)	(0.0915)	(0.407)	(0.183)
Government top-secret	0.614	0.769*	0.531***	0.151***	0.128***	0.662	0.233***	1.417	0.0965***	0.245***	0.858	0.642*
	(0.452)	(0.114)	(0.0571)	(0.0729)	(0.0658)	(0.170)	(0.0233)	(3.803)	(0.0206)	(0.0618)	(0.303)	(0.161)
Share of FY 2013-2014 in sample	45.38***	64.54***	40.92***	24.69***	23.06***	78.68***	62.92***	72.69***	27.94***	23.11***	37.53***	46.48***
	(19.03)	(12.24)	(5.717)	(9.304)	(4.684)	(14.30)	(9.044)	(88.87)	(4.949)	(5.210)	(8.552)	(9.219)
Lower past performance rating	2.058***	3.747***	3.391***	2.504***	1.914***	4.980***	3.074***	6.511**	2.195***	3.243***	1.977***	1.737***
	(0.553)	(0.398)	(0.299)	(0.479)	(0.297)	(0.677)	(0.269)	(5.379)	(0.313)	(0.436)	(0.323)	(0.226)
Higher past performance rating	2.933***	2.693***	2.428***	2.213***	1.619**	4.258***	2.004***	7.066*	1.686***	2.459***	1.805***	2.525***
	(0.899)	(0.291)	(0.206)	(0.530)	(0.318)	(0.640)	(0.163)	(7.062)	(0.221)	(0.364)	(0.299)	(0.342)
Small (SBA definition)	0.299***	2.110***	1.708***	0.438***	0.631**	1.353**	0.700***	12.52***	0.402***	0.795	0.384***	0.680**
	(0.107)	(0.228)	(0.157)	(0.117)	(0.130)	(0.177)	(0.0668)	(9.922)	(0.0548)	(0.145)	(0.0759)	(0.112)
Constant	0.0129***	0.00418***	0.00617***	0.0101***	0.0224***	0.0128***	0.00816***	0.000115***	0.0288***	0.0125***	0.0130***	0.00481***
	(0.00866)	(0.00111)	(0.00125)	(0.00657)	(0.00847)	(0.00351)	(0.00167)	(0.000212)	(0.00865)	(0.00458)	(0.00493)	(0.00167)
Observations	1,156	7,118	10,474	1,506	2,942	5,705	10,301	687	3,816	4,508	4,172	5,398

standard errors in parentheses (*** p

NAICS Code	3379	3391	3399	4231	4232	4233	4234	4235	4236	4237	4238	4239
Woman-owned	0.786	0.590***	0.810***	0.745**	0.782*	0.772**	0.717***	0.722	0.934	0.657***	0.675***	0.620***
	(0.187)	(0.0330)	(0.0429)	(0.0992)	(0.108)	(0.0983)	(0.0321)	(0.151)	(0.0693)	(0.0642)	(0.0458)	(0.0677)
SDB not 8(a)	1.290	1.002	0.803***	0.832	0.721*	0.601***	0.765***	0.725	0.764***	0.752***	0.780***	0.679***
	(0.336)	(0.0529)	(0.0476)	(0.110)	(0.124)	(0.0834)	(0.0359)	(0.155)	(0.0628)	(0.0754)	(0.0533)	(0.0789)
8(a) certified	2.735*	0.764	0.466***	0.550	1.183	0.897	0.627***	0.807	0.784	0.413***	0.369***	0.378***
	(1.568)	(0.178)	(0.0875)	(0.276)	(0.346)	(0.274)	(0.0729)	(0.479)	(0.146)	(0.136)	(0.0997)	(0.136)
Minority-owned	0.456**	0.582***	0.718***	0.687**	0.661**	0.552***	0.607***	0.533**	0.701***	0.519***	0.575***	0.704**
	(0.154)	(0.0382)	(0.0517)	(0.111)	(0.124)	(0.0955)	(0.0320)	(0.149)	(0.0655)	(0.0675)	(0.0525)	(0.0989)
HubZone certified	1.838	0.404***	0.639***	0.938	1.510	0.594*	0.835	0.507	0.679*	0.538**	0.547***	0.790
	(0.880)	(0.0889)	(0.103)	(0.314)	(0.401)	(0.167)	(0.103)	(0.298)	(0.139)	(0.152)	(0.112)	(0.228)
Service-disabled veteran	0.548	0.483***	0.604***	0.401***	0.574**	0.407***	0.500***	0.283***	0.460***	0.401***	0.507***	0.519***
	(0.217)	(0.0446)	(0.0583)	(0.0986)	(0.136)	(0.100)	(0.0356)	(0.133)	(0.0606)	(0.0695)	(0.0647)	(0.0934)
Other veteran	1.138	0.784***	0.841**	1.004	0.609**	0.583***	0.765***	0.529**	0.945	0.836	0.871*	0.720**
	(0.415)	(0.0561)	(0.0632)	(0.166)	(0.153)	(0.118)	(0.0492)	(0.166)	(0.101)	(0.105)	(0.0721)	(0.110)
log age	0.901	0.833***	0.948**	1.049	1.306***	1.156**	0.868***	1.148	1.027	1.167***	1.111***	1.060
	(0.114)	(0.0195)	(0.0244)	(0.0615)	(0.109)	(0.0729)	(0.0187)	(0.108)	(0.0384)	(0.0522)	(0.0319)	(0.0551)
log employees	1.096	0.931***	1.019	0.892***	1.034	0.984	1.042***	1.091	1.043*	0.972	1.051***	0.882***
	(0.0874)	(0.0130)	(0.0163)	(0.0330)	(0.0468)	(0.0391)	(0.0129)	(0.0656)	(0.0228)	(0.0271)	(0.0186)	(0.0293)
log sales revenue	1.040	1.047***	1.038***	1.036*	1.086***	1.029	1.042***	0.988	1.030**	1.016	0.997	1.059***
	(0.0450)	(0.00720)	(0.00888)	(0.0192)	(0.0328)	(0.0221)	(0.00700)	(0.0260)	(0.0124)	(0.0145)	(0.00901)	(0.0206)
Sole proprietor	0.845	1.484***	1.253**	1.046	0.763	0.913	0.957	1.247	1.262	0.938	1.331**	0.828
Omitted: other forms of organization	(0.394)	(0.136)	(0.120)	(0.224)	(0.230)	(0.217)	(0.0812)	(0.483)	(0.185)	(0.165)	(0.153)	(0.165)
Partnership	1.531	0.956	1.198**	0.793	1.196	0.920	0.944	1.478	1.175	0.974	1.094	1.159
	(0.584)	(0.0799)	(0.106)	(0.158)	(0.276)	(0.190)	(0.0680)	(0.459)	(0.148)	(0.141)	(0.109)	(0.193)
Corporation for profit	1.018	0.957	1.298***	0.994	0.838	0.957	1.122**	1.190	1.265***	0.929	1.097	1.109
	(0.297)	(0.0608)	(0.0814)	(0.139)	(0.140)	(0.137)	(0.0592)	(0.269)	(0.108)	(0.0915)	(0.0752)	(0.141)
Corporation, nonprofit	0.0557*	1.411***	0.624***	0.995	0.345**	0.408**	1.341***	2.233**	1.351*	1.266	1.499***	0.959
	(0.0842)	(0.177)	(0.0913)	(0.331)	(0.149)	(0.168)	(0.145)	(0.787)	(0.238)	(0.233)	(0.205)	(0.294)
Government non-classified	0.581	0.584***	1.086	0.933	1.270	0.739	0.933	0.996	1.044	1.006	1.014	0.819
(omitted: no security clearance report	(0.210)	(0.0518)	(0.0783)	(0.173)	(0.252)	(0.153)	(0.0554)	(0.269)	(0.0987)	(0.136)	(0.0944)	(0.132)
Government confidential	0.232	0.713	1.686***	1.176	0.493	2.486**	0.728**	0.415	0.773	1.264	1.181	1.716*
	(0.359)	(0.170)	(0.277)	(0.376)	(0.292)	(1.076)	(0.107)	(0.379)	(0.163)	(0.339)	(0.259)	(0.558)
Government secret	1.063	0.517***	1.026	2.832***	1.511	1.358	0.720***	1.445	1.242	1.770**	1.125	1.101
	(0.965)	(0.0966)	(0.121)	(0.819)	(0.576)	(0.581)	(0.0722)	(0.887)	(0.191)	(0.431)	(0.202)	(0.272)
Government top-secret	2.839	0.370***	0.749*	0.844	1.123	1.146	0.743***	0.311	1.059	2.013***	0.701	1.004
	(3.143)	(0.0807)	(0.116)	(0.464)	(0.426)	(0.569)	(0.0644)	(0.459)	(0.157)	(0.470)	(0.168)	(0.365)
Share of FY 2013-2014 in sample	7.093***	16.46***	29.67***	27.00***	43.50***	18.45***	32.75***	24.18***	23.95***	23.32***	23.80***	18.99***
	(2.663)	(1.333)	(2.999)	(6.304)	(15.40)	(3.967)	(2.936)	(9.733)	(3.873)	(4.159)	(2.840)	(3.686)
Lower past performance rating	2.987***	4.008***	3.962***	2.553***	2.085***	1.217	3.900***	2.760***	3.934***	5.040***	3.917***	4.315***
	(1.063)	(0.399)	(0.353)	(0.415)	(0.433)	(0.277)	(0.257)	(0.846)	(0.397)	(0.693)	(0.376)	(0.651)
Higher past performance rating	1.987*	2.872***	2.600***	3.543***	2.291***	2.076***	2.850***	4.609***	3.866***	4.230***	3.197***	3.556***
	(0.795)	(0.336)	(0.232)	(0.663)	(0.461)	(0.391)	(0.196)	(1.314)	(0.415)	(0.638)	(0.329)	(0.586)
Small (SBA definition)	0.526	0.862*	1.369***	0.896	0.145***	0.556***	0.968	2.138**	1.386***	2.812***	1.837***	1.101
	(0.238)	(0.0654)	(0.123)	(0.172)	(0.0344)	(0.123)	(0.0648)	(0.693)	(0.150)	(0.393)	(0.177)	(0.219)
Constant	0.0475***	0.128***	0.00893***	0.00767***	0.00416***	0.0109***	0.0119***	0.00220***	0.00279***	0.00233***	0.00395***	0.00463***
	(0.0408)	(0.0180)	(0.00158)	(0.00298)	(0.00231)	(0.00441)	(0.00166)	(0.00139)	(0.000705)	(0.000701)	(0.000791)	(0.00167)
Observations	959	12,543	15,272	5,309	4,421	6,287	25,993	2,550	14,714	10,836	20,131	9,074

standard errors in parentheses (*** p

NAICS Code	4241	4242	4243	4244	4245	4246	4247	4248	4249	4251	4411	4412
Woman-owned	1.180	0.496**	0.710	0.851	0.484*	0.638***	0.868	0.658	0.636***	0.498***	0.410**	0.882
	(0.156)	(0.139)	(0.167)	(0.119)	(0.209)	(0.104)	(0.131)	(1.069)	(0.0934)	(0.135)	(0.177)	(0.130)
SDB not 8(a)	0.684**	0.607*	0.764	0.607***	0.823	0.557***	0.891	1.334	0.797	1.109	1.498	0.968
	(0.108)	(0.163)	(0.206)	(0.0882)	(0.333)	(0.105)	(0.129)	(1.466)	(0.127)	(0.274)	(0.374)	(0.134)
8(a) certified	0.732	0.0853	0.0918	0.179**	255.5	0.482	0.298**	2.064	0.681	0.348	9.637**	1.010
	(0.278)	(0.148)	(0.135)	(0.124)	(918.1)	(0.289)	(0.176)	(11.91)	(0.322)	(0.509)	(10.17)	(0.746)
Minority-owned	1.002	0.632	0.574*	0.636***	0.351**	0.584**	0.644**	0.537	0.399***	0.322***	0.508*	0.626**
	(0.165)	(0.178)	(0.186)	(0.0999)	(0.184)	(0.131)	(0.115)	(0.611)	(0.0860)	(0.114)	(0.207)	(0.133)
HubZone certified	0.427**	1.009	1.185	0.646	0.784	0.782	0.639	8.367	0.319**	0.933	0.640	1.767
	(0.170)	(0.777)	(0.584)	(0.275)	(0.746)	(0.364)	(0.253)	(39.87)	(0.163)	(0.796)	(0.945)	(0.788)
Service-disabled veteran	0.351***	0.364**	0.420*	0.282***	0.0752*	0.492**	0.668	1.162	0.390***	0.213**	0.295	0.293***
	(0.101)	(0.144)	(0.205)	(0.0946)	(0.111)	(0.144)	(0.179)	(1.918)	(0.110)	(0.140)	(0.254)	(0.120)
Other veteran	0.759	0.395*	1.095	0.666*	0.867	0.653*	0.517***	3.887	0.734	0.940	0.654	0.709*
	(0.169)	(0.205)	(0.363)	(0.155)	(0.531)	(0.151)	(0.117)	(4.782)	(0.160)	(0.300)	(0.296)	(0.146)
log age	1.193**	0.739***	1.025	1.243***	1.032	0.958	1.338***	0.313	0.987	1.108	0.965	0.957
	(0.0962)	(0.0726)	(0.122)	(0.0729)	(0.150)	(0.0741)	(0.0900)	(0.258)	(0.0680)	(0.136)	(0.108)	(0.0614)
log employees	1.079	1.155**	1.077	0.983	0.875	1.099**	1.067	0.891	1.002	0.955	1.037	0.955
	(0.0502)	(0.0656)	(0.0785)	(0.0344)	(0.0883)	(0.0515)	(0.0442)	(0.451)	(0.0399)	(0.0677)	(0.0777)	(0.0424)
log sales revenue	1.023	1.029	0.999	1.040**	1.011	0.975	1.022	1.133	0.980	1.019	1.038	1.043*
	(0.0236)	(0.0318)	(0.0360)	(0.0198)	(0.0390)	(0.0221)	(0.0188)	(0.166)	(0.0193)	(0.0364)	(0.0353)	(0.0234)
Sole proprietor	0.955	1.124	0.612	1.227	1.478	0.501*	1.338	0.0780	1.726**	2.261*	0.691	0.672
Omitted: other forms of organization	(0.267)	(0.583)	(0.310)	(0.313)	(0.779)	(0.204)	(0.368)	(0.207)	(0.411)	(1.088)	(0.380)	(0.176)
Partnership	0.549**	0.784	2.348**	1.432*	1.577	0.917	1.536**	0.118	1.260	2.112*	0.890	0.777
	(0.167)	(0.285)	(0.903)	(0.298)	(0.805)	(0.243)	(0.335)	(0.228)	(0.293)	(0.905)	(0.325)	(0.153)
Corporation for profit	0.929	0.765	1.380	1.365**	1.409	0.954	1.170	0.550	1.456**	2.449**	0.784	0.940
	(0.165)	(0.217)	(0.436)	(0.195)	(0.573)	(0.164)	(0.170)	(0.627)	(0.241)	(0.891)	(0.210)	(0.129)
Corporation, nonprofit	0.379**	1.633	0.477	0.878	0.295	2.729***	2.096*	3.533	3.300***	0.590	1.515	0.895
	(0.163)	(0.801)	(0.322)	(0.308)	(0.307)	(0.949)	(0.888)	(13.17)	(0.975)	(0.394)	(0.840)	(0.333)
Government non-classified	0.841	1.200	1.400	0.821	1.131	1.442	0.899	0.785	0.755	0.855	1.019	0.629*
(omitted: no security clearance report	(0.192)	(0.531)	(0.482)	(0.189)	(0.719)	(0.330)	(0.215)	(1.361)	(0.196)	(0.292)	(0.529)	(0.157)
Government confidential	1.641	1.421	2.317	1.064	0.332	0.947	0.672	6.073	0.485	1.272	1.540	2.237
	(0.693)	(1.426)	(2.083)	(0.597)	(0.513)	(0.554)	(0.511)	(17.72)	(0.435)	(1.110)	(2.410)	(1.131)
Government secret	1.119	3.092	0.850	0.260*	8.977**	0.818	0.223**	2.789	1.041	0.624	0.654	0.663
	(0.554)	(2.564)	(0.772)	(0.193)	(9.583)	(0.490)	(0.154)	(6.212)	(0.481)	(0.549)	(1.047)	(0.329)
Government top-secret	0.932	0.269	1.549	0.353	1.453	1.277	1.105	4.564	0.813	0.0754*	4.917**	0.372
	(0.459)	(0.401)	(1.432)	(0.271)	(2.411)	(0.793)	(0.635)	(9.887)	(0.503)	(0.109)	(3.840)	(0.328)
Share of FY 2013-2014 in sample	37.01***	17.93***	27.47***	23.37***	18.24***	21.68***	12.77***	2.389	12.84***	20.82***	5.628***	13.09***
	(12.81)	(7.967)	(14.83)	(5.331)	(9.415)	(7.079)	(2.880)	(3.940)	(3.187)	(10.46)	(1.883)	(2.461)
Lower past performance rating	3.331***	4.055***	2.880***	2.902***	2.520	3.009***	2.302***	8.244	5.292***	0.901	2.337**	1.433
	(0.786)	(0.991)	(1.161)	(0.684)	(1.876)	(0.690)	(0.352)	(17.05)	(1.014)	(0.336)	(0.893)	(0.340)
Higher past performance rating	3.536***	5.246***	6.187***	3.335***	0.506	3.844***	2.535***	1.212	5.853***	2.141**	0.711	1.532
	(0.839)	(1.583)	(1.820)	(0.736)	(0.383)	(0.910)	(0.522)	(2.714)	(1.129)	(0.805)	(0.621)	(0.426)
Small (SBA definition)	0.595*	0.797	0.535	1.653***	0.230***	3.057***	9.959***	1.061	1.410	0.223***	1.669	1.637**
	(0.174)	(0.231)	(0.210)	(0.321)	(0.123)	(0.747)	(2.300)	(3.781)	(0.296)	(0.0817)	(0.804)	(0.377)
Constant	0.00263***	0.0209***	0.00460***	0.00377***	0.0672***	0.00336***	0.000851***	0.134	0.00955***	0.00584***	0.0108***	0.0156***
	(0.00142)	(0.0130)	(0.00354)	(0.00149)	(0.0582)	(0.00168)	(0.000382)	(0.460)	(0.00387)	(0.00452)	(0.00835)	(0.00670)
Observations	4,994	1,643	2,557	3,246	663	5,439	2,967	280	5,628	3,641	1,757	3,314

standard errors in parentheses (*** p

NAICS Code	4413	4421	4422	4431	4441	4442	4451	4452	4453	4461	4471	4481
Woman-owned	0.835	0.584***	0.634**	1.236	0.644***	0.544**	1.087	0.834	0.795	0.824	1.274	0.756
	(0.166)	(0.107)	(0.124)	(0.193)	(0.0825)	(0.149)	(0.348)	(0.327)	(1.333)	(0.136)	(0.489)	(0.148)
SDB not 8(a)	0.991	0.888	0.949	0.583***	0.909	0.900	0.387***	1.115	0.571	0.551***	0.986	0.666*
	(0.167)	(0.188)	(0.202)	(0.113)	(0.121)	(0.205)	(0.140)	(0.416)	(0.935)	(0.0958)	(0.342)	(0.151)
8(a) certified	1.564	1.091	0.688	0.918	0.524*	2.789	3.168	0.932	12.20	0.135**	0.960	0.699
	(1.157)	(0.475)	(0.415)	(0.343)	(0.189)	(2.334)	(3.900)	(1.557)	(28.86)	(0.120)	(1.521)	(0.401)
Minority-owned	0.652*	0.616*	0.744	0.789	0.527***	0.368**	0.413*	0.700	1.187	0.866	0.581	0.890
	(0.155)	(0.157)	(0.201)	(0.157)	(0.0949)	(0.156)	(0.193)	(0.305)	(1.780)	(0.167)	(0.296)	(0.224)
HubZone certified	1.218	0.733	0.723	1.773	0.682	1.206	0.158	0.640	4.238	1.001	0.466	2.435**
	(0.655)	(0.326)	(0.492)	(0.667)	(0.204)	(0.667)	(0.241)	(0.981)	(12.40)	(0.526)	(0.699)	(1.070)
Service-disabled veteran	0.628	0.426***	0.460*	0.686	0.378***	0.679	0.302	0.305	2.219	0.393***	1.479	0.686
	(0.254)	(0.137)	(0.198)	(0.199)	(0.0920)	(0.334)	(0.436)	(0.451)	(4.166)	(0.119)	(0.992)	(0.224)
Other veteran	0.780	0.777	0.677	0.824	0.910	1.018	1.161	0.408	1.423	0.713	0.565	0.871
	(0.180)	(0.234)	(0.221)	(0.221)	(0.168)	(0.323)	(0.567)	(0.362)	(2.824)	(0.170)	(0.386)	(0.226)
log age	1.174**	1.051	1.329**	0.908	0.977	1.075	0.739**	1.208	0.795	0.681***	1.220	1.157
	(0.0810)	(0.106)	(0.152)	(0.0895)	(0.0602)	(0.106)	(0.108)	(0.228)	(0.573)	(0.0467)	(0.199)	(0.119)
log employees	0.957	0.981	0.924	0.840***	0.827***	1.028	1.008	0.822	1.248	0.994	0.958	0.921
	(0.0442)	(0.0624)	(0.0572)	(0.0512)	(0.0326)	(0.0681)	(0.0948)	(0.105)	(0.424)	(0.0495)	(0.0923)	(0.0534)
log sales revenue	1.024	1.035	0.987	1.299***	1.044*	0.982	1.056	1.323***	0.987	1.155***	1.017	1.083**
	(0.0255)	(0.0355)	(0.0281)	(0.0655)	(0.0231)	(0.0308)	(0.0486)	(0.128)	(0.112)	(0.0362)	(0.0453)	(0.0347)
Sole proprietor	0.875	0.622	1.310	1.230	0.931	0.906	0.659	1.855	2.812	2.347***	0.912	0.547*
Omitted: other forms of organization	(0.252)	(0.240)	(0.445)	(0.393)	(0.219)	(0.354)	(0.364)	(1.276)	(5.689)	(0.586)	(0.579)	(0.192)
Partnership	1.253	1.165	1.283	1.583*	1.052	1.115	0.731	2.379	3.767	1.363	1.014	0.847
	(0.315)	(0.326)	(0.484)	(0.406)	(0.218)	(0.357)	(0.372)	(1.489)	(5.866)	(0.314)	(0.617)	(0.283)
Corporation for profit	0.933	0.744	1.646*	1.094	1.075	1.137	1.031	1.445	0.687	1.270	0.753	0.825
	(0.171)	(0.151)	(0.435)	(0.215)	(0.154)	(0.269)	(0.348)	(0.723)	(1.118)	(0.239)	(0.306)	(0.196)
Corporation, nonprofit	0.642	0.322	0.795	0.416**	1.116	0.564	1.273	0.533	5.287	0.913	0.132	0.138***
	(0.270)	(0.236)	(0.397)	(0.185)	(0.375)	(0.307)	(0.725)	(0.472)	(13.18)	(0.347)	(0.204)	(0.0751)
Government non-classified	1.676**	1.018	0.671	1.011	1.543**	0.336*	0.631	0.141	2.514	0.848	0.914	1.462
(omitted: no security clearance repor	(0.416)	(0.279)	(0.242)	(0.211)	(0.278)	(0.192)	(0.409)	(0.202)	(3.746)	(0.247)	(0.560)	(0.397)
Government confidential	1.988	1.465	2.993*	0.325*	1.452	0.311	0.369	13.27	4.745	2.043	3.735	2.165
	(1.308)	(0.951)	(1.961)	(0.215)	(0.500)	(0.475)	(0.578)	(26.26)	(9.245)	(1.253)	(5.261)	(1.238)
Government secret	0.597	1.273	2.948*	0.701	0.556	2.937	0.560	1.266	4.668	1.242	1.512	0.982
	(0.428)	(0.739)	(1.892)	(0.247)	(0.274)	(2.859)	(0.874)	(2.128)	(10.51)	(0.893)	(1.994)	(0.546)
Government top-secret	0.769	0.475	1.552	0.715	2.589**	0.587	3.679	1.417	5.277	0.548	2.463	2.875
	(0.553)	(0.426)	(1.230)	(0.184)	(1.013)	(0.925)	(4.580)	(2.402)	(10.16)	(0.432)	(2.885)	(1.937)
Share of FY 2013-2014 in sample	9.958***	14.46***	10.07***	39.52***	20.89***	11.18***	47.82***	18.51***	2.199	33.57***	6.822***	28.81***
	(2.309)	(5.055)	(3.018)	(15.93)	(4.481)	(3.574)	(26.02)	(12.00)	(4.131)	(10.66)	(3.456)	(11.15)
Lower past performance rating	1.555	3.721***	1.867	3.127***	6.180***	2.039	0.306	1.550		5.584***	1.253	3.780***
	(0.505)	(1.006)	(0.736)	(0.641)	(1.165)	(0.885)	(0.277)	(1.693)		(1.229)	(0.611)	(1.411)
Higher past performance rating	2.538***	3.655***	1.541	2.910***	4.050***	3.525***	0.516	1.800	7.590	3.522***	2.008	3.535***
	(0.858)	(1.007)	(0.680)	(0.641)	(0.846)	(1.417)	(0.401)	(1.351)	(18.17)	(1.037)	(1.039)	(1.146)
Small (SBA definition)	0.671*	0.818	0.188***	0.202***	1.557**	0.413**	1.889	0.773	1.557	0.902	0.335**	0.395***
	(0.161)	(0.267)	(0.0658)	(0.0481)	(0.343)	(0.146)	(0.919)	(0.495)	(3.708)	(0.228)	(0.166)	(0.112)
Constant	0.0139***	0.0125***	0.0375***	0.000457***	0.00497***	0.0344***	0.00851***	0.000197***	0.0248	0.00179***	0.0475***	0.00834***
	(0.00665)	(0.00823)	(0.0223)	(0.000360)	(0.00211)	(0.0227)	(0.00799)	(0.000300)	(0.0833)	(0.00101)	(0.0430)	(0.00507)
Observations	3,706	2,401	2,517	5,546	9,885	2,312	662	766	101	4,281	687	1,899

standard errors in parentheses (*** p

NAICS Code	4482	4483	4511	4512	4521	4529	4531	4532	4533	4539	4541	4542
Woman-owned	0.895	0.794	0.872	0.408**	1.066	0.700	0.993	0.938	0.371	0.816*	0.543*	1.850
	(0.505)	(0.538)	(0.179)	(0.176)	(0.947)	(0.274)	(0.930)	(0.128)	(0.263)	(0.101)	(0.175)	(1.932)
SDB not 8(a)	1.272	0.564	0.636**	2.742***	2.324	0.586	1.037	0.833	1.494	0.830	0.336***	0.350
	(0.758)	(0.464)	(0.143)	(1.056)	(2.108)	(0.250)	(1.013)	(0.128)	(0.935)	(0.113)	(0.131)	(0.469)
8(a) certified	3.822	0.920	0.557	14.54**	5.515	1.779	0.975	0.240***	0.146	1.116	0.431	2.725
	(9.075)	(2.540)	(0.426)	(15.13)	(13.72)	(1.732)	(2.977)	(0.107)	(0.278)	(0.517)	(0.399)	(6.091)
Minority-owned	0.113	0.382	0.811	0.402*	0.0992	0.624	1.599	1.299	0.517	0.563***	1.188	0.542
	(0.151)	(0.440)	(0.214)	(0.207)	(0.215)	(0.295)	(2.180)	(0.213)	(0.486)	(0.104)	(0.414)	(0.707)
HubZone certified	1.936	22.28**	1.837	0.455	8.099	1.546	1.048	0.751	12.41	0.895	3.059	1.588
	(3.031)	(27.41)	(1.037)	(0.715)	(24.60)	(1.470)	(3.256)	(0.293)	(23.34)	(0.366)	(2.204)	(2.646)
Service-disabled veteran	0.327	0.212	0.480*	1.496	1.408	0.724	2.667	0.530**	0.115	0.461***	0.415	1.027
	(0.305)	(0.281)	(0.188)	(0.935)	(1.791)	(0.395)	(8.235)	(0.140)	(0.199)	(0.119)	(0.242)	(1.584)
Other veteran	0.485	0.892	0.748	1.357	0.775	0.508	1.459	1.129	0.0400	0.571***	0.672	0.988
	(0.419)	(0.796)	(0.213)	(0.701)	(0.815)	(0.327)	(2.078)	(0.226)	(0.107)	(0.116)	(0.310)	(1.558)
log age	0.906	0.803	1.105	1.120	1.727	0.699*	1.865	1.121	0.778	1.068	0.824	0.849
	(0.206)	(0.262)	(0.109)	(0.220)	(0.736)	(0.132)	(1.245)	(0.0932)	(0.215)	(0.0701)	(0.108)	(0.613)
log employees	0.537***	1.548**	0.999	0.905	0.991	0.682***	1.058	0.912**	0.433***	0.880***	1.040	1.020
	(0.0932)	(0.285)	(0.0668)	(0.118)	(0.191)	(0.0885)	(0.391)	(0.0407)	(0.109)	(0.0379)	(0.0842)	(0.364)
log sales revenue	1.140	1.027	1.111***	1.189*	1.029	1.391***	0.960	1.086***	1.493**	1.043*	1.085	1.003
	(0.126)	(0.0811)	(0.0446)	(0.116)	(0.0962)	(0.147)	(0.134)	(0.0303)	(0.267)	(0.0245)	(0.0552)	(0.185)
Sole proprietor	2.916	1.834	1.963**	0.915	1.128	0.987	2.621	0.799	1.953	1.290	0.687	1.129
Omitted: other forms of organization	(2.677)	(2.054)	(0.594)	(0.663)	(1.405)	(0.638)	(5.002)	(0.223)	(1.598)	(0.277)	(0.374)	(1.831)
Partnership	3.499	0.0794	1.473	7.842***	1.793	0.184***	3.054	1.254	0.345	1.278	1.741	3.218
	(2.913)	(0.137)	(0.448)	(4.908)	(1.902)	(0.118)	(6.275)	(0.328)	(0.369)	(0.285)	(0.626)	(4.804)
Corporation for profit	3.620*	1.530	1.501*	1.467	0.542	1.745	1.527	1.398*	1.120	1.532**	0.913	0.788
	(2.798)	(1.322)	(0.349)	(0.823)	(0.494)	(0.760)	(2.598)	(0.270)	(0.825)	(0.262)	(0.284)	(1.037)
Corporation, nonprofit	0.0460	0.874	0.428	1.458	0.00952	0.0724***	0.931	0.200***	0.0293	0.288***	1.272	5.509
	(0.101)	(2.173)	(0.305)	(1.156)	(0.0281)	(0.0545)	(2.562)	(0.0825)	(0.0699)	(0.114)	(0.764)	(12.08)
Government non-classified	1.530	1.087	1.039	0.710	0.446	1.803	1.023	1.039	0.445	1.144	1.046	1.525
(omitted: no security clearance repor	(1.146)	(1.050)	(0.326)	(0.549)	(0.708)	(0.827)	(1.694)	(0.227)	(0.653)	(0.235)	(0.406)	(2.277)
Government confidential	36.48	2.732	0.891	1.314	37.80	0.811	8.582	1.092	1.572	1.220	2.068	15.45
	(85.56)	(5.703)	(0.677)	(2.177)	(96.41)	(1.528)	(17.96)	(0.604)	(3.034)	(0.580)	(1.847)	(34.46)
Government secret	1.183	0.647	1.934	3.855*	0.356	3.287	5.336	0.922	27.18	0.456	2.058	5.806
	(2.399)	(1.136)	(1.254)	(2.849)	(1.079)	(2.945)	(11.99)	(0.438)	(61.31)	(0.274)	(1.354)	(11.20)
Government top-secret	13.48	1.126	2.151	0.808	4.262	2.767	3.695	1.200	12.29	1.584	2.699*	8.655
	(24.00)	(1.488)	(1.535)	(0.680)	(5.653)	(2.059)	(18.21)	(0.516)	(30.16)	(0.732)	(1.409)	(16.11)
Share of FY 2013-2014 in sample	11.47***	2.737	13.98***	2.431	34.54*	11.28***	2.823	30.52***	17.55***	8.641***	21.37***	17.73
	(10.10)	(2.828)	(4.456)	(1.347)	(70.58)	(7.069)	(4.298)	(9.624)	(18.43)	(1.736)	(12.28)	(35.73)
Lower past performance rating	10.79***	5.178	3.038***	2.166	11.70	6.037**	6.526	8.587***	20.17***	2.656***	1.254	4.838
	(7.857)	(6.904)	(1.215)	(1.344)	(26.78)	(4.340)	(9.672)	(2.227)	(20.92)	(0.643)	(0.534)	(8.702)
Higher past performance rating	8.431***	4.453	1.663	1.933	1.851	3.596**	1.421	4.701***	1.542	2.413***	1.422	1.094
	(6.495)	(5.208)	(0.667)	(1.243)	(2.534)	(2.036)	(2.949)	(1.215)	(2.292)	(0.639)	(0.644)	(2.208)
Small (SBA definition)	0.0864***	3.721	0.755	1.401	0.241	0.0456***	0.126	0.314***	0.301	0.244***	0.615	1.920
	(0.0635)	(5.960)	(0.286)	(0.852)	(0.374)	(0.0200)	(0.169)	(0.0691)	(0.244)	(0.0531)	(0.245)	(5.120)
Constant	0.0186**	0.00301**	0.00203***	0.00169***	0.00680**	0.0112***	0.0185	0.00451***	0.000957***	0.0363***	0.00273***	0.00319*
	(0.0321)	(0.00688)	(0.00134)	(0.00246)	(0.0137)	(0.0165)	(0.0530)	(0.00235)	(0.00231)	(0.0146)	(0.00247)	(0.0100)
Observations	1,108	486	2,769	722	161	979	215	3,545	708	5,428	3,037	293
standard errors in parentheses (*** p												

NAICS Code	4543	4811	4812	4821	4831	4832	4841	4842	4851	4852	4853	4854
Woman-owned	0.613***	0.400	0.955	0.622	0.510**	0.685	0.738*	0.781**	0.741	0.235	0.680	0.554
	(0.112)	(0.225)	(0.185)	(0.800)	(0.151)	(0.278)	(0.132)	(0.0790)	(0.279)	(0.322)	(0.311)	(0.311)
SDB not 8(a)	1.016	0.808	0.756	0.403	0.625*	0.685	1.096	0.773**	0.884	0.667	0.602	0.479
	(0.167)	(0.418)	(0.157)	(0.618)	(0.178)	(0.272)	(0.191)	(0.0840)	(0.315)	(0.741)	(0.278)	(0.281)
8(a) certified	0.643	0.758	0.667	1.970	0.206*	2.984	0.908	2.175***	8.451***	7.719	0.852	0.727
	(0.474)	(1.158)	(0.519)	(5.625)	(0.189)	(2.646)	(0.418)	(0.424)	(6.112)	(13.01)	(0.875)	(0.707)
Minority-owned	0.733	0.709	0.387***	1.211	0.580*	0.469	0.680*	0.762**	0.429**	2.749	0.861	2.377
	(0.165)	(0.359)	(0.108)	(1.675)	(0.188)	(0.255)	(0.140)	(0.0987)	(0.173)	(2.588)	(0.408)	(1.309)
HubZone certified	0.720	1.256	1.607	3.117	0.999	0.791	0.511	0.581**	2.441	1.691	6.897*	1.431
	(0.438)	(1.929)	(0.917)	(9.415)	(0.603)	(0.752)	(0.231)	(0.135)	(1.740)	(2.954)	(7.450)	(1.602)
Service-disabled veteran	0.679	0.340	0.401***	0.733	0.200***	0.302	0.868	0.726*	0.514	1.054	0.767	0.613
	(0.218)	(0.303)	(0.138)	(1.156)	(0.115)	(0.267)	(0.254)	(0.133)	(0.325)	(1.774)	(0.496)	(0.479)
Other veteran	0.685	1.455	0.698*	1.682	0.836	0.666	1.260	1.254	1.221	0.315	1.450	1.046
	(0.166)	(0.775)	(0.141)	(2.743)	(0.285)	(0.332)	(0.297)	(0.178)	(0.540)	(0.451)	(0.758)	(0.750)
log age	1.197**	2.462***	1.353***	1.104	1.279**	1.797***	1.229**	1.172***	1.381**	3.743**	1.633**	1.473
	(0.0906)	(0.625)	(0.128)	(0.451)	(0.141)	(0.340)	(0.106)	(0.0595)	(0.226)	(1.961)	(0.385)	(0.425)
log employees	1.040	1.108	1.013	1.378	0.915	0.810*	1.086**	1.069**	1.161**	1.157	0.991	1.162
	(0.0470)	(0.105)	(0.0424)	(0.324)	(0.0528)	(0.0906)	(0.0444)	(0.0288)	(0.0858)	(0.185)	(0.137)	(0.132)
log sales revenue	1.058**	0.898*	0.986	0.884	0.991	1.012	1.016	0.990	0.929**	0.926	0.989	0.965
	(0.0261)	(0.0548)	(0.0244)	(0.0726)	(0.0292)	(0.0557)	(0.0252)	(0.0146)	(0.0347)	(0.0642)	(0.0742)	(0.0665)
Sole proprietor	0.890	2.880	0.556	1.712	1.314	2.672**	1.553	1.217	0.742	0.142	11.44***	2.025
Omitted: other forms of organization	(0.282)	(2.228)	(0.200)	(3.299)	(0.538)	(1.336)	(0.438)	(0.212)	(0.590)	(0.285)	(10.75)	(1.520)
Partnership	0.982	2.896*	0.831	0.934	1.023	1.200	1.435	1.264	1.401	1.729	8.258***	0.592
	(0.244)	(1.777)	(0.233)	(1.707)	(0.356)	(0.678)	(0.381)	(0.196)	(0.718)	(2.690)	(6.138)	(0.556)
Corporation for profit	1.187	1.530	0.803	1.569	0.850	1.191	1.287	1.168	1.030	0.526	10.03***	0.541
	(0.217)	(0.809)	(0.157)	(2.002)	(0.200)	(0.499)	(0.248)	(0.129)	(0.406)	(0.424)	(8.226)	(0.284)
Corporation, nonprofit	2.227**	0.953	2.169*	0.787	2.596*	0.963	0.953	1.390	1.347	0.296	5.530*	0.267
	(0.870)	(1.064)	(1.006)	(1.483)	(1.322)	(0.811)	(0.496)	(0.448)	(0.760)	(0.322)	(5.036)	(0.303)
Government non-classified	1.089	1.070	0.817	1.098	0.661	0.631	0.999	0.993	0.867	5.950**	1.519	2.090
(omitted: no security clearance repor	(0.285)	(0.493)	(0.196)	(1.574)	(0.228)	(0.345)	(0.240)	(0.145)	(0.387)	(4.805)	(0.866)	(1.322)
Government confidential	3.708**	0.541	0.970	12.86	0.0792*	0.343	1.373	1.937**	0.942	18.16	0.412	3.399
	(1.969)	(0.636)	(0.586)	(27.65)	(0.115)	(0.513)	(0.785)	(0.555)	(1.379)	(35.47)	(0.668)	(6.067)
Government secret	0.591	1.128	0.592**	2.741	0.889	0.432	0.837	0.578**	0.173**	3.172	0.207	1.198
	(0.370)	(0.500)	(0.155)	(2.909)	(0.259)	(0.378)	(0.279)	(0.141)	(0.151)	(4.809)	(0.329)	(1.149)
Government top-secret	0.880	0.136*	0.631	3.166	0.528	0.256	0.989	0.551*	0.556	8.056	1.608	0.789
	(0.581)	(0.144)	(0.193)	(6.168)	(0.293)	(0.378)	(0.422)	(0.175)	(0.403)	(10.66)	(1.308)	(0.735)
Share of FY 2013-2014 in sample	14.12***	56.53***	20.10***	8.105	10.02***	11.40***	14.31***	20.97***	5.321***	3.656	32.01***	9.604***
	(3.808)	(58.86)	(7.334)	(12.17)	(4.074)	(6.895)	(4.506)	(4.262)	(2.813)	(3.765)	(28.87)	(8.248)
Lower past performance rating	3.742***	3.499***	3.014***	0.524	3.030***	1.046	3.441***	2.222***	4.534***	0.645	4.148***	2.222
	(0.717)	(1.701)	(0.607)	(0.778)	(0.806)	(0.525)	(0.790)	(0.321)	(1.737)	(1.277)	(1.953)	(1.274)
Higher past performance rating	3.239***	5.940***	6.633***	0.573	4.100***	1.638	2.592***	2.273***	1.701	1.408	1.073	1.349
	(0.727)	(2.350)	(1.112)	(0.897)	(1.059)	(0.743)	(0.561)	(0.290)	(0.701)	(1.343)	(0.788)	(0.842)
Small (SBA definition)	2.211***	0.189***	1.272	1.087	1.234	0.344**	0.898	1.198	1.771	0.733	1.546	0.806
	(0.555)	(0.0927)	(0.222)	(1.306)	(0.419)	(0.176)	(0.192)	(0.173)	(0.662)	(0.519)	(1.015)	(0.414)
Constant	0.00147***	0.00127***	0.00637***	0.00798**	0.0172***	0.0125***	0.00147***	0.00340***	0.00983***	0.000699***	9.91e-05***	0.00500***
	(0.000756)	(0.00178)	(0.00326)	(0.0188)	(0.0115)	(0.0128)	(0.000794)	(0.00115)	(0.00828)	(0.00145)	(0.000154)	(0.00681)
Observations	3,494	1,024	2,195	406	1,389	759	6,958	9,743	1,193	448	921	691

standard errors in parentheses (*** p

NAICS Code	4855	4859	4861	4862	4869	4871	4872	4879	4881	4882	4883	4884
Woman-owned	1.185	0.831	1.627	1.693	2.023	0.432	0.680	0.341	1.112	0.498	0.802	0.523**
	(0.295)	(0.135)	(1.885)	(2.204)	(3.239)	(0.310)	(0.476)	(0.910)	(0.130)	(0.484)	(0.176)	(0.133)
SDB not 8(a)	1.264	0.613***	6.199	0.258	0.487	1.166	1.040	0.550	0.674***	0.199	1.195	1.041
	(0.318)	(0.105)	(9.363)	(0.431)	(0.761)	(0.767)	(0.673)	(1.113)	(0.0862)	(0.262)	(0.240)	(0.231)
8(a) certified	4.070*	0.980	14.86	1.509	2.490	1.818	5.062	5.434	0.598*	2.523	0.706	0.988
	(2.996)	(0.449)	(40.58)	(4.942)	(5.452)	(3.166)	(14.63)	(17.30)	(0.176)	(4.209)	(0.398)	(0.565)
Minority-owned	0.534**	0.312***	0.614	0.209	0.385	0.907	0.240	2.095	0.738**	0.563	0.525**	0.595*
	(0.154)	(0.0583)	(0.895)	(0.313)	(0.613)	(0.668)	(0.285)	(4.519)	(0.104)	(0.784)	(0.138)	(0.162)
HubZone certified	0.548	1.711	9.063	39.97	11.43	0.889	2.965	19.30	0.344**	5.316	0.664	0.178**
	(0.522)	(0.736)	(22.90)	(133.7)	(25.15)	(1.410)	(5.108)	(44.63)	(0.158)	(9.751)	(0.352)	(0.153)
Service-disabled veteran	0.852	0.541**	0.727	0.698	0.437	0.572	0.592	0.709	0.577***	6.847*	0.538*	0.389**
	(0.438)	(0.130)	(1.232)	(1.186)	(0.684)	(0.903)	(0.795)	(1.751)	(0.0996)	(7.197)	(0.190)	(0.170)
Other veteran	0.604	0.788	2.672	0.479	0.558	0.214	1.262	1.042	0.780*	2.249	0.649	0.758
	(0.238)	(0.168)	(4.848)	(1.482)	(1.099)	(0.317)	(0.922)	(1.622)	(0.110)	(2.253)	(0.175)	(0.249)
log age	1.155	1.008	0.955	0.745	0.405	2.607**	0.876	1.549	1.590***	1.250	1.662***	1.031
	(0.162)	(0.0858)	(0.553)	(0.346)	(0.243)	(1.043)	(0.271)	(2.190)	(0.0874)	(0.507)	(0.150)	(0.119)
log employees	1.180**	0.957	1.651	0.776	0.851	1.135	1.059	1.175	1.076***	1.530**	0.992	0.863**
	(0.0812)	(0.0468)	(0.669)	(0.188)	(0.278)	(0.199)	(0.136)	(0.612)	(0.0301)	(0.322)	(0.0470)	(0.0621)
log sales revenue	1.025	1.001	0.939	0.991	1.008	1.074	0.985	0.994	1.033*	0.921	0.980	1.136***
	(0.0407)	(0.0216)	(0.136)	(0.104)	(0.156)	(0.135)	(0.0834)	(0.324)	(0.0181)	(0.0955)	(0.0239)	(0.0522)
Sole proprietor	1.526	8.760***	0.939	1.440	0.298	5.225	1.078	2.165	1.681***	1.099	1.633	1.277
Omitted: other forms of organization	(0.846)	(2.033)	(1.898)	(2.233)	(0.644)	(5.315)	(0.917)	(4.226)	(0.331)	(1.474)	(0.497)	(0.406)
Partnership	1.294	1.199	0.820	0.0647	0.558	3.894	0.942	3.652	1.089	1.577	1.326	1.015
	(0.603)	(0.341)	(1.513)	(0.146)	(1.038)	(3.562)	(0.883)	(6.797)	(0.189)	(1.903)	(0.385)	(0.351)
Corporation for profit	1.778*	1.058	0.520	0.104**	0.769	0.526	1.289	0.184	1.056	0.869	1.322	0.928
	(0.545)	(0.225)	(0.860)	(0.119)	(1.186)	(0.410)	(0.947)	(0.348)	(0.132)	(0.833)	(0.284)	(0.233)
Corporation, nonprofit	1.519	0.424**	640.9	0.394	3.765	2.810	0.944	2.531	1.032	9.191	2.285**	1.463
	(1.567)	(0.184)	(2,842)	(0.780)	(12.96)	(4.458)	(1.659)	(6.959)	(0.358)	(18.15)	(0.933)	(0.908)
Government non-classified	1.301	0.393***	1.511	1.751	2.484	3.606*	0.480	0.724	0.886	0.104	0.623*	0.933
(omitted: no security clearance repor	(0.450)	(0.130)	(2.153)	(3.163)	(3.996)	(2.493)	(0.704)	(1.398)	(0.118)	(0.236)	(0.167)	(0.311)
Government confidential	0.304	0.766	5.956	19.11	13.22	5.671	1.255	7.877	0.722	4.293	0.466	2.852*
	(0.462)	(0.515)	(15.27)	(43.40)	(30.32)	(10.61)	(1.962)	(40.47)	(0.238)	(4.778)	(0.242)	(1.811)
Government secret	1.402	0.346**	5.242	2.197	3.453	6.090	3.420	6.374	0.723**	0.321	0.937	1.067
	(1.971)	(0.152)	(11.90)	(4.500)	(6.443)	(10.11)	(6.776)	(11.52)	(0.106)	(0.530)	(0.257)	(0.579)
Government top-secret	0.839	1.024	2.989	18.23	2.696	12.50	0.422	9.486	0.375***	0.987	0.302***	1.100
	(0.654)	(0.412)	(8.346)	(32.55)	(6.644)	(25.90)	(0.776)	(29.29)	(0.0645)	(1.593)	(0.137)	(0.570)
Share of FY 2013-2014 in sample	39.78***	50.14***	0.154	8.940	14.92	6.021*	4.666	0.369	31.05***	76.65*	12.75***	10.68***
	(19.73)	(15.35)	(0.350)	(15.27)	(34.14)	(6.214)	(4.526)	(0.762)	(7.909)	(187.3)	(4.207)	(3.898)
Lower past performance rating	1.857	3.299***	9.940	20.99***	1.428	1.516	0.511	6.577	1.195	1.406	1.112	2.758***
	(0.703)	(0.831)	(20.97)	(20.97)	(2.690)	(1.463)	(0.790)	(23.01)	(0.147)	(1.554)	(0.293)	(0.908)
Higher past performance rating	1.411	1.835**	3.889	2.065	4.423	0.876	1.055	8.483	1.369**	0.614	2.464***	3.000***
	(0.547)	(0.479)	(8.319)	(5.529)	(6.655)	(0.830)	(1.721)	(19.53)	(0.169)	(0.643)	(0.523)	(0.890)
Small (SBA definition)	2.195**	1.619*	74.04	0.492	0.802	1.956	0.765	0.900	2.006***	7.705	0.756	1.276
	(0.790)	(0.444)	(257.5)	(0.824)	(1.332)	(1.470)	(0.740)	(1.510)	(0.293)	(9.840)	(0.177)	(0.388)
Constant	0.000810***	0.00578***	0.000642	0.270	0.0592	0.000150***	0.0629*	0.0137	0.00101***	7.95e-05***	0.00608***	0.00230***
	(0.000710)	(0.00272)	(0.00361)	(0.747)	(0.208)	(0.000330)	(0.0913)	(0.0956)	(0.000381)	(0.000237)	(0.00326)	(0.00181)
Observations	1,026	2,603	543	619	709	456	288	298	4,757	639	2,194	2,746

standard errors in parentheses (*** p

NAICS Code	4885	4889	4911	4921	4922	4931	5111	5112	5121	5122	5151	5152
Woman-owned	0.902	0.956	0.878	0.783	0.571	0.709**	0.501***	0.663***	0.593***	0.479**	0.630**	0.532*
	(0.281)	(0.177)	(0.445)	(0.185)	(0.209)	(0.0992)	(0.0640)	(0.0483)	(0.0820)	(0.154)	(0.126)	(0.183)
SDB not 8(a)	1.133	1.086	0.765	1.360	0.378***	0.850	0.703**	0.721***	0.672***	1.161	0.893	0.511**
	(0.365)	(0.229)	(0.501)	(0.314)	(0.143)	(0.125)	(0.100)	(0.0505)	(0.102)	(0.373)	(0.174)	(0.163)
8(a) certified	0.740	1.720	1.652	1.111	0.716	1.355	1.037	1.044	1.616	2.684	0.271	0.0891
	(0.684)	(0.902)	(1.342)	(0.639)	(0.405)	(0.343)	(0.362)	(0.147)	(0.541)	(2.343)	(0.259)	(0.136)
Minority-owned	0.457*	0.342***	1.164	0.354***	1.549	0.680**	0.605***	0.495***	0.571***	0.211***	0.820	0.807
	(0.188)	(0.105)	(0.761)	(0.0919)	(0.525)	(0.112)	(0.103)	(0.0389)	(0.0985)	(0.101)	(0.154)	(0.277)
HubZone certified	0.244	1.310	0.235	1.033	0.494	0.703	0.896	1.152	0.756	1.738	1.334	3.718
	(0.355)	(0.595)	(0.349)	(0.736)	(0.474)	(0.235)	(0.425)	(0.224)	(0.510)	(1.710)	(2.107)	(6.224)
Service-disabled veteran	0.508	0.278**	0.798	0.846	0.522	0.773	0.683	0.779**	0.117***	0.525	0.200***	0.534
	(0.271)	(0.139)	(0.498)	(0.242)	(0.263)	(0.145)	(0.166)	(0.0885)	(0.0638)	(0.366)	(0.105)	(0.303)
Other veteran	1.142	1.149	1.185	0.756	2.146**	1.051	0.597**	0.806**	1.065	0.492	0.426**	0.652
	(0.469)	(0.312)	(0.868)	(0.264)	(0.827)	(0.195)	(0.130)	(0.0849)	(0.225)	(0.327)	(0.169)	(0.256)
log age	0.982	1.340***	1.393	1.405**	1.249	1.118*	1.134**	1.129***	0.869*	0.916	0.798***	1.123
	(0.140)	(0.121)	(0.426)	(0.187)	(0.240)	(0.0714)	(0.0572)	(0.0380)	(0.0639)	(0.143)	(0.0660)	(0.134)
log employees	1.128**	1.010	1.344**	1.096	1.292***	0.980	1.112***	1.011	1.035	1.145*	1.174***	1.283***
	(0.0667)	(0.0471)	(0.161)	(0.0678)	(0.0981)	(0.0355)	(0.0312)	(0.0174)	(0.0434)	(0.0912)	(0.0437)	(0.0660)
log sales revenue	0.989	1.005	1.037	0.992	0.975	1.013	1.036**	1.070***	0.973	0.949	0.954***	0.971
	(0.0422)	(0.0311)	(0.108)	(0.0304)	(0.0446)	(0.0214)	(0.0169)	(0.0112)	(0.0172)	(0.0328)	(0.0160)	(0.0289)
Sole proprietor	2.571*	1.344	1.066	0.961	1.652	1.675**	0.984	0.887	2.735***	3.382**	6.971***	1.432
Omitted: other forms of organization	(1.370)	(0.513)	(1.026)	(0.349)	(0.859)	(0.407)	(0.199)	(0.131)	(0.573)	(1.604)	(1.832)	(0.740)
Partnership	1.291	1.221	1.775	1.100	2.085	1.716***	0.834	1.083	1.225	2.189	0.681	0.873
	(0.602)	(0.366)	(1.758)	(0.390)	(1.082)	(0.307)	(0.155)	(0.107)	(0.285)	(1.071)	(0.243)	(0.299)
Corporation for profit	1.431	0.932	1.919	0.847	0.734	1.053	0.806	1.203**	1.245	2.689**	0.989	1.007
	(0.480)	(0.197)	(1.150)	(0.225)	(0.279)	(0.147)	(0.110)	(0.0904)	(0.243)	(1.152)	(0.254)	(0.273)
Corporation, nonprofit	1.722	1.150	0.367	0.778	1.867	0.297***	0.729	1.543**	0.760	0.519	0.302***	0.995
	(1.529)	(0.452)	(0.389)	(0.532)	(1.593)	(0.128)	(0.146)	(0.272)	(0.283)	(0.410)	(0.130)	(0.457)
Government non-classified	0.886	0.919	0.758	0.743	1.369	0.707*	0.612***	0.751***	0.930	0.953	1.086	1.028
(omitted: no security clearance repor	(0.330)	(0.235)	(0.452)	(0.221)	(0.533)	(0.133)	(0.113)	(0.0531)	(0.159)	(0.374)	(0.243)	(0.393)
Government confidential	0.765	0.127	1.196	0.713	0.204	0.689	0.192***	0.732	1.304	0.633	0.528	0.571
	(0.678)	(0.183)	(1.819)	(0.506)	(0.325)	(0.252)	(0.102)	(0.154)	(0.566)	(0.556)	(0.288)	(0.862)
Government secret	0.688	0.428**	1.024	0.208***	0.0597*	0.732	0.370***	0.649***	0.647	1.955	0.436*	0.508
	(0.314)	(0.158)	(0.553)	(0.106)	(0.0863)	(0.141)	(0.101)	(0.0618)	(0.222)	(1.274)	(0.201)	(0.338)
Government top-secret	0.185*	0.413**	0.258**	0.191***	0.392	0.517***	0.177***	0.492***	0.309***	0.545	0.383**	0.166***
	(0.160)	(0.162)	(0.163)	(0.102)	(0.259)	(0.111)	(0.0420)	(0.0410)	(0.107)	(0.373)	(0.179)	(0.0941)
Share of FY 2013-2014 in sample	13.33***	7.596***	6.914*	13.25***	76.70***	9.808***	22.39***	26.08***	31.60***	14.51***	25.51***	9.040***
	(7.392)	(2.739)	(7.379)	(5.202)	(61.85)	(2.455)	(4.107)	(3.060)	(8.055)	(7.879)	(7.252)	(3.584)
Lower past performance rating	3.466***	5.789***	3.220**	1.775*	1.629	2.466***	2.494***	2.212***	0.969	2.766**	2.188	2.645**
	(1.266)	(1.237)	(1.793)	(0.578)	(0.854)	(0.407)	(0.463)	(0.191)	(0.327)	(1.399)	(1.097)	(1.024)
Higher past performance rating	5.247***	4.985***	2.208	2.065**	1.283	2.780***	1.259	1.543***	1.644**	0.765	2.570**	3.522***
	(1.639)	(1.009)	(1.251)	(0.636)	(0.627)	(0.420)	(0.197)	(0.122)	(0.371)	(0.480)	(1.007)	(1.650)
Small (SBA definition)	1.274	1.104	2.679*	0.421**	1.963	0.798	0.559***	0.727***	0.537**	0.280***	0.512***	1.207
	(0.327)	(0.254)	(1.514)	(0.179)	(1.104)	(0.133)	(0.0821)	(0.0609)	(0.137)	(0.104)	(0.103)	(0.361)
Constant	0.00222***	0.00381***	0.000296***	0.0194***	0.000518***	0.00732***	0.0144***	0.00918***	0.0164***	0.0227***	0.0466***	0.0321***
	(0.00175)	(0.00237)	(0.000532)	(0.0130)	(0.000600)	(0.00309)	(0.00473)	(0.00180)	(0.00680)	(0.0181)	(0.0197)	(0.0212)
Observations	2,944	4,114	734	1,708	1,225	7,387	5,050	12,466	5,790	1,698	1,785	794

standard errors in parentheses (*** p

NAICS Code	5171	5172	5174	5179	5182	5191	5221	5222	5223	5231	5232	5239
Woman-owned	0.752*	0.637**	0.565**	0.625***	0.673***	0.588***	0.522	1.449	0.758	0.642	0.555	0.713
	(0.117)	(0.123)	(0.128)	(0.0744)	(0.0684)	(0.0624)	(0.791)	(0.995)	(0.379)	(0.606)	(0.907)	(0.246)
SDB not 8(a)	0.819	0.805	1.284	0.643***	0.611***	0.506***	1.703	1.618	0.415	0.283	0.214	1.697
	(0.125)	(0.160)	(0.290)	(0.0799)	(0.0727)	(0.0654)	(1.371)	(1.018)	(0.320)	(0.303)	(0.341)	(0.571)
8(a) certified	0.834	1.092	1.293	1.090	1.267	1.025	0.0897	1.761	2.849	1.111		0.945
	(0.216)	(0.383)	(0.622)	(0.218)	(0.211)	(0.227)	(0.211)	(3.024)	(2.202)	(1.356)		(0.885)
Minority-owned	0.692**	0.668*	0.208***	0.544***	0.594***	0.427***	0.555	0.789	0.635	1.799	0.526	0.365***
	(0.107)	(0.140)	(0.0629)	(0.0720)	(0.0695)	(0.0577)	(0.605)	(0.535)	(0.412)	(1.535)	(0.742)	(0.135)
HubZone certified	0.423*	0.693	1.457	0.882	0.667	0.707	23.33*	2.884	0.373	3.282		1.478
	(0.196)	(0.369)	(0.723)	(0.254)	(0.206)	(0.256)	(40.41)	(7.648)	(0.555)	(5.660)		(1.175)
Service-disabled veteran	0.549***	0.383***	0.182***	0.492***	0.499***	0.333***	0.199	0.428	1.048	0.562	0.999	0.273
	(0.116)	(0.118)	(0.0676)	(0.0806)	(0.0812)	(0.0750)	(0.578)	(0.920)	(0.939)	(0.831)	(1.584)	(0.236)
Other veteran	0.854	0.435***	0.490**	0.741*	0.538***	0.625**	19.47***	2.459	0.633	0.809	4.060	1.535
	(0.177)	(0.137)	(0.151)	(0.118)	(0.102)	(0.117)	(22.40)	(2.327)	(0.917)	(1.294)	(4.989)	(0.747)
log age	1.187***	1.470***	1.170	1.216***	1.172***	1.159***	0.935	1.117	1.222	0.566*	0.700	1.132
	(0.0651)	(0.128)	(0.115)	(0.0661)	(0.0619)	(0.0569)	(0.174)	(0.241)	(0.243)	(0.194)	(0.243)	(0.156)
log employees	1.117***	0.908**	0.888***	1.040	1.155***	1.116***	1.256***	1.347***	1.204**	1.252	1.143	0.817***
	(0.0302)	(0.0368)	(0.0393)	(0.0258)	(0.0294)	(0.0266)	(0.0886)	(0.113)	(0.100)	(0.184)	(0.226)	(0.0551)
log sales revenue	1.001	1.034	1.041	1.016	1.026	1.021	0.960	0.990	1.012	0.967	0.998	1.073
	(0.0166)	(0.0259)	(0.0281)	(0.0157)	(0.0171)	(0.0141)	(0.0387)	(0.0614)	(0.0620)	(0.0780)	(0.110)	(0.0460)
Sole proprietor	1.219	1.250	0.850	1.168	2.067***	2.201***	0.150	1.506	0.401	0.265	1.055	1.380
Omitted: other forms of organization	(0.380)	(0.474)	(0.357)	(0.243)	(0.356)	(0.335)	(0.266)	(2.321)	(0.596)	(0.408)	(2.311)	(0.728)
Partnership	1.531**	1.985***	1.381	1.151	1.216	1.296*	0.857	1.098	0.939	0.407	3.229	1.265
	(0.268)	(0.474)	(0.387)	(0.174)	(0.177)	(0.195)	(1.131)	(1.191)	(0.538)	(0.325)	(4.797)	(0.505)
Corporation for profit	1.129	1.347	1.329	0.935	1.011	0.913	0.417	3.335	0.865	0.645	2.179	1.589
	(0.146)	(0.257)	(0.298)	(0.105)	(0.105)	(0.107)	(0.235)	(2.726)	(0.369)	(0.418)	(3.241)	(0.547)
Corporation, nonprofit	1.131	0.459*	0.920	1.190	4.015***	0.934	0.415	1.025	1.016	1.186	0.758	0.240**
	(0.303)	(0.196)	(0.496)	(0.318)	(0.718)	(0.167)	(0.331)	(1.208)	(0.733)	(1.399)	(1.488)	(0.147)
Government non-classified	0.767*	0.932	0.919	0.944	0.742***	0.677***	0.279	2.041	1.328	0.968	1.025	0.451*
(omitted: no security clearance repor	(0.117)	(0.179)	(0.196)	(0.114)	(0.0844)	(0.0835)	(0.336)	(1.374)	(0.553)	(0.871)	(1.660)	(0.210)
Government confidential	0.417**	0.670	0.969	0.705	0.628	0.430**	5.348*	1.086	1.165	1.896	1.492	0.788
	(0.182)	(0.367)	(0.524)	(0.273)	(0.178)	(0.148)	(5.001)	(1.642)	(0.850)	(1.821)	(2.695)	(0.544)
Government secret	0.610***	0.746	0.941	0.775*	0.417***	0.266***	0.271	2.475	1.285	0.991	15.51	0.0745*
	(0.116)	(0.202)	(0.226)	(0.117)	(0.0647)	(0.0579)	(0.539)	(2.511)	(1.063)	(1.734)	(40.02)	(0.114)
Government top-secret	0.142***	0.386***	0.461***	0.424***	0.554***	0.273***	2.232	0.116	0.329	0.288	0.904	1.115
	(0.0189)	(0.0768)	(0.0935)	(0.0510)	(0.0576)	(0.0399)	(3.075)	(0.188)	(0.237)	(0.430)	(1.562)	(0.491)
Share of FY 2013-2014 in sample	12.47***	18.50***	20.42***	23.78***	10.50***	16.01***	2.615	4.418*	18.79***	322.4***	14.94	28.07***
	(2.720)	(6.463)	(8.812)	(5.644)	(1.962)	(2.755)	(1.667)	(3.642)	(19.01)	(681.0)	(31.51)	(15.03)
Lower past performance rating	4.314***	4.383***	3.427***	3.865***	2.303***	2.123***	7.953***	3.592**	2.094*	0.474	0.527	3.057***
	(0.628)	(0.850)	(0.788)	(0.474)	(0.268)	(0.296)	(5.751)	(2.189)	(0.904)	(0.440)	(1.135)	(1.144)
Higher past performance rating	2.536***	1.774***	1.681**	2.884***	2.173***	1.793***	22.35***	1.108	2.768**	0.476	0.440	2.756***
	(0.342)	(0.377)	(0.351)	(0.343)	(0.216)	(0.215)	(16.57)	(0.893)	(1.151)	(0.371)	(1.294)	(0.910)
Small (SBA definition)	0.625***	0.248***	0.609**	0.887	1.230	0.510***	0.739	1.171	1.938	0.797	0.992	0.0828***
	(0.0952)	(0.0533)	(0.150)	(0.123)	(0.156)	(0.0645)	(0.336)	(0.692)	(0.976)	(0.598)	(1.267)	(0.0266)
Constant	0.0114***	0.0117***	0.00959***	0.00519***	0.00296***	0.0111***	0.0303***	0.000625***	0.000721***	0.00272***	0.0276*	0.00982***
	(0.00396)	(0.00607)	(0.00556)	(0.00173)	(0.000915)	(0.00300)	(0.0285)	(0.000890)	(0.00104)	(0.00586)	(0.0520)	(0.00738)
Observations	5,714	2,868	2,379	7,779	14,786	11,506	820	1,365	1,154	623	101	1,898

standard errors in parentheses (*** p

NAICS Code	5241	5242	5251	5259	5311	5312	5313	5321	5322	5323	5324	5331
Woman-owned	0.307***	0.333***	1.147	0.372	0.947	1.093	0.906	0.540***	0.860	0.514	0.622***	1.163
	(0.126)	(0.135)	(1.054)	(0.732)	(0.145)	(0.361)	(0.0750)	(0.115)	(0.127)	(0.218)	(0.0592)	(2.347)
SDB not 8(a)	0.951	0.669	0.772	2.615	1.072	0.931	0.608***	1.171	0.914	0.727	0.895	0.840
	(0.284)	(0.273)	(0.691)	(3.079)	(0.131)	(0.338)	(0.0539)	(0.227)	(0.139)	(0.283)	(0.0820)	(2.129)
8(a) certified	1.746	1.148	9.343	105.9	1.757	4.155	0.377**	1.106	0.942	0.447	0.893	3.809
	(1.505)	(0.925)	(12.83)	(301.9)	(0.619)	(4.358)	(0.150)	(0.495)	(0.487)	(0.764)	(0.192)	(12.86)
Minority-owned	0.422*	0.385**	0.331	0.131	0.439***	0.108***	0.472***	0.619**	0.484***	0.763	0.582***	1.183
	(0.189)	(0.186)	(0.304)	(0.195)	(0.0873)	(0.0800)	(0.0552)	(0.147)	(0.102)	(0.474)	(0.0669)	(3.809)
HubZone certified	3.231	0.886	1.635	9.224	0.946	1.295	0.901	0.960	1.318	1.347	0.613**	
	(3.948)	(1.307)	(2.691)	(17.07)	(0.408)	(1.908)	(0.331)	(0.362)	(0.515)	(1.244)	(0.139)	
Service-disabled veteran	0.275*	0.368	1.399	3.914	0.750	0.974	0.374***	0.576	0.370***	1.343	0.600***	1.377
	(0.202)	(0.254)	(1.610)	(6.224)	(0.233)	(0.656)	(0.0844)	(0.197)	(0.114)	(0.863)	(0.0942)	(2.677)
Other veteran	0.260	0.345	0.0799	8.867*	0.834	1.384	1.188	0.990	0.538**	0.531	0.868	0.638
	(0.226)	(0.293)	(0.134)	(11.10)	(0.190)	(0.795)	(0.137)	(0.259)	(0.135)	(0.373)	(0.110)	(1.976)
log age	1.015	1.147	0.505	1.573	1.243***	1.107	1.390***	1.057	1.116	0.999	1.079*	0.741
	(0.122)	(0.177)	(0.215)	(0.600)	(0.0594)	(0.182)	(0.0564)	(0.0800)	(0.0811)	(0.168)	(0.0424)	(0.308)
log employees	0.890*	1.030	0.806	1.330**	1.120***	1.158*	0.957*	1.086*	1.099**	1.616***	1.136***	0.878
	(0.0563)	(0.0875)	(0.148)	(0.178)	(0.0221)	(0.0960)	(0.0227)	(0.0480)	(0.0407)	(0.186)	(0.0248)	(0.257)
log sales revenue	1.041	1.007	1.096	0.885	1.000	1.002	0.981*	1.004	0.978	0.897**	0.995	1.088
	(0.0373)	(0.0560)	(0.142)	(0.0678)	(0.0126)	(0.0466)	(0.00967)	(0.0280)	(0.0203)	(0.0450)	(0.0133)	(0.175)
Sole proprietor	1.941	1.033	0.729	0.794	1.182	1.954	3.054***	0.445**	1.196	0.809	0.899	1.541
Omitted: other forms of organization	(1.035)	(0.583)	(1.248)	(1.308)	(0.192)	(1.040)	(0.300)	(0.179)	(0.317)	(0.625)	(0.149)	(3.029)
Partnership	2.675**	1.385	0.736	2.067	0.930	1.735	0.496***	1.851**	1.148	1.439	1.073	0.432
	(1.200)	(0.649)	(0.875)	(2.326)	(0.105)	(0.815)	(0.0561)	(0.460)	(0.267)	(0.773)	(0.136)	(0.881)
Corporation for profit	1.918*	1.101	1.720	0.686	1.366***	1.339	1.525***	1.149	1.016	0.933	1.087	0.806
	(0.691)	(0.405)	(1.616)	(0.627)	(0.153)	(0.574)	(0.141)	(0.214)	(0.175)	(0.386)	(0.0983)	(0.678)
Corporation, nonprofit	0.515	0.780	0.0695*	1.354	0.673**	1.229	0.609**	1.822	0.341**	0.885	1.280	0.157
	(0.367)	(0.624)	(0.112)	(1.377)	(0.125)	(1.111)	(0.140)	(0.760)	(0.180)	(0.881)	(0.290)	(0.493)
Government non-classified	1.323	0.556	0.578	0.345	0.727	0.149	0.610***	0.553*	0.986	0.582	0.725***	0.682
(omitted: no security clearance report	(0.513)	(0.249)	(0.806)	(0.520)	(0.179)	(0.214)	(0.108)	(0.169)	(0.231)	(0.370)	(0.0885)	(1.308)
Government confidential	0.370	2.934**	0.232	0.124	0.737	0.685	0.530*	2.380	0.953	2.526	1.875***	2.581
	(0.559)	(1.372)	(0.453)	(0.275)	(0.379)	(1.010)	(0.200)	(1.461)	(0.624)	(4.079)	(0.444)	(7.206)
Government secret	1.690	0.153	24.41*	1.068	0.459	0.525	0.797	0.604	1.166	0.536	0.528***	0.105
	(1.805)	(0.223)	(45.46)	(2.326)	(0.238)	(0.761)	(0.278)	(0.268)	(0.637)	(0.858)	(0.119)	(0.286)
Government top-secret	0.511	0.156***	1.760	0.841	0.804	1.343	0.761	0.178**	0.0811***	0.346	0.533***	0.0297
	(0.475)	(0.107)	(3.027)	(1.371)	(0.270)	(0.992)	(0.250)	(0.155)	(0.0468)	(0.536)	(0.112)	(0.0755)
Share of FY 2013-2014 in sample	14.01***	24.73***	106.6**	3.645	19.56***	8.622***	18.28***	13.64***	11.87***	13.30***	13.99***	11.66
	(6.501)	(15.60)	(223.4)	(4.005)	(3.401)	(4.528)	(2.194)	(4.059)	(2.860)	(7.609)	(2.158)	(25.88)
Lower past performance rating	2.365**	3.348***	3.655	3.580	3.252***	2.141	2.344***	2.946***	5.035***	3.523*	2.712***	7.151
	(0.990)	(1.266)	(2.895)	(3.814)	(0.638)	(1.234)	(0.425)	(0.655)	(1.112)	(2.435)	(0.297)	(10.85)
Higher past performance rating	2.771**	3.100***	0.634	6.668*	4.878***	1.678	1.596**	2.344***	2.414***	4.106***	2.261***	19.76
	(1.237)	(1.041)	(0.685)	(7.049)	(0.876)	(1.028)	(0.346)	(0.558)	(0.549)	(2.026)	(0.249)	(56.58)
Small (SBA definition)	1.534	1.511	0.0942***	0.158*	0.644***	0.934	2.409***	1.391	0.977	3.646**	1.403***	0.0755*
	(0.538)	(0.637)	(0.0835)	(0.156)	(0.0699)	(0.441)	(0.333)	(0.309)	(0.180)	(1.883)	(0.147)	(0.101)
Constant	0.00621***	0.00193***	0.0187	0.0139***	0.00162***	0.00191***	0.00321***	0.00934***	0.0210***	0.00600***	0.00785***	0.0742
	(0.00489)	(0.00199)	(0.0495)	(0.0205)	(0.000436)	(0.00185)	(0.000753)	(0.00506)	(0.00877)	(0.00623)	(0.00210)	(0.188)
Observations	1,186	2,150	360	675	25,350	4,030	13,992	2,187	2,977	737	10,405	179

standard errors in parentheses (*** p

NAICS Code	5411	5412	5413	5414	5415	5416	5417	5418	5419	5511	5611	5612
Woman-owned	0.600***	0.543***	0.837***	0.815*	0.718***	0.814***	0.627***	0.452***	0.733***	1.693	0.810*	0.762***
	(0.0489)	(0.0974)	(0.0357)	(0.0875)	(0.0285)	(0.0284)	(0.0304)	(0.0495)	(0.0309)	(2.710)	(0.0901)	(0.0589)
SDB not 8(a)	0.671***	0.728	0.817***	0.756**	0.783***	0.788***	0.663***	0.718***	0.842***	1.288	0.998	0.929
	(0.0619)	(0.163)	(0.0359)	(0.0931)	(0.0349)	(0.0329)	(0.0360)	(0.0911)	(0.0420)	(2.319)	(0.152)	(0.0868)
8(a) certified	0.739	2.170***	1.366***	1.757***	2.119***	3.369***	0.353***	1.571*	1.941***	6.154	4.465***	2.890***
	(0.200)	(0.588)	(0.100)	(0.375)	(0.139)	(0.213)	(0.0470)	(0.399)	(0.172)	(15.80)	(0.760)	(0.335)
Minority-owned	0.468***	0.480***	0.640***	0.619***	0.657***	0.583***	0.633***	0.771*	0.525***	0.675	0.554***	0.453***
	(0.0534)	(0.103)	(0.0308)	(0.0902)	(0.0299)	(0.0262)	(0.0360)	(0.106)	(0.0291)	(1.400)	(0.0790)	(0.0422)
HubZone certified	0.416*	0.505	0.765***	1.066	1.282***	0.951	0.571***	1.195	0.790	1.875	1.124	0.843
	(0.196)	(0.282)	(0.0779)	(0.309)	(0.122)	(0.0960)	(0.100)	(0.441)	(0.119)	(5.012)	(0.241)	(0.125)
Service-disabled veteran	0.309***	0.735	1.042	0.797	0.667***	0.651***	0.193***	0.415***	0.411***	2.010	0.734**	0.630***
	(0.0757)	(0.184)	(0.0543)	(0.148)	(0.0379)	(0.0355)	(0.0211)	(0.116)	(0.0349)	(3.664)	(0.101)	(0.0588)
Other veteran	0.846	0.588*	1.034	0.593**	0.743***	0.695***	0.465***	0.889	0.649***	2.093	0.649**	0.788**
	(0.113)	(0.188)	(0.0577)	(0.135)	(0.0445)	(0.0400)	(0.0386)	(0.171)	(0.0476)	(3.868)	(0.137)	(0.0947)
log age	1.074*	0.994	1.144***	1.084	1.044**	1.007	0.868***	1.168***	1.057**	1.164	1.087	1.012
	(0.0412)	(0.0999)	(0.0230)	(0.0716)	(0.0229)	(0.0192)	(0.0191)	(0.0682)	(0.0234)	(0.734)	(0.0843)	(0.0433)
log employees	0.960*	1.113**	1.040***	0.858***	1.013	0.972***	0.979**	1.055*	1.035***	1.266	1.155***	1.002
	(0.0239)	(0.0586)	(0.0101)	(0.0383)	(0.0108)	(0.0102)	(0.00985)	(0.0334)	(0.0122)	(0.356)	(0.0399)	(0.0216)
log sales revenue	1.048***	1.041	0.989	1.036	1.047***	1.002	1.020***	0.989	0.980***	0.921	0.991	0.954***
	(0.0138)	(0.0381)	(0.00656)	(0.0235)	(0.00737)	(0.00530)	(0.00590)	(0.0158)	(0.00591)	(0.168)	(0.0180)	(0.0102)
Sole proprietor	1.555***	2.093***	1.207***	1.485**	1.266***	2.354***	1.247***	1.440**	2.263***	2.923	2.808***	4.990***
Omitted: other forms of organization	(0.180)	(0.537)	(0.0809)	(0.247)	(0.0898)	(0.116)	(0.0853)	(0.254)	(0.139)	(5.551)	(0.486)	(0.543)
Partnership	0.887	0.894	0.975	0.774	1.131**	0.927	1.120	1.990***	0.880*	0.786	0.905	0.871
	(0.110)	(0.202)	(0.0590)	(0.147)	(0.0668)	(0.0530)	(0.0783)	(0.329)	(0.0667)	(1.416)	(0.177)	(0.106)
Corporation for profit	1.244**	0.715*	1.089**	0.928	1.220***	0.936	1.133**	1.185	0.995	0.932	1.194	0.966
	(0.132)	(0.134)	(0.0465)	(0.127)	(0.0536)	(0.0396)	(0.0612)	(0.165)	(0.0545)	(1.507)	(0.159)	(0.0821)
Corporation, nonprofit	0.203***	0.608	2.537***	1.274	1.650***	2.299***	1.226**	1.451	1.943***	3.580	3.411***	0.814
	(0.0490)	(0.303)	(0.227)	(0.505)	(0.185)	(0.175)	(0.101)	(0.335)	(0.174)	(6.335)	(0.945)	(0.214)
Government non-classified	0.688***	0.611*	0.827***	0.891	0.885***	0.807***	1.164***	0.777	0.669***	1.634	0.899	0.818**
(omitted: no security clearance repor	(0.0957)	(0.154)	(0.0397)	(0.127)	(0.0387)	(0.0366)	(0.0575)	(0.131)	(0.0389)	(2.483)	(0.129)	(0.0770)
Government confidential	0.533**	0.752	0.782**	0.618	0.860	1.015	0.898	0.306*	0.676***	4.229	1.077	1.259
	(0.133)	(0.323)	(0.0980)	(0.270)	(0.0955)	(0.108)	(0.134)	(0.199)	(0.0952)	(7.821)	(0.310)	(0.247)
Government secret	0.504***	0.763	1.264***	0.683	0.838***	0.989	1.385***	0.326***	0.590***	3.532	1.072	0.863
	(0.117)	(0.198)	(0.0584)	(0.161)	(0.0418)	(0.0525)	(0.0760)	(0.128)	(0.0450)	(7.400)	(0.145)	(0.0847)
Government top-secret	0.257***	0.853	1.119***	0.489***	0.849***	0.840***	0.715***	0.115***	0.453***	1.381	0.801*	0.873
	(0.0576)	(0.168)	(0.0467)	(0.120)	(0.0343)	(0.0396)	(0.0371)	(0.0398)	(0.0287)	(2.825)	(0.108)	(0.0756)
Share of FY 2013-2014 in sample	17.49***	18.16***	23.01***	22.21***	35.92***	11.27***	15.03***	18.58***	9.671***	12.58	9.231***	15.39***
	(2.163)	(7.072)	(2.079)	(5.228)	(3.398)	(0.763)	(1.305)	(3.456)	(0.735)	(33.96)	(2.795)	(3.019)
Lower past performance rating	0.973	1.740**	2.991***	1.928***	2.809***	2.580***	2.264***	0.908	2.294***	5.923	2.561***	2.426***
	(0.165)	(0.409)	(0.142)	(0.354)	(0.140)	(0.142)	(0.153)	(0.212)	(0.156)	(8.812)	(0.389)	(0.234)
Higher past performance rating	2.147***	2.609***	3.539***	1.776***	2.455***	4.139***	2.913***	0.921	2.548***	2.063	2.289***	2.915***
	(0.304)	(0.487)	(0.131)	(0.268)	(0.101)	(0.168)	(0.138)	(0.171)	(0.137)	(3.943)	(0.304)	(0.229)
Small (SBA definition)	0.972	1.173	1.414***	1.789***	1.294***	0.980	1.052	0.385***	0.825***	0.812	2.666***	1.104
	(0.107)	(0.305)	(0.0524)	(0.366)	(0.0659)	(0.0550)	(0.0421)	(0.0600)	(0.0536)	(1.148)	(0.512)	(0.138)
Constant	0.0198***	0.00237***	0.00292***	0.00109***	0.00189***	0.00876***	0.0208***	0.0127***	0.0238***	0.000808**	0.00109***	0.0104***
	(0.00485)	(0.00148)	(0.000353)	(0.000449)	(0.000251)	(0.000887)	(0.00219)	(0.00405)	(0.00283)	(0.00274)	(0.000434)	(0.00262)
Observations	7,265	6,052	64,159	20,532	55,479	89,197	30,958	11,133	41,412	797	12,414	17,490

standard errors in parentheses (*** p

NAICS Code	5613	5614	5615	5616	5617	5619	5621	5622	5629	6111	6112	6113
Woman-owned	1.072	0.940	0.506**	0.774***	0.794***	0.623***	0.861	0.701**	0.837**	0.732	0.346	0.237***
	(0.104)	(0.0609)	(0.142)	(0.0503)	(0.0358)	(0.0528)	(0.0867)	(0.104)	(0.0588)	(0.425)	(0.330)	(0.0854)
SDB not 8(a)	0.885	0.717***	1.372	0.987	1.020	0.680***	0.935	0.846	0.876*	0.298	1.389	0.533*
	(0.109)	(0.0554)	(0.426)	(0.0637)	(0.0477)	(0.0685)	(0.0950)	(0.127)	(0.0659)	(0.233)	(1.116)	(0.173)
8(a) certified	2.185***	1.189	2.314	1.471***	1.885***	1.756***	0.769	1.392	2.159***	0.474	1.531	0.871
	(0.356)	(0.190)	(1.386)	(0.176)	(0.162)	(0.278)	(0.151)	(0.338)	(0.244)	(0.756)	(2.782)	(0.574)
Minority-owned	0.493***	0.411***	0.557*	0.466***	0.505***	0.503***	0.426***	0.483***	0.632***	1.067	0.567	0.736
	(0.0601)	(0.0368)	(0.184)	(0.0340)	(0.0260)	(0.0547)	(0.0514)	(0.0814)	(0.0525)	(0.515)	(0.421)	(0.157)
HubZone certified	1.134	0.721	0.796	0.558***	0.842*	0.683*	0.581**	0.712	0.649***	4.813	14.79	0.319
	(0.262)	(0.178)	(0.691)	(0.110)	(0.0847)	(0.156)	(0.125)	(0.188)	(0.0931)	(14.06)	(40.30)	(0.500)
Service-disabled veteran	0.806	0.512***	0.786	0.378***	0.617***	0.475***	0.445***	0.474***	0.569***	4.213	0.898	1.106
	(0.118)	(0.0668)	(0.379)	(0.0353)	(0.0435)	(0.0669)	(0.0755)	(0.106)	(0.0605)	(4.340)	(1.383)	(0.399)
Other veteran	0.863	0.769**	0.788	0.700***	0.788***	0.504***	0.756*	1.237	0.941	0.309	5.677*	0.746
	(0.155)	(0.0974)	(0.372)	(0.0542)	(0.0595)	(0.0799)	(0.127)	(0.253)	(0.112)	(0.454)	(5.441)	(0.272)
log age	1.160**	1.209***	1.224	1.125***	1.106***	1.173***	1.132**	1.369***	1.053	1.548**	1.786	1.152*
	(0.0796)	(0.0468)	(0.169)	(0.0351)	(0.0275)	(0.0512)	(0.0587)	(0.104)	(0.0402)	(0.334)	(0.728)	(0.0835)
log employees	1.147***	1.018	0.963	1.013	1.063***	1.015	1.037	0.857***	0.889***	1.182	0.991	1.146***
	(0.0343)	(0.0204)	(0.0581)	(0.0165)	(0.0159)	(0.0235)	(0.0271)	(0.0347)	(0.0169)	(0.148)	(0.212)	(0.0415)
log sales revenue	0.980	1.003	1.012	0.956***	0.985**	1.004	1.006	1.052*	1.017	0.962	1.316	0.964**
	(0.0168)	(0.0104)	(0.0392)	(0.00745)	(0.00659)	(0.0127)	(0.0154)	(0.0281)	(0.0118)	(0.0492)	(0.344)	(0.0177)
Sole proprietor	2.481***	1.381***	0.336	1.045	2.340***	1.900***	1.319*	0.728	1.287**	1.931	2.478	1.988**
Omitted: other forms of organization	(0.414)	(0.143)	(0.236)	(0.0956)	(0.155)	(0.241)	(0.211)	(0.214)	(0.149)	(1.782)	(2.659)	(0.546)
Partnership	0.735*	1.048	1.655	0.882	1.050	0.931	1.114	0.995	0.868	1.830	0.699	0.380
	(0.132)	(0.128)	(0.642)	(0.0909)	(0.0824)	(0.131)	(0.164)	(0.218)	(0.0943)	(1.863)	(0.819)	(0.231)
Corporation for profit	0.981	1.060	1.249	1.155*	1.085	1.002	1.029	1.073	1.000	2.897	0.239	0.662*
	(0.115)	(0.0967)	(0.415)	(0.0857)	(0.0661)	(0.102)	(0.114)	(0.163)	(0.0778)	(1.884)	(0.215)	(0.148)
Corporation, nonprofit	0.357***	0.571***	0.652	2.228***	0.575***	1.055	1.136	1.766	1.420	1.103	2.062	0.952
	(0.101)	(0.119)	(0.378)	(0.406)	(0.0947)	(0.164)	(0.335)	(0.727)	(0.307)	(0.635)	(1.533)	(0.177)
Government non-classified	0.695**	0.706***	0.876	0.872*	0.850**	0.864	0.879	0.784	0.806**	0.920	0.928	1.431
(omitted: no security clearance repor	(0.0993)	(0.0686)	(0.381)	(0.0690)	(0.0574)	(0.0973)	(0.123)	(0.142)	(0.0768)	(0.637)	(0.857)	(0.344)
Government confidential	0.372**	0.938	1.692	1.486***	0.923	1.128	1.061	2.218***	1.337	0.926	5.185	0.851
	(0.143)	(0.148)	(1.021)	(0.217)	(0.155)	(0.242)	(0.328)	(0.656)	(0.260)	(1.464)	(8.961)	(0.683)
Government secret	0.610***	0.695***	0.716	1.135	0.561***	0.677***	0.764	1.020	0.682***	0.780	1.861	0.957
	(0.0900)	(0.0960)	(0.346)	(0.0963)	(0.0720)	(0.0996)	(0.183)	(0.271)	(0.100)	(1.169)	(2.838)	(0.348)
Government top-secret	0.342***	0.590***	0.473	0.741***	0.555***	0.571***	0.183***	0.231***	0.392***	0.638	0.780	0.500**
	(0.0533)	(0.0708)	(0.279)	(0.0522)	(0.0810)	(0.0808)	(0.0601)	(0.0883)	(0.0694)	(1.081)	(1.410)	(0.151)
Share of FY 2013-2014 in sample	16.47***	8.107***	8.846***	9.126***	25.12***	11.43***	14.80***	13.77***	17.26***	24.23***	1.374	9.450***
	(3.952)	(1.015)	(3.922)	(0.979)	(2.080)	(1.862)	(2.624)	(3.868)	(2.371)	(17.62)	(1.160)	(2.293)
Lower past performance rating	3.824***	1.708***	1.154	2.414***	1.821***	1.601***	2.018***	2.223***	1.434***	1.070	6.558*	9.406***
	(0.477)	(0.203)	(0.496)	(0.217)	(0.144)	(0.198)	(0.269)	(0.364)	(0.144)	(1.594)	(7.255)	(2.325)
Higher past performance rating	2.785***	1.329***	1.242	1.887***	1.762***	1.700***	1.859***	2.104***	1.871***	2.139	8.447**	6.014***
	(0.349)	(0.139)	(0.400)	(0.159)	(0.126)	(0.173)	(0.213)	(0.294)	(0.146)	(1.510)	(7.106)	(1.133)
Small (SBA definition)	0.775	1.069	0.507**	1.341***	2.405***	0.812*	1.331*	1.514*	1.649***	1.818	5.214	0.742
	(0.123)	(0.121)	(0.170)	(0.134)	(0.232)	(0.0937)	(0.206)	(0.327)	(0.109)	(1.359)	(5.579)	(0.180)
Constant	0.00452***	0.0133***	0.0132***	0.0298***	0.00459***	0.0129***	0.0106***	0.00315***	0.00849***	0.000352***	4.72e-05***	0.0139***
	(0.00155)	(0.00283)	(0.00959)	(0.00510)	(0.000705)	(0.00318)	(0.00330)	(0.00151)	(0.00169)	(0.000370)	(0.000169)	(0.00533)
Observations	11,905	16,926	1,820	17,225	28,508	12,528	6,832	5,092	16,365	2,105	660	3,309

standard errors in parentheses (*** p

NAICS Code	6114	6115	6116	6117	6211	6212	6213	6214	6215	6216	6219	6221
Woman-owned	0.771***	0.782	0.640***	0.450***	0.754***	0.645	0.840*	0.548***	0.568***	0.800	0.681***	0.535***
	(0.0422)	(0.131)	(0.0664)	(0.0304)	(0.0793)	(0.188)	(0.0776)	(0.106)	(0.0890)	(0.131)	(0.0986)	(0.0866)
SDB not 8(a)	0.716***	0.788	0.871	0.738***	0.866	1.386	0.871	0.791	0.805	0.740	0.599***	0.832
	(0.0476)	(0.141)	(0.0981)	(0.0587)	(0.0981)	(0.407)	(0.0953)	(0.171)	(0.121)	(0.136)	(0.102)	(0.139)
8(a) certified	1.242*	1.199	0.951	1.351*	1.901***	1.351	2.753***	0.303*	0.334***	0.225*	1.131	0.850
	(0.157)	(0.457)	(0.257)	(0.234)	(0.419)	(0.828)	(0.566)	(0.209)	(0.137)	(0.199)	(0.362)	(0.267)
Minority-owned	0.432***	0.339***	0.401***	0.425***	0.532***	0.322***	0.635***	0.629**	0.752*	0.648**	0.484***	0.489***
	(0.0313)	(0.0698)	(0.0526)	(0.0347)	(0.0647)	(0.120)	(0.0775)	(0.131)	(0.120)	(0.127)	(0.0867)	(0.0896)
HubZone certified	0.509***	0.543	0.937	0.532**	1.615	0.917	0.562	0.334	0.959	2.565	0.536	0.265
	(0.117)	(0.359)	(0.331)	(0.169)	(0.756)	(1.419)	(0.298)	(0.519)	(0.506)	(1.650)	(0.364)	(0.229)
Service-disabled veteran	0.592***	0.988	0.907	0.433***	0.360***	0.124**	0.745*	0.239***	0.444***	0.609	0.445***	0.399***
	(0.0541)	(0.198)	(0.117)	(0.0514)	(0.0774)	(0.105)	(0.124)	(0.105)	(0.109)	(0.210)	(0.115)	(0.0982)
Other veteran	0.937	0.948	0.962	0.877	0.603***	0.645	0.806	1.107	0.678*	0.497**	0.881	0.841
	(0.0758)	(0.181)	(0.128)	(0.0858)	(0.0875)	(0.252)	(0.129)	(0.306)	(0.148)	(0.167)	(0.193)	(0.191)
log age	1.299***	1.678***	0.986	1.095***	0.817***	0.951	1.057	1.519***	1.359***	1.273***	1.408***	1.061
	(0.0403)	(0.139)	(0.0521)	(0.0355)	(0.0348)	(0.131)	(0.0547)	(0.138)	(0.0908)	(0.113)	(0.0995)	(0.0602)
log employees	0.980	0.985	1.052*	1.084***	1.077***	0.852	1.046*	0.815***	1.108***	0.996	1.036	0.958
	(0.0163)	(0.0365)	(0.0306)	(0.0200)	(0.0239)	(0.0834)	(0.0288)	(0.0277)	(0.0339)	(0.0373)	(0.0323)	(0.0268)
log sales revenue	1.054***	1.030	1.035**	0.978***	1.011	1.070	1.024	1.001	1.010	1.037	1.006	1.013
	(0.0105)	(0.0245)	(0.0158)	(0.00802)	(0.0117)	(0.0465)	(0.0153)	(0.0228)	(0.0172)	(0.0253)	(0.0182)	(0.0158)
Sole proprietor	1.837***	1.127	1.767***	4.571***	1.543***	1.632	1.358**	2.290***	2.046***	2.899***	1.354	1.324
Omitted: other forms of organization	(0.147)	(0.266)	(0.255)	(0.445)	(0.209)	(0.695)	(0.190)	(0.604)	(0.441)	(0.858)	(0.342)	(0.306)
Partnership	1.159	1.697**	1.039	0.849	0.781	1.238	0.946	1.627*	1.118	1.345	0.911	1.085
	(0.105)	(0.375)	(0.175)	(0.111)	(0.122)	(0.628)	(0.158)	(0.468)	(0.216)	(0.378)	(0.209)	(0.229)
Corporation for profit	0.986	0.895	1.412***	0.875	1.202	1.421	1.070	0.807	0.878	1.433	1.166	1.190
	(0.0678)	(0.151)	(0.176)	(0.0819)	(0.144)	(0.562)	(0.135)	(0.183)	(0.132)	(0.316)	(0.191)	(0.182)
Corporation, nonprofit	1.488***	1.051	0.725*	0.556***	0.674**	0.770	0.339***	0.441***	0.572***	0.965	0.959	0.421***
	(0.160)	(0.264)	(0.139)	(0.0678)	(0.110)	(0.546)	(0.0734)	(0.119)	(0.120)	(0.296)	(0.207)	(0.0744)
Government non-classified	0.753***	0.684*	0.692***	1.025	1.454***	0.433	0.724**	0.958	0.832	1.234	0.874	0.546***
(omitted: no security clearance repor	(0.0544)	(0.146)	(0.0987)	(0.0893)	(0.174)	(0.248)	(0.118)	(0.267)	(0.176)	(0.375)	(0.179)	(0.121)
Government confidential	0.700*	1.237	0.626	0.941	0.604*	1.127	0.779	0.311	1.767	2.341*	0.373*	0.427
	(0.139)	(0.500)	(0.247)	(0.231)	(0.177)	(0.996)	(0.228)	(0.281)	(0.896)	(1.158)	(0.195)	(0.256)
Government secret	0.661***	0.622**	0.785	0.716**	0.680	1.034	0.877	0.535	0.417**	0.687	0.583*	0.482**
	(0.0630)	(0.129)	(0.127)	(0.0930)	(0.174)	(0.627)	(0.195)	(0.257)	(0.165)	(0.481)	(0.188)	(0.158)
Government top-secret	0.456***	0.295***	0.465***	0.371***	0.750	0.945	0.405***	0.937	0.398**	0.234	0.253***	0.574*
	(0.0382)	(0.0583)	(0.0715)	(0.0451)	(0.196)	(0.673)	(0.106)	(0.435)	(0.148)	(0.341)	(0.0980)	(0.181)
Share of FY 2013-2014 in sample	13.17***	12.16***	11.89***	13.31***	10.40***	14.81***	13.76***	8.739***	10.16***	18.48***	10.14***	12.28***
	(1.376)	(3.368)	(2.064)	(1.473)	(1.450)	(6.824)	(2.366)	(2.314)	(2.041)	(5.080)	(2.184)	(2.324)
Lower past performance rating	1.720***	3.439***	2.093***	2.306***	1.965***	1.759	1.584***	7.655***	2.295***	1.612*	2.516***	3.377***
	(0.156)	(0.691)	(0.374)	(0.298)	(0.197)	(0.738)	(0.209)	(1.337)	(0.369)	(0.444)	(0.376)	(0.487)
Higher past performance rating	1.739***	3.322***	2.325***	2.368***	1.339**	2.858***	2.063***	7.732***	3.004***	1.545	2.453***	1.893***
	(0.129)	(0.533)	(0.333)	(0.245)	(0.169)	(1.057)	(0.272)	(1.576)	(0.526)	(0.545)	(0.396)	(0.318)
Small (SBA definition)	0.947	1.257	1.041	0.801**	1.010	2.741**	1.345*	0.965	0.714**	1.667**	0.986	0.460***
	(0.0820)	(0.181)	(0.160)	(0.0803)	(0.126)	(1.155)	(0.209)	(0.183)	(0.115)	(0.374)	(0.164)	(0.0740)
Constant	0.00431***	0.00160***	0.00719***	0.0243***	0.0333***	0.00260***	0.00783***	0.00767***	0.0192***	0.00202***	0.0104***	0.0762***
	(0.000761)	(0.000667)	(0.00198)	(0.00396)	(0.00791)	(0.00203)	(0.00228)	(0.00333)	(0.00641)	(0.00100)	(0.00377)	(0.0239)
Observations	30,472	6,716	11,436	16,222	7,376	1,599	7,846	9,518	2,983	3,844	3,954	3,074

standard errors in parentheses (*** p

NAICS Code	6222	6223	6231	6232	6233	6239	6241	6242	6243	6244	7111	7112
Woman-owned	0.472	0.782	0.511***	1.958*	1.935	1.771	0.836	0.519**	0.750*	1.265	1.026	0.216***
	(0.342)	(0.735)	(0.0998)	(0.780)	(2.156)	(0.906)	(0.119)	(0.140)	(0.124)	(0.386)	(0.175)	(0.128)
SDB not 8(a)	0.223	0.421	1.719***	1.467	4.998	4.227**	1.236	0.639	0.709*	1.115	0.697	0.783
	(0.260)	(0.590)	(0.249)	(0.775)	(7.386)	(2.667)	(0.204)	(0.205)	(0.139)	(0.368)	(0.155)	(0.339)
8(a) certified	0.424	3.863	0.231	0.430	17.50	1.241	2.266**	0.522	0.831	0.144	0.229	0.119
	(0.602)	(7.670)	(0.333)	(0.742)	(43.29)	(2.132)	(0.815)	(0.372)	(0.590)	(0.224)	(0.232)	(0.232)
Minority-owned	1.828	0.119	0.293***	0.391**	2.082	0.0780***	0.389***	0.584**	0.412***	0.496**	0.605**	0.741
	(1.353)	(0.170)	(0.0709)	(0.176)	(2.651)	(0.0662)	(0.0669)	(0.152)	(0.0948)	(0.161)	(0.125)	(0.283)
HubZone certified	35.93*	22.32	0.826	4.439	3.558	3.944	0.957	0.415	2.740*	8.399*	2.178	0.572
	(70.18)	(42.96)	(1.309)	(7.610)	(9.892)	(7.652)	(0.660)	(0.357)	(1.677)	(10.16)	(2.302)	(1.017)
Service-disabled veteran	0.0498	0.195	0.184**	1.763	0.297	0.309	0.495**	0.360**	0.444**	0.651	0.358*	0.773
	(0.128)	(0.330)	(0.122)	(1.221)	(0.631)	(0.447)	(0.149)	(0.185)	(0.149)	(0.484)	(0.189)	(0.465)
Other veteran	4.153	0.593	0.526	4.758***	4.640	1.781	0.568*	1.040	0.705	0.453	0.836	0.465
	(3.719)	(1.062)	(0.229)	(2.503)	(4.960)	(1.352)	(0.173)	(0.379)	(0.228)	(0.326)	(0.229)	(0.257)
log age	3.403***	0.776	1.150***	1.290	0.950	1.582*	1.031	1.057	0.576***	1.134	0.871	1.278
	(1.576)	(0.213)	(0.0538)	(0.222)	(0.597)	(0.397)	(0.0738)	(0.106)	(0.0511)	(0.208)	(0.0786)	(0.205)
log employees	0.565**	0.926	0.985	0.906	1.276	1.085	1.062	1.030	1.004	0.859	0.986	1.168**
	(0.132)	(0.135)	(0.0250)	(0.0754)	(0.260)	(0.141)	(0.0393)	(0.0511)	(0.0637)	(0.0875)	(0.0683)	(0.0912)
log sales revenue	1.283	1.105	0.986	1.069	1.043	1.004	1.050**	1.049	1.012	1.000	1.007	0.965
	(0.203)	(0.113)	(0.0167)	(0.0597)	(0.126)	(0.0938)	(0.0225)	(0.0337)	(0.0223)	(0.0434)	(0.0242)	(0.0296)
Sole proprietor	0.691	21.23**	0.663	5.022**	0.487	7.689**	1.880***	1.061	2.270***	2.247*	2.811***	1.880
Omitted: other forms of organization	(0.797)	(27.31)	(0.247)	(3.435)	(0.865)	(7.454)	(0.433)	(0.494)	(0.634)	(1.076)	(0.971)	(0.940)
Partnership	2.338	0.132	0.923	3.711*	0.248	0.256	1.260	0.483	1.394	2.154	1.012	1.434
	(2.234)	(0.230)	(0.113)	(2.523)	(0.394)	(0.383)	(0.318)	(0.234)	(0.511)	(1.161)	(0.479)	(0.562)
Corporation for profit	0.507	1.968	1.387***	1.602	0.860	1.569	1.185	0.961	1.614*	1.887	1.182	1.166
	(0.380)	(2.068)	(0.152)	(0.831)	(1.208)	(0.935)	(0.231)	(0.294)	(0.446)	(0.828)	(0.448)	(0.439)
Corporation, nonprofit	0.134**	0.436	0.802	1.111	0.695	0.780	0.678	1.600	0.217***	0.146***	0.213***	0.279***
	(0.120)	(0.456)	(0.128)	(0.610)	(1.570)	(0.505)	(0.165)	(0.560)	(0.0902)	(0.0916)	(0.112)	(0.136)
Government non-classified	5.768*	1.412	1.136	1.921	2.131	2.512	0.681	1.306	1.229	1.814	0.959	0.502
(omitted: no security clearance report	(5.264)	(2.436)	(0.344)	(0.987)	(2.976)	(1.699)	(0.187)	(0.408)	(0.312)	(0.938)	(0.305)	(0.321)
Government confidential	3.139	7.266	0.489	0.731	9.207	2.542	0.712	0.573	0.936	0.432	0.412	2.356
	(5.583)	(13.66)	(0.438)	(1.061)	(16.40)	(4.030)	(0.357)	(0.490)	(0.393)	(0.704)	(0.627)	(2.407)
Government secret	1.123	1.506	0.162	0.0989	13.53*	0.338	0.515	0.625	1.442	1.466	1.587	2.155
	(1.192)	(2.759)	(0.237)	(0.186)	(20.50)	(0.420)	(0.222)	(0.421)	(0.705)	(1.556)	(1.113)	(1.726)
Government top-secret	17.25**	3.443	0.132	1.005	1.119	1.297	1.055	0.116**	1.370	1.550	1.493	0.113**
	(19.83)	(5.037)	(0.191)	(1.574)	(2.656)	(2.073)	(0.359)	(0.0983)	(0.698)	(1.535)	(1.155)	(0.116)
Share of FY 2013-2014 in sample	3.175	11.03**	2.826***	5.703***	2.904	99.66***	9.158***	4.409***	4.501***	176.2***	33.13***	23.61***
	(3.030)	(10.71)	(0.388)	(2.399)	(4.625)	(116.0)	(1.960)	(1.217)	(1.396)	(107.8)	(10.52)	(11.50)
Lower past performance rating	2.493	0.344	1.437***	8.391***	0.265	13.01***	2.006***	7.524***	1.554	2.617	2.586	0.805
	(1.768)	(0.349)	(0.187)	(2.256)	(0.559)	(4.420)	(0.492)	(1.616)	(0.762)	(2.128)	(2.706)	(0.827)
Higher past performance rating	1.845	3.305*	0.511	3.118***	0.110	4.995***	2.679***	4.524***	1.214	4.683**	4.809**	3.969
	(1.374)	(2.098)	(0.221)	(1.358)	(0.393)	(2.213)	(0.587)	(1.236)	(0.576)	(3.050)	(3.144)	(3.691)
Small (SBA definition)	0.261*	0.0795***	1.022	0.319**	1.136	0.673	2.531***	1.871**	0.710	1.551	1.065	0.417***
	(0.203)	(0.0698)	(0.129)	(0.175)	(1.967)	(0.422)	(0.593)	(0.582)	(0.224)	(0.731)	(0.352)	(0.139)
Constant	0.000413***	0.0185**	0.129***	0.00206***	0.000411***	7.46e-05***	0.00210***	0.00264***	0.0684***	0.000542***	0.00889***	0.0186***
	(0.00103)	(0.0324)	(0.0383)	(0.00183)	(0.00119)	(0.000108)	(0.000786)	(0.00143)	(0.0301)	(0.000483)	(0.00462)	(0.0132)
Observations	541	552	4,105	2,528	1,399	1,957	14,164	8,070	4,956	3,339	2,229	803

standard errors in parentheses (*** p

NAICS Code	7113	7114	7115	7121	7131	7132	7139	7211	7212	7213	7221	7222
Woman-owned	0.343***	0.254**	0.335***	1.106	0.268	3.221	0.711*	0.487***	0.694***	0.0512	1.113	1.600
	(0.135)	(0.153)	(0.0361)	(0.220)	(0.410)	(4.040)	(0.128)	(0.0538)	(0.0961)	(0.137)	(2.006)	(2.692)
SDB not 8(a)	0.640	1.809	0.591***	0.748	0.314	1.433	0.764	1.145*	1.160	0.852	2.181	1.365
	(0.232)	(1.077)	(0.0764)	(0.187)	(0.430)	(1.780)	(0.136)	(0.0873)	(0.179)	(0.909)	(3.773)	(2.337)
8(a) certified	0.459	3.113	0.728	2.925*	4.530	0.822	0.313	0.479*	0.821	7.707	1.477	3.398
	(0.695)	(5.681)	(0.360)	(1.749)	(15.75)	(1.851)	(0.274)	(0.196)	(1.232)	(29.58)	(5.538)	(9.130)
Minority-owned	0.262***	0.497	0.974	0.708	0.310	0.305	0.612**	0.841**	0.338***	0.155	1.027	0.564
	(0.112)	(0.322)	(0.123)	(0.208)	(0.499)	(0.473)	(0.130)	(0.0618)	(0.0931)	(0.237)	(2.177)	(0.913)
HubZone certified	1.156	2.493	0.355	1.330	1.180	5.772	1.640	0.217*	2.322	0.618	69.96*	23.68*
	(1.807)	(4.006)	(0.299)	(0.915)	(2.398)	(14.04)	(0.911)	(0.190)	(3.861)	(1.587)	(166.8)	(43.05)
Service-disabled veteran	0.506	0.184	0.185***	0.517	2.113	1.062	0.732	0.201***	0.487*	1.483	2.962	2.124
	(0.350)	(0.321)	(0.0765)	(0.293)	(3.420)	(2.206)	(0.208)	(0.0632)	(0.211)	(2.584)	(6.371)	(4.023)
Other veteran	1.750	0.238	0.416***	1.615	0.570	1.277	1.100	0.909	0.840	0.563	6.585	3.791
	(0.777)	(0.351)	(0.0931)	(0.599)	(1.244)	(2.656)	(0.258)	(0.165)	(0.159)	(0.866)	(10.82)	(5.693)
log age	1.149	1.152	0.910*	0.945	0.845	1.317	0.991	0.953	0.780***	2.743**	0.747	0.853
	(0.168)	(0.396)	(0.0502)	(0.0900)	(0.397)	(1.065)	(0.0771)	(0.0280)	(0.0518)	(1.294)	(0.868)	(1.109)
log employees	1.226***	0.971	1.037	1.082	1.343	1.008	1.096**	1.061***	0.976	0.729	1.313	1.219
	(0.0881)	(0.140)	(0.0446)	(0.0636)	(0.376)	(0.330)	(0.0470)	(0.0156)	(0.0482)	(0.177)	(0.364)	(0.310)
log sales revenue	1.004	0.992	0.940***	0.952*	0.907	0.960	1.027	0.993	1.001	0.905	0.893	0.877
	(0.0347)	(0.0652)	(0.0118)	(0.0243)	(0.0773)	(0.151)	(0.0229)	(0.00790)	(0.0160)	(0.0879)	(0.139)	(0.128)
Sole proprietor	1.678	0.941	3.590***	1.922**	1.404	0.110	0.992	1.461**	2.566***	0.786	1.727	0.977
Omitted: other forms of organization	(0.722)	(0.661)	(0.710)	(0.594)	(1.739)	(0.205)	(0.239)	(0.228)	(0.879)	(0.998)	(3.554)	(2.074)
Partnership	1.163	0.192	0.560*	1.070	0.162	0.682	1.380	1.389***	0.828	0.554	0.688	0.946
	(0.493)	(0.284)	(0.182)	(0.425)	(0.292)	(1.209)	(0.304)	(0.0964)	(0.372)	(0.874)	(1.372)	(1.775)
Corporation for profit	0.507*	0.725	1.016	0.527**	0.248	0.164	1.007	1.159**	0.548	0.838	0.409	0.487
	(0.202)	(0.466)	(0.220)	(0.169)	(0.235)	(0.237)	(0.188)	(0.0748)	(0.214)	(0.686)	(0.760)	(0.913)
Corporation, nonprofit	0.218***	0.0467**	0.317***	1.351	0.210	0.831	0.587*	3.605***	2.388**	0.0774	1.975	1.451
	(0.101)	(0.0692)	(0.110)	(0.551)	(0.418)	(1.417)	(0.170)	(0.624)	(1.049)	(0.179)	(5.853)	(4.978)
Government non-classified	0.667	0.422	1.463**	0.736	1.559	1.532	0.915	0.989	0.715	0.834	4.854	3.271
(omitted: no security clearance repor	(0.352)	(0.592)	(0.237)	(0.258)	(2.767)	(2.931)	(0.228)	(0.153)	(0.198)	(1.966)	(7.473)	(5.446)
Government confidential	2.277	5.842	1.189	0.221	2.543	7.523	1.456	1.131	0.417	10.90	40.23	25.48
	(2.063)	(10.33)	(0.489)	(0.327)	(5.267)	(17.55)	(0.808)	(0.416)	(0.401)	(25.08)	(97.04)	(53.13)
Government secret	0.573	4.692	0.551	0.365	7.825	0.181	0.560	0.610	0.529	2.808	24.92	6.744
	(0.855)	(7.318)	(0.261)	(0.308)	(21.38)	(0.839)	(0.273)	(0.259)	(0.498)	(6.846)	(64.35)	(12.67)
Government top-secret	1.986	0.198	0.947	0.717	0.711	0.619	0.884	0.627	0.575	0.318	8.539	8.810
	(1.841)	(0.386)	(0.419)	(0.421)	(2.310)	(1.588)	(0.420)	(0.238)	(0.561)	(0.671)	(20.80)	(22.06)
Share of FY 2013-2014 in sample	9.152***	14.75***	25.19***	6.011***	3.822	4.397	7.643***	12.29***	18.06***	5.474	1.170	1.359
	(3.887)	(13.26)	(4.654)	(1.900)	(5.331)	(7.985)	(1.742)	(1.082)	(4.328)	(7.299)	(3.014)	(2.974)
Lower past performance rating	2.016	8.001	1.367	1.907	27.35	0.286	1.527	1.766***	3.271*	3.856	14.73	9.542
	(1.898)	(14.25)	(0.706)	(0.801)	(71.66)	(0.654)	(0.503)	(0.377)	(2.211)	(7.249)	(28.51)	(18.46)
Higher past performance rating	1.946	1.747	1.114	1.705*	0.890	1.760	2.024**	2.932***	0.0942	30.49**	8.324	6.595
	(1.356)	(3.320)	(0.338)	(0.539)	(1.786)	(3.589)	(0.650)	(0.512)	(0.138)	(46.07)	(18.51)	(14.31)
Small (SBA definition)	0.688	0.179***	0.246***	1.340	1.054	3.625	1.130	2.466***	0.577	3.156	0.863	1.226
	(0.257)	(0.109)	(0.0389)	(0.460)	(1.528)	(6.362)	(0.234)	(0.208)	(0.206)	(4.482)	(1.787)	(2.680)
Constant	0.0212***	0.0570**	0.0704***	0.0209***	0.228	0.0234	0.0159***	0.0191***	0.0689***	0.00682**	0.0129	0.0145
	(0.0144)	(0.0735)	(0.0203)	(0.0106)	(0.536)	(0.0607)	(0.00655)	(0.00356)	(0.0325)	(0.0144)	(0.0527)	(0.0692)
Observations	1,782	694	5,839	3,052	265	125	3,310	11,540	1,717	1,500	1,097	884
standard errors in parentheses (*** p												

NAICS Code	7223	7224	7225	8111	8112	8113	8114	8121	8122	8123	8129	8131
Woman-owned	0.851	1.429	0.462**	0.696***	0.612***	0.652***	0.813	0.171***	0.824	0.617***	0.419***	0.466***
	(0.0855)	(2.216)	(0.180)	(0.0609)	(0.0356)	(0.0445)	(0.104)	(0.0965)	(0.243)	(0.0947)	(0.0690)	(0.0718)
SDB not 8(a)	0.976	2.087	0.829	1.164**	0.617***	0.764***	1.100	0.812	1.203	1.042	0.992	0.717*
	(0.102)	(3.853)	(0.246)	(0.0794)	(0.0360)	(0.0500)	(0.131)	(0.438)	(0.289)	(0.163)	(0.160)	(0.132)
8(a) certified	1.016		5.699	1.443	0.811*	0.938	0.809	2.323	0.288	0.315*	2.136	2.037
	(0.296)		(6.791)	(0.418)	(0.103)	(0.156)	(0.311)	(4.570)	(0.259)	(0.187)	(0.998)	(0.926)
Minority-owned	0.496***	1.357	0.264***	0.546***	0.478***	0.580***	0.647***	0.788	0.602*	0.794	0.295***	0.455***
	(0.0570)	(2.646)	(0.124)	(0.0507)	(0.0322)	(0.0508)	(0.0978)	(0.419)	(0.162)	(0.137)	(0.0622)	(0.0709)
HubZone certified	0.417**	51.93	2.493	1.254	0.635**	0.719*	0.464*	0.710	0.302	0.967	0.0765*	1.065
	(0.169)	(151.4)	(3.872)	(0.319)	(0.116)	(0.129)	(0.215)	(1.382)	(0.283)	(0.403)	(0.111)	(0.707)
Service-disabled veteran	0.202***	3.794	0.191	0.758*	0.549***	0.535***	0.585**	0.116	0.749	0.682	0.476***	0.656
	(0.0572)	(8.719)	(0.278)	(0.127)	(0.0496)	(0.0617)	(0.135)	(0.173)	(0.248)	(0.182)	(0.129)	(0.173)
Other veteran	0.750	2.218	1.388	1.124	0.807***	0.798***	0.818	0.709	0.728	0.854	0.564**	0.965
	(0.136)	(3.985)	(0.599)	(0.113)	(0.0556)	(0.0637)	(0.146)	(0.530)	(0.301)	(0.182)	(0.152)	(0.208)
log age	1.170***	0.667	1.233*	1.013	1.195***	1.135***	1.029	1.522	1.136	1.163**	1.033	1.038
	(0.0573)	(0.598)	(0.151)	(0.0325)	(0.0326)	(0.0323)	(0.0609)	(0.392)	(0.116)	(0.0845)	(0.0758)	(0.0642)
log employees	1.049*	1.250	0.971	1.091***	1.083***	1.148***	1.120***	0.953	1.088	1.158***	1.085**	0.950
	(0.0272)	(0.348)	(0.0748)	(0.0221)	(0.0149)	(0.0182)	(0.0404)	(0.139)	(0.0825)	(0.0441)	(0.0412)	(0.0369)
log sales revenue	1.051***	0.909	0.954	1.055***	1.003	1.015	1.050**	0.935	1.152***	1.003	0.990	1.010
	(0.0166)	(0.178)	(0.0352)	(0.0121)	(0.00818)	(0.00975)	(0.0228)	(0.0582)	(0.0492)	(0.0234)	(0.0183)	(0.0158)
Sole proprietor	2.044***	1.211	0.784	1.117	1.012	0.920	1.660***	1.235	1.554	1.372	1.089	2.288***
Omitted: other forms of organization	(0.307)	(2.671)	(0.321)	(0.118)	(0.0972)	(0.102)	(0.302)	(0.848)	(0.622)	(0.333)	(0.228)	(0.556)
Partnership	0.780*	0.868	0.336***	1.052	0.991	1.099	1.206	0.432	0.875	1.231	0.747	0.996
	(0.117)	(2.033)	(0.134)	(0.118)	(0.0903)	(0.107)	(0.241)	(0.436)	(0.371)	(0.299)	(0.173)	(0.460)
Corporation for profit	1.161	0.693	0.399***	0.983	1.162**	1.115	1.064	0.871	1.214	1.000	0.762	1.015
	(0.144)	(1.446)	(0.133)	(0.0815)	(0.0734)	(0.0765)	(0.162)	(0.574)	(0.370)	(0.189)	(0.137)	(0.286)
Corporation, nonprofit	0.643*	3.231	0.846	0.833	0.932	1.380**	2.039**	0.0646*	0.568	0.362**	0.542**	0.477***
	(0.156)	(9.479)	(0.597)	(0.145)	(0.134)	(0.207)	(0.637)	(0.102)	(0.384)	(0.158)	(0.161)	(0.119)
Government non-classified	0.834	3.804	1.655	0.689***	0.793***	0.940	0.601**	0.115	0.638	0.964	0.492***	1.308
(omitted: no security clearance repor	(0.143)	(5.587)	(0.841)	(0.0963)	(0.0516)	(0.0770)	(0.129)	(0.182)	(0.301)	(0.233)	(0.132)	(0.268)
Government confidential	0.888	3.622	2.921	0.477**	0.652***	0.994	1.314	4.302	0.0917	0.278	0.508	0.697
	(0.416)	(9.086)	(4.611)	(0.149)	(0.0979)	(0.165)	(0.551)	(4.633)	(0.139)	(0.256)	(0.299)	(0.464)
Government secret	0.462**	7.397	0.343	0.297***	0.597***	0.634***	0.994	3.191	0.155	0.486	0.554	1.596
	(0.161)	(14.71)	(0.544)	(0.0706)	(0.0512)	(0.0887)	(0.334)	(3.556)	(0.230)	(0.245)	(0.238)	(0.603)
Government top-secret	0.0701***	26.24	0.633	0.0877***	0.315***	0.653**	0.689	0.185	0.305	0.660	0.391**	0.577
	(0.0588)	(141.6)	(1.068)	(0.0324)	(0.0265)	(0.113)	(0.305)	(0.352)	(0.257)	(0.370)	(0.165)	(0.270)
Share of FY 2013-2014 in sample	10.28***	0.985	0.795	9.371***	28.86***	25.30***	7.033***	19.85***	15.06***	15.11***	10.97***	14.77***
	(1.523)	(2.642)	(0.357)	(0.920)	(3.104)	(2.716)	(1.349)	(16.75)	(5.430)	(3.753)	(2.706)	(3.108)
Lower past performance rating	0.846	17.07	5.442**	1.782***	3.544***	2.180***	3.240***	1.578	0.976	1.838***	2.804***	1.014
	(0.187)	(37.70)	(4.185)	(0.264)	(0.263)	(0.198)	(0.659)	(1.492)	(0.426)	(0.429)	(0.777)	(0.446)
Higher past performance rating	0.984	12.61	5.312***	1.435**	2.506***	1.944***	2.678***	5.034*	1.091	1.816***	2.704***	0.862
	(0.171)	(32.67)	(3.369)	(0.234)	(0.184)	(0.175)	(0.564)	(4.292)	(0.442)	(0.406)	(0.668)	(0.309)
Small (SBA definition)	2.500***	1.602	2.783***	1.322***	1.005	2.158***	1.822***	0.681	1.911*	1.840***	0.535***	1.980***
	(0.370)	(3.645)	(1.045)	(0.119)	(0.0710)	(0.151)	(0.310)	(0.465)	(0.674)	(0.379)	(0.102)	(0.372)
Constant	0.00801***	0.0157	0.157***	0.0124***	0.0102***	0.00535***	0.00608***	0.0135***	0.00249***	0.00722***	0.0546***	0.0343***
	(0.00244)	(0.0703)	(0.113)	(0.00265)	(0.00174)	(0.00103)	(0.00238)	(0.0150)	(0.00182)	(0.00341)	(0.0190)	(0.0110)
Observations	4,671	655	1,275	11,655	18,129	12,357	4,681	1,048	828	2,366	3,654	2,336

standard errors in parentheses (*** p

NAICS Code	8132	8133	8134	8139
Woman-owned	0.101	0.840	0.369	0.406***
	(0.149)	(0.225)	(0.335)	(0.106)
SDB not 8(a)	2.419	0.576	1.301	0.612
	(2.223)	(0.226)	(1.398)	(0.184)
8(a) certified	3.451	0.476	3.274	1.988
	(6.202)	(0.701)	(6.021)	(1.291)
Minority-owned	1.162	0.727	1.139	0.397***
	(0.703)	(0.210)	(0.513)	(0.109)
HubZone certified	1.354	1.313	5.574	1.406
	(2.255)	(2.011)	(10.80)	(1.329)
Service-disabled veteran	0.507	0.216	0.330	0.517
	(0.746)	(0.310)	(0.560)	(0.246)
Other veteran	0.752	0.601	0.244	0.537
	(1.130)	(0.397)	(0.353)	(0.247)
log age	1.898**	1.176	2.176***	1.212***
	(0.479)	(0.136)	(0.434)	(0.0723)
log employees	1.168	0.840***	0.954	1.129***
	(0.138)	(0.0552)	(0.0947)	(0.0349)
log sales revenue	0.913*	1.111**	0.972	1.034*
	(0.0486)	(0.0459)	(0.0425)	(0.0192)
Sole proprietor	0.386	2.353**	1.172	1.342
Omitted: other forms of organization	(0.640)	(1.007)	(1.871)	(0.403)
Partnership	0.900	0.691	3.362	0.744
	(1.557)	(0.434)	(5.388)	(0.298)
Corporation for profit	0.720	1.336	3.772**	0.973
	(0.706)	(0.498)	(2.283)	(0.179)
Corporation, nonprofit	0.340*	0.793	1.091	1.139
	(0.213)	(0.267)	(0.569)	(0.194)
Government non-classified	1.367	0.596	2.486	1.278
(omitted: no security clearance repor	(1.173)	(0.332)	(1.785)	(0.306)
Government confidential	1.246	2.225	2.184	1.447
	(2.218)	(1.933)	(3.757)	(0.786)
Government secret	18.18	0.233	4.488	1.398
	(33.11)	(0.336)	(5.825)	(0.579)
Government top-secret	1.046	0.918	0.357	0.645
	(1.738)	(0.857)	(0.438)	(0.289)
Share of FY 2013-2014 in sample	14.35***	8.464***	9.379***	7.197***
	(10.39)	(2.609)	(5.013)	(1.293)
Lower past performance rating	1.661	1.014	2.113	2.061***
	(1.580)	(0.685)	(1.935)	(0.502)
Higher past performance rating	2.296	1.854	13.36***	2.324***
	(1.472)	(0.729)	(7.946)	(0.436)
Small (SBA definition)	0.695	1.106	0.418	0.746
	(0.781)	(0.407)	(0.407)	(0.156)
Constant	0.00305***	0.00187***	0.000662***	0.00999***
	(0.00311)	(0.00116)	(0.000682)	(0.00329)
Observations	1,746	5,615	2,144	4,531

standard errors in parentheses (*** p

Appendix C

Business Type Code	Business Type Name
A7	AbilityOne Non Profit Agency
2R	U.S Federal Government
2F	U.S. State Government
12	U.S. Local Government
3I	Tribal Government
20	Foreign Owned and Located
1D	Small Agricultural Cooperative
LJ	Limited Liability Company
XS	Subchapter S Corporation
MF	Manufacturer of Goods
2X	For Profit Organization
A8	Non-Profit Organization
2U	Other Not For Profit Organization
HK	Community Development Corporation Owned Firm
A3	Labor Surplus Area Firm
A5	Veteran Owned Business
QF	Service Disabled Veteran Owned Business
A2	Woman Owned Business
23	Minority Owned Business
FR	Asian-Pacific American Owned
QZ	Subcontinent Asian (Asian-Indian) American Owned
OY	Black American Owned
PI	Hispanic American Owned
NB	Native American Owned
8W	Woman Owned Small Business
27	Self Certified Small Disadvantaged Business
8E	Economically Disadvantaged Women Small Owned Business
8C	Joint Venture Women Owned Small Business
8D	Joint Venture Economically Disadvantaged Women Small Owned Business
NG	Federal Agency
QW	Federally Funded Research and Development Corp
C8	City
C7	County
ZR	Inter-municipal
MG	Local Government Owned
C6	Municipality
H6	School District
TW	Transit Authority
UD	Council of Governments
8B	Housing Authorities Public/Tribal
86	Interstate Entity
KM	Planning Commission
T4	Port Authority

Business Type Code	Business Type Name
H2	Community Development Corporation
6D	Domestic Shelter
M8	Educational Institution
G6	1862 Land Grant College
G7	1890 Land Grant College
G8	1994 Land Grant College
HB	Historically Black College or University
1A	Minority Institution
1R	Private University or College
ZW	School of Forestry
GW	Hispanic Servicing Institution
OH	State Controlled Institution of Higher Learning
HS	Tribal College
QU	Veterinary College
G3	Alaskan Native Servicing Institution
G5	Native Hawaiian Servicing Institution
BZ	Foundation
80	Hospital
FY	Veterinary Hospital
HQ	DOT Certified DBE
05	Alaskan Native Corporation Owned Firm
OW	American Indian Owned
XY	Indian Tribe (Federally Recognized)
8U	Native Hawaiian Organization Owned Firm
1B	Tribally Owned Firm
FO	Township
TR	Airport Authority
V2	Grants
VW	Contracts and Grants
G9	Other Than One of the Proceeding
The following business types were only available in the 2014 SAM data:	
A4	SBA Certified Small Disadvantaged Business
A6	SBA Certified 8A Program Participant
JT	SBA Certified 8A Joint Venture
XX	SBA Certified Hub Zone Firm

WIPP
Women Impacting Public Policy

A Guide to Awarding Sole-Source Contracts in the WOSB Program

Section 825 of the FY15 National Defense Authorization Act provided agencies with statutory authority to award sole-source contracts to women-owned small businesses (WOSBs) through the WOSB Federal Contract Program. Until now, contracts could only be restricted to competition of two or more WOSBs. On September 14, 2015, the SBA promulgated a final rule governing the awarding of these contracts. The FAR Council's Interim Final Rule implementing sole source authority became effective on December 31, 2015. The relevant portions of the CFR and FAR are noted at the end of this document.

Four Requirements for WOSB Sole Source Contracts

1. Is the contract in a WOSB/EDWOSB eligible NAICS code?

The WOSB program is unique in that it is only applicable to contracts in certain NAICS codes. In addition some NAICS codes are open to all WOSBs, while some are only available to Economically-Disadvantaged WOSBs (EDWOSBs). A list of all NAICS codes in the program is readily available at:
https://www.sba.gov/sites/default/files/2016_wosb_NAICS.pdf
https://www.sba.gov/sites/default/files/2016_edwosb_NAICS.pdf

2. Is the contract (including options) valued at $6.5 million or less for manufacturing contracts or $4 million or less for all other contracts?

Similar to other small business contracting programs, WOSB sole source contracts are limited to certain sizes. For manufacturing contracts (the 31-33 NAICS codes) that cap is $6.5 million, while all other contracts have a cap of $4 million. This is including all options on the contract. More on the specifics of the NAICS manufacturing codes can be found at: http://www.census.gov/econ/manufacturing.html.

3. Can the contract be awarded to the WOSB/EDWOSB at a fair and reasonable price?

The statute and regulations also require that the contract can be awarded at a "fair and reasonable price." This common term in federal contracting is described in the Federal Acquisition Regulation (FAR) Subpart 15.4 available at: https://www.acquisition.gov/?q=/browse/far/15.

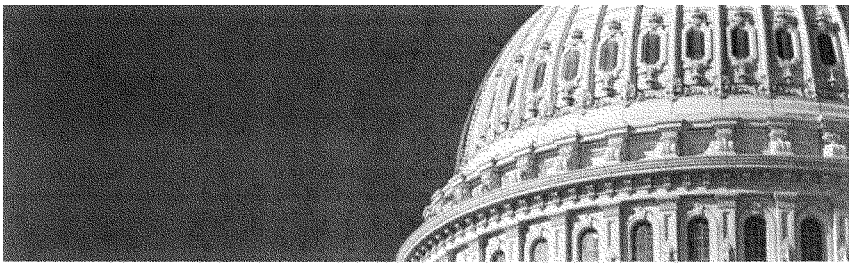
4. In the determination of the contracting officer, is there a reasonable expectation that there is only one WOSB/EDWOSB that can perform?

The final requirement for a sole-sourced contract in the WOSB program is the contracting officer's determination, through market research, that only one WOSB/EDWOSB can perform the requirement and that this firm will provide a fair and reasonable price (see #3).

Note: If it is determined that 2 or more WOSB/EDWOSBs can perform, the contract can be set-aside through the WOSB program.

If these four questions are all answered "Yes", then the contract can be awarded to a WOSB/EDWOSB on a sole-source basis.

FAR Subpart on WOSB program: 19.15
CFR on WOSB program: 13 CFR 127



WIPP
Women Impacting Public Policy

2017 ECONOMIC BLUEPRINT: A WAY FORWARD

March, 2017

2017 Economic Blueprint: A Way Forward

Executive Summary

The Economic Blueprint sets a bold, comprehensive set of public policy expectations on behalf of the women business owner community. According to Merriam Webster, a "Blueprint" is a detailed plan or program of action – and that perfectly describes the purpose and intent of this document.

Significant energy and commitment has been invested in member and coalition partner engagement on prioritizing business issues with women business owners nationwide. This enormous information gathering effort serves as the glue to the entire Blueprint process. The Economic Blueprint expresses our voice and our interests regarding the pressing business challenges that require action by our elected officials.

The Blueprint's Economic Agenda: Core Areas Essential to Women-Owned Business Growth

The Principles are the cornerstone of *this* Blueprint: economic principles, access to capital, procurement, healthcare, telecommunications & technology, and export & trade – these are the issues that we will be aggressively pursuing with specific focus and plans. The power of these principles is that they represent the issues this community cares most about – and that have the most impact on our ability to grow our companies.

The Force Behind the Blueprint

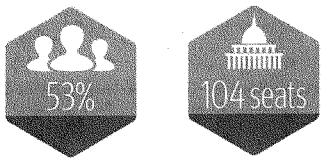
Women business owners are a powerful constituency.

As a community we have been active participants in advocacy since the 1970s and have had a significant impact on the legislative agenda for over 30 years. We take the process seriously. We understand the importance of relationships with Democrats, Republicans and Independents and scrupulously maintain a nonpartisan approach to advocacy.

Women business owners are a formidable voting bloc.

We vote. Our endorsements have weight. Nationally, women vote at higher rates than men. In addition, by wide margins, women small business owners across demographic groups place a significant degree of trust in the endorsements of other women small business owners.

Women play a decisive role, representing 53% of the electorate. According to the Center for American Women and Politics, women hold 19.4% of the 535 seats, or 104 seats in the 115th US Congress. WIPP's nonpartisan message allows us to seamlessly advocate for women business owners.

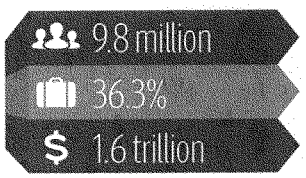


Women Business Owners are an Economic Force

Women business owners are a strong economic force in the United States and increasingly in the world. Their contributions extend beyond the number of firms they own, the people they employ, or even the revenues they generate. Their influence is multiplied many times through the direct and indirect economic impact they generate through their business ownership.

The Survey of Business Owners (published by the Census Bureau in 2015)

- There are 9,878,397 million women-owned businesses
- Women-owned firms make up 36.3% of all non-farm businesses across the country
- Women-owned firms generate $1.6 trillion in total receipts
- A full 89.5% of these firms are non-employer firms (i.e. self-employed). These firms have receipts of $229.2 billion.



- The remaining 10.5% of the firms have paid employees, employing a total of 8.5 million people across the country with a payroll of $263.7 billion. Women owned firms with employees generated $1.2 trillion in receipts.

Who We Are: A Collaborative Effort

We advocate on behalf of women entrepreneurs, and a coalition of 79 business organizations who support our policy goals. We are successful women business owners, leaders in our communities and visionaries who are trailblazers in policy and politics. We have within our ranks Republicans, Democrats, and Independents, liberals, conservatives, and every variety of opinion. What we share in common is our focus on economic issues that impact our ability to continue to be the economic engine and force in our nation's economy.

The History Behind the Blueprint

There are numerous pioneering women whose relentless pursuit of advocacy goals has made a huge difference in the successes of women business owners today. Through their efforts, the legislative "Big Bang" of 1988, H.R. 5050 was made possible. This legislation continues to have impact today. H.R. 5050 addressed issues of access to credit, improved census data collection on women-owned businesses, and created the National Women's Business Council (NWBC), a bipartisan federal advisory council. In addition, H.R. 5050 provided for training support with the creation of women's business centers. Today, this support has resulted in 9.9 million businesses, 8.9 million jobs, and $1.6 trillion in revenue.

Much has been accomplished but much remains to be done. Our history provides a compelling narrative of persistence and focus to achieve strategically set objectives. This is the legacy behind the Economic Blueprint, and it serves as a powerful motivator for what we have set out to accomplish with the Blueprint process and our Economic Principles.



Core Principle Areas

Economy

Government and private sector efforts should focus on increasing investments that drive economic growth. Policymakers are responsible for ensuring the business environment is conducive to growth and that the federal government operates effectively.

1) Investment in Entrepreneurship Pays Off

More than 36% of American businesses are women-owned, a segment growing at four times the rate of men-owned businesses.

> *"Critical support for these entrepreneurs includes access to credit, access to the federal sector and access to training and counseling. Doing so will maximize their already sizable impact: contributing $1.6 trillion annually to the economy and employing nearly 9 million Americans."*[1]

2) Provide Women-Owned Businesses with Certainty in Economic Policy and Regulations

Federal regulations cost businesses just under $10,000 per employee annually, with the annual total cost burden on the typical U.S. business coming in at a $233,182.[2] This problem is exacerbated by the government's inability to provide long-term policies on which businesses can rely. Whether it is the continued threat of government shutdown in the annual budget/debt ceiling debate, steep spending cuts across the government, or even retroactive tax credits, women entrepreneurs are often left to guess at government outcomes affecting their businesses.



[1] 10 Million Strong: The Tipping point for Women Entrepreneurs. National Women's Business Council. 2016.

[2] W. Mark Crain and Nicole V. Crain, "The Cost of Federal Regulation to the U.S. Economy, Manufacturing and Small Business," National Association of Manufacturers, September 2014

Tax

Any tax overhaul should include an equitable reform of tax rates for all businesses. Given that 90% of all businesses in the US are pass-through entities, reform should address the individual tax rate as well as the corporate tax rate. On the federal level, pass through entities are subject to a top individual tax rate of 43.4 percent, and state and local income taxes, with rates ranging up to 13.3 percent, which hampers business growth.

Tax Policy Recommendations

- Reform the tax code to make deductions and credits equitable no matter what the structure of the company
- Permanently repeal the estate tax and allow small businesses to pass from one generation to the next
- Simplify the tax code for small businesses to reduce the imbalanced cost of compliance vs. large businesses

Access to Capital

*WIPP's access to capital platform, "*Breaking the Bank: Women Entrepreneurs & the Need for Capital*" contains principles and recommendations.*

Capital is the lifeline of business. The ability to secure capital is often the determinant of an entrepreneur's opportunity to start or grow a business. For women, however, accessing capital continues to be difficult. Women ask for less funding – on average, $35,000 less than men. In 2013, fewer than 1 in 3 loan applications for women-owned firms were approved. The Senate Small Business Committee report on women entrepreneurs found that women only receive 4% of all commercial loans.

> *"WIPP's annual membership survey regularly finds that women must make multiple attempts to secure bank loans or lines of credit – with a full 40% never succeeding. Yet, women make up one-third of business owners, generating more than $1 trillion annually in receipts, and growing at 1.5 times the rate of average businesses."*

In response to this crisis of capital, WIPP has surveyed the landscape seeking policy-based solutions to spur lending to fuel the innovation and success of women entrepreneurs.

1) Changing the Capital Infrastructure

Simplify Intellectual Property Protections

- Traditional and alternative investors are increasingly interested in the intellectual property (IP) value of companies seeking funds. Women entrepreneurs, however, lag significantly behind male counterparts in filing patents.
- Simplifying the IP patent process for entrepreneurs will catalyze interest in investment smaller firms.

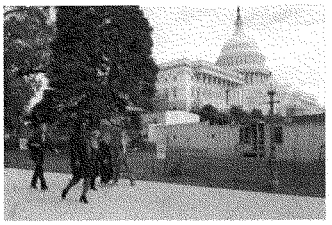
Recommendations to Change the Capital Infrastructure

- Simplify intellectual property protections
- Re-think credit scores
- Develop female fund managers through "Emerging Managers" SBIC Program
- Tax incentives for angel investors

Re-think Credit Scores

- Lending decisions relying on credit scores, employment history and income are undermined by the many studies that show women lag behind male counterparts in pay. The pay gap is even worse for women of color, with Hispanic women making only 54% of their male counterparts.
- Beyond pay discrepancy, antiquated scoring models disproportionately hinder entrepreneurs seeking loans.
- FICO introduced in 2014 and adopted in 2016 an alternative credit scoring system that would allow up to 15 million previously "unscorable" Americans to be scored based on alternative data. This includes payment histories, utility bills, cable bills, cellphone bills, and public record information (e.g., address history). This alternative scoring model may also help give lower lending rates based on a higher credit score. These modernizations in the credit industry hold great promise for women entrepreneurs and should be utilized in government lending programs.

Develop Female Fund Managers through "Emerging Managers" SBIC Program



- Venture capital (VC) continues to be elusive to women who need it. Less than 10% of overall VC funding goes to women-owned companies. Data from Small Business Investment Companies (SBICs) licensed by the SBA, show women receive only 3% of investments.
- Few fund managers are women. In a classic "chicken and egg problem," many women cannot gain the requisite portfolio managing experience to become a fund manager, leading to a cyclical exclusion of women managers – ultimately preventing women from lending to women.

- Creating an "Emerging Managers" track in the SBIC program and allowing these managers to engage in equity-based financing would help develop a generation of female fund managers, who in turn would increase the VC opportunities for women-owned firms.

Tax Incentives for Angel Investors

- According to the Angel Capital Association, an estimated 300,000 people have made an angel investment in the last several years. The same estimates found a potential of 4 million investors nationwide. Incentivizing this kind of capital should be a priority.
- Connecticut, among other states, has experienced good results by providing a credit against the state income tax to angel investors. Creating a federal tax credit mirroring state models would increase angel investment at the critical early stage.
- More than half of states offer tax incentives for angel investors. Federal support of these efforts would encourage more local and state governments to consider such measures. Federal support could include: grants, matches, or a dedicated fund.
- To the extent possible, tax credits could be designed to incentivize angel investment in women-owned businesses.

2) Supporting Small Lending Institutions

Ending a "One-size-fits-all" Approach to Regulation

Recommendations to Support Small Lending Institutions

- Ending a "one-size-fits-all" approach to regulation
- Lift the credit union lending cap

- Among lending institutions, one-size does **not** fit all for regulatory oversight. Currently, banks and credit unions of all sizes face the same requirements under Dodd-Frank reforms. Small regional and community banks have the highest approval rate for small business loans. For example, community banks lend $2.6 trillion in loans to consumers, small businesses and the agricultural community. Yet, community banks have struggled with compliance and the regulatory environment that allows them to lend to small businesses. Congress should enact legislation to address the regulatory relief needed for smaller lending institutions.

Lift the Credit Union Lending Cap

- A cap limits most credit unions to lending no more than 12.25% of their assets to small businesses. Credit unions could lend an additional $16 billion to small businesses, if Congress increases the statutory cap on credit union business lending.

3) Strengthening Government Investment

Accelerate SBIR Commercialization

- Innovative products are developed for government use through the Small Business Innovation Research (SBIR) program, which has three phases. Federal support generally stops after the second phase of meeting government needs. The Department of Defense (DoD) has utilized the Rapid Innovation Fund (RIF) to commercialize SBIR technology. This tool should be used across all federal agencies.

Recommendations to Strengthen Government Investment

- Accelerate SBIR commercialization
- Modernizing the SBA Microloan Program
- Provide adequate resources for financial and business counseling

- Modeling the third stage commercialization of SBIR products on a public-private partnership would help bring a pipeline of innovative products – already proven for government use – to market.

Modernizing the SBA Microloan Program

- Women are the biggest users of loans under $50,000, accounting for 57% of loans made through the SBA Microloan Program. Congress should modernize the program by removing limitations on technical assistance and allow for funds to be distributed more effectively.

Provide Adequate Resources for Financial & Business Counseling

- Congress should adequately support organizations such as Women's Business Centers and other nonprofits that provide financial counseling and prepare women to obtain capital.



Healthcare

Small businesses face higher administrative and premium costs for health insurance. This puts women entrepreneurs at an inherent disadvantage, as health insurance is an important benefit to attract and retain employees. Congress and the Administration should implement the healthcare reforms targeting this inequity.

Healthcare Policy Recommendations

- Implement a strong pooling mechanism for the small group market
- Define work week as 40 hours
- Allow health insurance deductions for the self-employed

1) Implement a Strong Pooling Mechanism for the Small Group Market

Prior to the Affordable Care Act (ACA), WIPP supported the concept of Association Health Plans (AHPs), which would have allowed small businesses to pool their buying power through associations to purchase healthcare across state lines. The ACA established SHOP exchanges, which pool small businesses, but only on a statewide basis. While WIPP supported the mechanism of state exchanges in the ACA, WIPP urges Congress to consider structuring the pools to maximize small business participation by revisiting the ability to shop across state lines.



2) Define Work Week as 40 hours

The Affordable Care Act defined a full-time worker as working 30 hours a week. The definition matters for defining whether a business is exempt from the employer mandate (under 50 FTEs is exempt). WIPP supports efforts to define the workweek traditionally, as 40 hours. When revising healthcare legislation, WIPP urges Congress to define the workweek as 40 hours, if the employee mandate is retained.

3) Allow Health Insurance Deductions for the Self-Employed

Reform the tax code to make deductions and credits equitable no matter what the structure of the company.

Telecommunications & Technology

According to the SBA Office of Advocacy, small firms pay as much as double the amount for telecommunications services than other firms when operating their businesses, while women-owned and minority-owned media remain under-represented.

1) Increase Women and Minority Media Ownership

WIPP encourages the government and private industry to work together to increase the number of commercial television and radio stations owned by women and minorities. A major impediment to minority/women-owned stations is access to capital.

2) Continue to Provide Research & Development Incentives

Small businesses are on the cutting edge of developing new technologies. The federal government should continue to provide adequate funding and incentives for small businesses to continue to develop new technologies through grants and public/private sector investments.

3) Tax incentives for Providing Technology Advances for Rural and Urban Underserved Areas

According to the Federal Communications Commission (FCC), broadband deployment in the United States – especially in rural areas – is failing to keep pace with today's advanced technology offerings. The FCC found, in its 2015 Broadband Progress Report, that 55 million Americans lack access to advanced broadband. The digital divide is greatest in rural areas, with over **half** of all rural Americans lacking access to Internet speeds of 25 Mbps/3 Mbps service. Thirty-five percent of schools across the nation still lack access to networks that can support the needs of today's digital learning tools. Congress should advance tax incentives to accelerate access to faster Internet speeds.

Recommendations for Telecommunications & Technology

- Increase women and minority media ownership
- Continue to provide research & development incentives
- Tax incentives for providing technology advances for rural and urban underserved areas

> *"Women entrepreneurs, without adequate broadband speeds face significant barriers to effectively executing e-commerce businesses"*

Export & Trade

Only 5% of small businesses export, yet we live in a global economy where over 95% of consumers live outside the United States. Federal agencies should complement nonprofit and private export assistance to small businesses.



of consumers live outside the United State

1) Streamline the Federal Compliance Requirements to Export

It is important that the documentation and reporting requirements of exporting be clearly defined for women-owned businesses. They should be able to easily find answers to the many questions involved with international business on government websites.

2) Protect Innovation and Intellectual Property Abroad

Women business owners are anxious to access new markets for their goods and services. They are, however, wary of an international trading system that lacks basic protections of their patents, trademarks and copyrights. Trade policies should include protections that address the concerns and encourage women entrepreneurs to feel confident engaging in export.

Export & Trade Policy Recommendations

- Streamline the federal compliance requirements to export
- Protect innovation and intellectual property abroad

About WIPP

Women Impacting Public Policy (WIPP) is a national non-partisan organization advocating on behalf of women entrepreneurs—strengthening their impact on our nation's public policy, creating economic opportunities, and forging alliances with other business organizations. www.WIPP.org

WIPP
Women Impacting Public Policy

Breaking the Bank:
Women Entrepreneurs & the Need for Capital

WIPP's Access to Capital Platform

Capital is the lifeline of business. The ability to secure capital is often the determinant of an entrepreneur's opportunity to start or grow a business. For women, however, accessing capital continues to be difficult. In 2013, less than one in three loan applications for women-owned firms were approved.[1] Last year's Senate report on women entrepreneurs found that women only receive 4% of all commercial loans.[2]

These bleak statistics are borne out by Department of Treasury Secretary Jacob Lew, who noted that 8,000 small business loans are rejected every day.[3] WIPP's annual membership survey regularly finds that women must make multiple attempts to secure bank loans or lines of credit – with a full 40% never succeeding.[4] Yet, women make up one-third of business owners, generating more than $1 trillion annually in receipts, and growing at 1.5 times the rate of average businesses.[5]

In response to this crisis of capital, WIPP has surveyed the landscape seeking policy-based solutions to spur lending to fuel the innovation and success of women entrepreneurs.

Changing the Capital Infrastructure

Simplify Intellectual Property Protections

- Traditional and alternative investors are increasingly interested in the intellectual property (IP) value of companies seeking funds. Women entrepreneurs, however, lag significantly behind male counterparts in filing patents.[6]
- Simplifying the IP patent process for entrepreneurs will catalyze interest in investment smaller firms.

Re-think Credit Scores

- Lending decisions relying on credit scores, employment history and income are undermined by the many studies that show women lag behind male counterparts in pay. The pay gap is even worse for women of color with Hispanic women making only 54% of their male counterparts.[7]
- Beyond pay discrepancy, antiquated scoring models disproportionately hinder entrepreneurs seeking loans.
- In 2014, FICO announced an alternative credit scoring system that would allow up to 15 million previously "unscorable" Americans to be scored based on alternative data. This includes payment histories, utility bills, cable bills, cellphone bills, and

public record information (e.g., address history). This alternative scoring model may also help give lower lending rates based on a higher credit score. These modernizations in the credit industry hold great promise for women entrepreneurs and should be utilized in government lending programs.

Develop Female Fund Managers through "Emerging Managers" SBIC Program

- Venture capital (VC) continues to be elusive to women who need it. Less than 10% of overall VC funding goes to women-owned companies.[8] Data from Small Business Investment Companies (SBICs) licensed by the SBA, show women receive only 3% of investments.[9]
- Few fund managers are women.[10] In a classic "chicken and egg problem", many women cannot gain the requisite portfolio managing experience to become a fund manager, leading to a cyclic exclusion of women managers – ultimately preventing women from lending to women.
- Creating an "Emerging Managers" track in the SBIC program and allowing these managers to engage in equity-based financing would help develop a generation of female fund managers, who in turn would increase the VC opportunities for women-owned firms.

Tax Incentives for Angel Investors

- According to the Angel Capital Association, an estimated 300,000 people have made an angel investment in the last two years. The same estimates found a potential of 4 million investors nationwide.[11] Incentivizing this kind of capital should be a priority.
- Connecticut, among other states, has experienced good results by providing a credit against the state income tax to angel investors. Creating a federal tax credit mirroring state models would increase angel investment at the critical early stage.
- More than half of states offer tax incentives for angel investors. Federal support of these efforts would encourage more local and state governments to consider such measures. Federal support could include: grants, matches, or a dedicated fund.
- To the extent possible, tax credits could be designed to incentivize angel investment in underserved communities including women and minority-owned businesses.

Supporting Small Lending Institutions

Ending a "One-size-fits-all" Approach to Regulation

- Among lending institutions, one-size does **not** fit all for regulatory oversight. Currently, banks and credit unions of all sizes face the same requirements under Dodd-Frank reforms. Community banks, as one example lumped in this group, have seen their banking assets drop more than 12% since the financial oversight regulations went into effect.[12]
- The resources required for complying with the regulation have taken away from a focus on local lending, impacting small business lending. Congress should enact legislation to address the regulatory relief needed for smaller lending institutions.

Lift the Credit Union Lending Cap

- A cap limits most credit unions to lending no more than 12.25% of their assets to small businesses. Credit unions could lend an additional $16 billion to small businesses, if Congress increases the statutory cap on credit union business lending.[13]

Strengthening Government Investment

Small Business Seat at Securities & Exchange Commission

- Given that two-thirds of net new jobs in the United States are generated by small business, and considering the growth of regulated alternative capital, the Securities & Exchange Commission (SEC) will play an increased role in oversight of entrepreneurs and the ways they seek capital.
- Small businesses need a seat at the table at the SEC through a formal advocate to ensure adequate representation at the agency. This includes advocating for the timely implementation of policy that will allow entrepreneurs access to capital.

SEC Needs to Issue Crowdfunding Final Rules

- Women entrepreneurs are **still** waiting on the SEC to release the final crowdfunding regulations. Exempting crowdfunding transactions up to $1 million from the burden of complex securities registration would remove obstacles to investment via this platform.

Accelerate SBIR Commercialization

- Innovative products are developed for government use through the Small Business Innovation Research (SBIR) program, which has three phases. Federal support generally stops after the second phase of meeting government needs.
- Modeling the third stage commercialization of SBIR products on a public-private partnership would help bring a pipeline of innovative products – already proven for government use – to market.

Strengthening the SBA Microloan Program

- Women are the biggest users of loans under $50,000, accounting for 57% of loans made through the SBA Microloan Program.[14] Congress should modernize the program by removing limitations on technical assistance and allow for funds to be distributed more effectively.

Provide Adequate Resources for Financial & Business Counseling

- Congress should adequately support organizations such as Women's Business Centers and other non-profits that provide financial counseling and prepare women to obtain capital.

[1] Biz2Credit, "Biz2Credit Analysis of Women-Owned Companies Finds Earnings, Credit Scores, and Small Business Loan Applications Rose Dramatically in 2013." 2013. Available at http://www.biz2credit.com/research-reports/analysis-of-women-owned-companies-2014.
[2] U.S. Senate Small Business & Entrepreneurship Committee, *21st Century Barriers to Women's Entrepreneurship*. 2014. Available at http://www.sbc.senate.gov/public/?a=Files.Serve&File_id=3f954386-f16b-48d2-86ad-698a75e33cc4
[3] Department of Treasury, "Secretary Jacob J. Lew Delivers Remarks on Growing America's Small Businesses at the Capital Access Innovation Summit." 2013. Available at http://www.treasury.gov/press-center/press-releases/Pages/jl1979.aspx.
[4] Women Impacting Public Policy, *Business Women Speak Out on the Issues*. 2014. Available at http://www.wipp.org/resource/resmgr/Docs/2014_WIPP_National_Survey_of.pdf.
[5] National Women's Business Council, *Women-owned Businesses*. 2014. Available at https://www.nwbc.gov/facts/women-owned-businesses.
[6] National Women's Business Council, *Intellectual Property and Women Entrepreneurs*. 2012. Available online at https://www.nwbc.gov/sites/default/files/IP & Women Entrepreneurs.pdf
[7] American Association of University Women, *The Simple Truth About the Gender Pay Gap*. 2015. http://www.aauw.org/research/the-simple-truth-about-the-gender-pay-gap/
[8] Forbes Magazine, "How Women Are Being Left Out of the Venture Capital Game." 2012. Available online at http://www.forbes.com/sites/lesliebradshaw/2012/01/10/how-women-are-getting-left-out-of-the-venture-capital-game/.
[9] Visalia-Times Delta, "Achieve smart, bold, accessible small business gains." 2015. Available online at http://www.visaliatimesdelta.com/story/opinion/2015/04/25/achieve-smart-bold-accessible-small-business-gains/26317567/.
[10] U.S. News & World Report, "In Alternative Funds, Female Managers Excel." 2013. Available online at http://money.usnews.com/money/personal-finance/mutual-funds/articles/2013/11/18/in-alternative-funds-female-managers-get-better-long-term-results.
[11] Angel Capital Association, "FAQs for Angels & Entrepreneurs" 2015. Available online at http://www.angelcapitalassociation.org/faqs/ - How many angel investors are there in the U.S.?
[12] George Mason University's Mercatus Center, "Scrap the Regulations that Thin the Ranks of Small Banks." 2015. Available online at http://mercatus.org/expert_commentary/scrap-regulations-thin-ranks-small-banks-dodd-frank.
[13] Credit Union National Association, "Member Business Lending." 2014. Available online at http://www.cuna.org/member-business-lending.aspx
[14] The Urban Institute, "Competitive Opportunity Gap Analysis." 2008. Available online at http://www.urban.org/UploadedPDF/411596_504_gap_analysis.pdf.

US Senate Small Business Committee Field Hearing (Anchorage, Alaska): Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs

Comments Submitted on Behalf of Afognak Native Corporation

July 13, 2018

INTRODUCTION

We, the Afognak Alutiiq people, have inhabited our traditional lands of the Kodiak Island Archipelago for over 7,500 years. Afognak Native Corporation ("Afognak" or "the Corporation") represents 1,116 Native Shareholders, who are descended specifically from the Village of Afognak, on Afognak Island, in the northern part of the Archipelago. Afognak was organized in 1977 through the merger of two ANCSA village corporations: Port Lions Native Corporation and Natives of Afognak, Inc. The Corporation is governed by a nine-member Board of Directors. Shareholder status is determined by cultural ties, and shares cannot be bought, sold, or traded. All Board Members are Alaska Native Shareholders, are elected by their fellow Shareholders, and serve three-year terms.

Afognak owns 248,000 acres of land in the Kodiak Archipelago, primarily on Afognak Island. Our lands represent our most valuable asset. They have formed the core of our financial success as a Corporation, and they demonstrate continued value through Shareholder use for culture, subsistence, economic development, and recreational activities. On March 7, 1964, one of the largest natural disasters in U.S. history, the "Good Friday" earthquake and tsunami, destroyed our traditional home on Afognak Island. Following the destruction of our village, many chose to relocate and build a new village on Kodiak Island. Our new village was named Port Lions after the philanthropic "Kodiak Island Lions Club," that helped rebuild our community. Others moved to the city of Kodiak, other parts of Alaska, and the lower 48.

For 18 years, Afognak participated successfully in timber development ventures on Afognak Island. Then, in 1999, as Afognak's timber development opportunities began to wane, we launched our services and construction businesses. Afognak's wholly-owned subsidiary, Alutiiq, LLC ("Alutiiq"), was formed to pursue government contracts and is named after our people. Afognak, Alutiiq, and their subsidiaries, continue to grow our key competencies through participation in the U.S. Small Business Association's small business programs, including the 8(a) business development program (the "SBA 8(a) program"). Today, we employ over 5,000 people in nearly every state and several foreign countries with operations in the areas of protective services; engineering services; professional, administrative, and management services; facilities services; logistics/operations & maintenance services; construction services; education services; camp leasing and oilfield services; and timber development. Profits earned by our subsidiaries benefit our Shareholders and help sustain their heritage and culture in perpetuity. For example, these profits provide dividends, fund scholarships and job training, and facilitate various social and cultural programs.

We are submitting these comments to the U.S. Senate Small Business Committee to highlight the ways that the SBA's small business programs have been essential in facilitating our subsidiaries' successes, which enable Afognak to provide benefits to our Shareholders and foster community sustainability. In short, the SBA's small business programs have enabled Alaska Native Corporations to deliver on the promise of the Alaska Native Claims Settlement Act ("ANCSA") – to build a bridge to economic self-sufficiency and to honor the federal trust relationship to Alaska Natives. In our comments, we also highlight a few areas that could be expanded or improved upon in order to further fulfill this promise.

VALUE OF THE SBA'S SMALL BUSINESS PROGRAMS

Afognak, like all Alaska Native Corporations, has a business purpose that is unique from other small businesses served by the SBA. Our Shareholders are members of distinct cultural communities with a specific political status and relationship with the federal government. The profits generated by our subsidiaries through participation in the SBA's small business programs have enabled Afognak to serve not only its Shareholders, but also their families and communities, which have undergone a long history of disenfranchisement and dispossession. Through the development of an economic engine based on solid business principles, our subsidiaries have generated profits that provide for the economic, educational, and cultural needs of our Shareholders; invest in our Afognak Alutiiq cultural sustainability; and build toward economic self-sufficiency for our people. Our Shareholder benefits are discussed below.

Providing for the Economic, Educational, and Cultural Needs of Our Shareholders

Afognak provides four types of benefits to its Shareholders, including: Economic Benefits; Education & Workforce Benefits; Community and Cultural Benefits; and Land Benefits.

Economic Benefits

- **Dividends:** Afognak issues dividends annually on a per share basis to its Shareholders under the direction of Afognak's Board of Directors.
- **Elder Benefit Program:** Established in 2011, Afognak provides Elder Benefits ranging from $350/month to $500/month to each of its over 100 Original Shareholders who are age 65 and older, under the direction of Afognak's Board of Directors.
- **Burial Donation Program:** In the event of the death of an Original Shareholder, Afognak provides the Shareholder's family up to $2,500 to support funeral expenses.
- **Shareholders Permanent Investment Fund (SPIF) & Shareholder Settlement Trust (SST):** The SPIF and SST were established to provide long-term financial benefits for Afognak's Shareholders, and special dividends from these funds are issued at the direction of the Board of Directors.

Education & Workforce Benefits

- **Higher Education Program:** Since 1995, Afognak has provided more than $2.4M in over 750 scholarships to support Shareholders and their descendants in achieving their higher education goals.
- **Career Enhancement Opportunity Program:** Since 2005, Afognak has provided more than $350K in over 270 scholarships to support Shareholders in achieving their career education goals.
- **Youth Enhancement Program:** Since 2012, Afognak has provided more than $58K in over 140 scholarships to support an elementary, middle, or high school student in attending a one-time athletic, scholastic, cultural, or leadership training, camp or event that will help the student to reach his or her goals.
- **Internship & Apprenticeship Programs:** Afognak provides on-the-job training for Shareholders as early as high school in order to assist them in later attaining permanent employment at the Corporation or elsewhere. In addition, Afognak's Ataku Management Program provides one intern a two-year internship, along with mentoring, to secure a managerial-level position.

- **Shareholder Employment Program:** Afognak also provides preference to its qualified Shareholders in all employment-related decisions, as well as offering career counseling and other resources.
- **Alaska Native Executive Leadership Program ("ANELP"):** Afognak was a founding organization of this year-long program aimed at preparing executives and managers in Alaska Native organizations. ANELP certification counts toward the completion of Alaska Pacific University's MBA Program.
- **Shareholder Business Directory:** Afognak publishes an annual catalogue of our Shareholder's businesses to foster small business success and community use of Shareholder business services.

Community & Cultural Benefits

- **Contributions to Statewide Alaska Native Organizations:** Afognak provides in-kind and cash contributions to support Alaska Native culture, leadership development, education and advocacy for issues important to Alaska Native communities.
- **Contributions to Afognak Area Tribal Governments:** Afognak also provides in-kind and cash contributions to tribal governments in the Kodiak area to support cultural revitalization and critical community programs and gatherings.
- **Contributions to Kodiak Region Community Organizations:** Afognak also provides in-kind and cash donations to organizations in the Kodiak region such as school activities, the Baranov Museum, Senior Citizens of Kodiak, Inc., and other community programs.
- **Contributions to Statewide & National Community Organizations:** Afognak also provides in-kind and cash donations to statewide and national organizations such as the American Cancer Society, Brother Francis Shelter, Catholic Social Services, and other organizations.

Land Benefits

- **5-Acre Lease Program:** Afognak provides its Shareholders the opportunity to enter into long-term (i.e., 99-year), five-acre land lease agreements with the Corporation. Shareholders must pay taxes to the Kodiak Island Borough on these leases.
- **Hunting & Subsistence Program:** Afognak provides its Shareholders housing and transportation in order to access land on Afognak Island for subsistence hunting, fishing, gathering, and recreational use.

Investing in our Afognak Alutiiq Cultural Sustainability

In addition to the direct benefits to its Shareholders discussed above, Afognak also works diligently to sustain our Afognak Alutiiq culture. For example, since 2016, Afognak has hosted an annual **Afognak Youth Charity Golf Tournament** that raises funds to support youth cultural programs for the Native Villages of Port Lions and Afognak. Afognak also supports the participation of youth and other Shareholders at the Dig Afognak Culture Camp every summer and works to **advance cultural and Alutiiq language revitalization**. Afognak has also hosted **cultural workshops** for our Shareholders in the Kodiak Island region and elsewhere in order to assist those Shareholders in retaining a community and cultural connection.

Recently, a **feature film** that Afognak helped to fund and create entitled *Niugaa Yugaa: Keep Talking* has been touring at national and international film festivals and will be featured on PBS later this year. The

film speaks about the Alutiiq language movement and celebrates our investments in an **Alutiiq language immersion preschool program**. Afognak also invests in the **Alutiiq Museum** and supports senior staff in participating in cultural revitalization efforts in the region, statewide, nationally, and internationally.

Building toward Economic Self-Sufficiency for Our People

Using the experience and expertise gained through participation in the SBA's small business programs, Alutiiq's subsidiaries have grown and diversified our economic portfolio, which helps to ensure the strength of our investments and businesses over time. Afognak has also expanded its commercial business ventures and continues its work in developing its timber business in a sustainable way. Importantly, Afognak has also invested in the growth of the local economies in which the majority of our Shareholders live.

Specifically, Afognak has invested in strengthening the local economy of Port Lions in order to ensure our Afognak Alutiiq people can continue to live there, should they choose to do so. With traditional jobs in fisheries waning and the emerging digital economy, communities like Port Lions have struggled to retain residents, especially as it does not yet have strong broadband infrastructure, reliable transportation, a grocery store, or affordable cost of living for young families. As such, more and more residents have had to make the difficult choice to move to larger communities like Kodiak and Anchorage where jobs are more plentiful and the costs of living are somewhat more manageable. This year, Port Lions faced the threat of having to shut its school down as it appeared it would not have the requisite 10 students to enroll in the fall. Afognak, the Native Village of Port Lions, the Kodiak Island School District, and other community organizations rallied to identify solutions and have thus far managed to keep the school open another year.

In 2015, Afognak joined with the Native Villages of Afognak and Port Lions to create an Economic Development Committee to identify coordinated approaches to developing village economies related to cultural tourism, farming, infrastructure development, tax proposals, workforce development, and others. We have submitted grant proposals to the U.S. Department of Health and Human Services' Administration for Native Americans, and we are preparing a business plan to support the funding of an economic development coordinator position. In addition, Afognak has participated in the Koniag Broadband Working Group to coordinate with our regional Alaska Native Corporation to identify broadband solutions.

This is all to say that the profits generated through our participation in the SBA's small business programs have enabled us to contribute to building the mechanisms for our peoples' economic self-sufficiency. This was the promise of ANCSA, and it is our responsibility as business leaders. One of our revered Alutiiq Elders and Afognak Shareholders, Helen Nelson, captures the value of participation in the SBA 8(a) program for our people and our communities:

> "These dividends that we receive from Afognak as a result of 8(a) contracting has allowed us to live and maintain our subsistence lifestyle that is so very important to us. Some have had to leave our community in order to support their families, but it sure has helped me, and I am so grateful that I don't have to worry about how to pay my electric, water and sewer, and phone bill. It isn't always easy getting groceries here in Port Lions, but with the fuel money from our dividends we can fly or take the ferry to Kodiak to shop for our groceries and other needed items. The peace of mind that comes from having this income has helped me so much and others who only source of income are these dividends. We are so grateful for the 8(a) program."

CHALLENGES

Given the great value we have received from our participation in the SBA's small business programs, we would like to highlight some of the challenges we see in the implementation of these programs. We previously submitted these and other comments in response to the SBA's Request for Information on proposed changes to the Code of Federal Regulations in November 2017, and we also raised them at the SBA Tribal Consultation that took place in May of 2018 in Anchorage, Alaska:

1) **Tribal Consultation & ONAA Staff:** Afognak notes that the tribal consultation policy on the SBA's website is an unsigned version, and we recommend that a signed version be posted and followed. In addition, it is important to staff the Office of Native American Affairs given the participation of small businesses owned by American Indian, Alaska Native, and Native Hawaiian people in SBA programs.

2) **HUBZone:** Afognak appreciates the comments made by the SBA's Associate Administrator, Robb Wong, during the tribal consultations in May 2018, in which he committed to improving the HUBZone program. These improvements include, for example: (1) allowing a HUBZone firm to count its military veteran employees toward its residency requirement for a two-year period, regardless where the veteran employee lives, and (2) instituting an annual certification requirement instead of requiring HUBZone firms to certify each time they bid on and are awarded a contract. We look forward to the finalization and implementation of these improvements.

   Further, Afognak recommends raising the identified threshold amounts when a Contracting Officer may award sole source contracts to a qualified HUBZone firm as this section has lower sole source contract award threshold amounts than other programs.

3) **Size Determinations:** Afognak wants to affirm the role of SBA to provide size determinations to other government agencies for use in determining compliance with small business requirements (13 CFR, Section 121.901). Further, Afognak recommends that the SBA establish larger size standards. The current standards are not reflective of the costs required to do work in certain sectors. For example, the architect and engineering NAICS codes include a $7M NAICS code. This is very low considering the shift of design-build work to the private contractor and the inherent risks associated with the work. Moreover, the construction NAICS codes at $36.5M are also respectively low (Section 121.102).

4) **Security Clearances:** Afognak would like to draw attention to the particular burden facing small businesses with respect to the backlog in security investigations and clearances. There are over 740,000 individuals currently awaiting their initial security investigation, and 4 million individuals with existing security clearances who will require re-evaluation at periodic intervals. This backlog and concurrent workload prolong the availability of cleared contract employees required to bid, win, and perform contracts. Small businesses – like Alaska Native Corporations – are disproportionately impacted in that they are unable to relocate their cleared workforce in ways that large contractors can without a subsequent increase in labor costs and a decrease in their competitive rates for contract awards. In addition, contractors with clearances are demanding increases in pay as high as 25-30% above market rate, which small businesses cannot absorb. As such, these costs are being passed onto the government client and the taxpayers. Anecdotally, we have seen that where the average length of wait for a security clearance used to be 3-6 months, it

can now average well over 1-2 years for some. The SBA can help document the impact and help. We respectfully seek your assistance in identifying solutions to minimize this burden.

5) **Assistance for Graduates of the SBA's 8(a) Program:** We also seek your assistance in informing the next stage of development for businesses that have graduated from the SBA 8(a) program in ways that can both help to expand the range of small businesses operating and their capacity to learn from mid-size businesses that were once small. As you may be aware, on April 26th, 2018, Members of the House Committee on Small Business, Subcommittee on Contracting and Workforce held a hearing to examine the challenges businesses face when their company surpasses being classified as a small business and enters the mid-tier market. At the hearing, the Subcommittee Chairman captured the challenge by noting that "[u]nfortunately, mid-size contractors, particularly emergent or newly-graduated firms, face a dilemma. They are no longer eligible to compete for small business government contracts yet must compete against companies across the entire middle market spectrum, which can consist of companies many times their size, up to and including the titans of industry." For Afognak, our government contracting business began less than 20 years ago. Yet Lockheed Martin, Boeing, Raytheon and other titans have on average over 100 years of experience in the sector. For us to compete and add additional value, it will be important to continue to blaze a trail to mid-tier growth; otherwise, we place a cap on how far small businesses can go and we limit the contributions small businesses can make to our supply base and in turn the services the government provides taxpayers.

6) **Understanding the Value of the SBA 8(a) Program for Alaska Native Corporations:** We also seek your assistance in documenting and communicating the value of government contractors who utilize the SBA 8(a) Program to achieving key objectives of the federal government, including the government's federal trust responsibility to federally recognized tribes and Alaska Native corporations as specified in the US Constitution and government-to-government agreements such as ANCSA. Recognition of the political status of tribal nations and Alaska Native Corporations has been essential in securing our community and cultural sustainability. In fact, as one of my colleagues has said, "SBA 8(a) has been the missing link of the Alaska Native Claims Settlement Act as it has allowed Alaska Native corporations to pursue economic self-determination."

Quyanaa (Thank you) for the opportunity to provide these comments. We appreciate the Senate Small Business Committee's dedicated work on behalf of small business concerns. Please do not hesitate to contact us if you have any questions or concerns regarding these comments.



Submitted electronically to Kathryn-Eden@SBC.senate.gov

July 13, 2018

Senate Committee on Small Business & Entrepreneurship
ATTN: Kathryn Edyn, Chief Clerk
428A Russell Senate Office Building
Washington, DC 20515

Re: Bristol Bay Native Corporations Comments - Field Hearing, Anchorage Alaska, Friday, June 29, 2018

Hearing Title: Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs

To: Chairman James E. Risch and Members of the Committee:

My name is April Ferguson, I serve as the Senior Vice President and General Counsel for Bristol Bay Native Corporation (BBNC). I have worked for BBNC as General Counsel since 1998, and I am a BBNC Shareholder. BBNC is an Alaska Native Regional Corporation created pursuant to the Alaska Native Claims Settlement Act of 1971, for the benefit of Alaska Natives with ties to the Bristol Bay Region. As of July 1, 2018, BBNC has 10,681 shareholders. At 40 million acres in size, the Bristol Bay region is known for its world-renowned salmon fishery.

BBNC affirms the comments and testimony presented at the Field Hearing in Anchorage by Robb Wong, SBA Associate Administrator, Office of Government Contracting and Business Development. (Witness Panel 1). The recent SBA Tribal Consultation and the National 8(a) Association Conference held in Anchorage provided Alaska Regional Corporations, Village Corporations and Tribal representatives the opportunity to engage directly with SBA staff. Comments and concerns were exchanged regarding streamlining 8(a) processes and reducing burdensome regulations. Mr. Wong provided specific examples of SBA initiatives that were well received including the proposed elimination of SBA approval of 8(a) Joint Ventures and significant HUBZone Program reforms. BBNC acknowledges SBA's efforts in adding three Business Opportunity Specialists to the Alaska District Office. Of the 297 8(a) firms with the SBA Alaska District Office, 277 are Alaska Native Corporation, Village Corporation or tribally owned firms.[1]

BBNC supports and affirms the comments and testimony presented at the Field Hearing by Carl H. Marrs, Chief Executive Officer, Old Harbor Native Corporation; Gabriel Kompkoff, Chief Executive Officer, Chugach Alaska Corporation and Richard Chalyee Eesh Peterson,

[1] Christie VandeDries/Lead BOS/SBA Alaska District Office

111 West 16th Avenue, Suite 400 Anchorage, AK 99501 T 907.278.3602 F 907.276.3924

President, Central Council of Tlingit & Haida Indian Tribes of Alaska (Witness Panel 2 participants) with respect to the SBA 8(a) Business Development program.

Additionally, BBNC provides the following comments:

BBNC supports SBA's announcement to consolidate the All Small Mentor Protégé Program and the 8(a) Mentor Protégé Program into one program. BBNC further supports the SBA's announcement to streamline the change of management approval process eliminating the requirement for prior approval.

BBNC is appreciative of the memorandums secured by Senator Sullivan from the Secretaries of the U.S. Army, Navy, and Air Force. The effect of these memorandums is to correctly interpret the position that the $22 Million dollar 8(a) sole source award is not a cap and can be designated for the Justification and Approval process to someone other than the agency head. The next step in the process is the advocacy and education of federal government officials and contracting officers on the use of these memorandums and the value that Alaska Native Corporations and Tribal entities provide to the Government. BBNC congratulates the SBA's proactive addition of an education tract on ANC and Tribal participation in the 8(a) program for SBA Business Opportunity Specialists. This innovative training module was presented by John Klein, SBA Associate General Counsel for Procurement Law and Christine Williams, Managing Partner, Outlook Law, LLC., at the recent SBA Annual Nationwide Business Opportunity Specialist training held this month on Washington DC.

SBA's recent announcement at the National 8(a) Association Conference to streamline the 8(a) Early Voluntary Graduation (EVG) process and potentially delegate EVG approvals to the SBA District Office level was well received by Small Business participants and Alaska Native Corporations. Delays in processing EVGs for entity owned 8(a) participants can be detrimental to business operations and forecasting. SBA's announcement demonstrates its commitment to consider comments received at the SBA Tribal Consultations and expeditiously develop solutions to reduce burdensome regulations.

BBNC recommends review of current 8(a) Standard Operating Procedures (SOPs) for field/operations and legal consistency. The SOPs in operation are, in some instances, inconsistent with the regulations. Once those SOPs have been developed, training should be offered both to Business Opportunity Specialists (BOS) in the SBA as well as small business concerns. SOPs are often the business person's guide to regulations and having them current, consistent, and up-to-date, is of paramount importance.

During the previous SBA administration, 8(a) application processing times were very long (6-9 months), then applications went through a period of more timely review. Now, the backlog of applications in the review process has increased again. BBNC acknowledges SBA's efforts to troubleshoot and smooth out the application process, however BBNC respectfully recommends more staffing and/or training at both at the 8(a) application review level in San Francisco and Philadelphia and also at the final Legal review level at SBA Headquarters where applications are also backlogged.

The 8(a) program is a Business Development program, however considerable resources are required from the participant to interpret and navigate complex regulations. The focus becomes more compliance centric and less business development focused. Quite often legal counsel is required to interpret SBA regulation. BBNC recommends simple straight forward regulations and/or SOPs that would lessen the burden on small businesses so they can focus on developing a successful small business.

Conclusion

These are important issues for BBNC and its people. It is our hope that the Committee will give our comments serious consideration. We appreciate the Committee's dedicated work on behalf of small business concerns. Thank you for your consideration.

Sincerely,

April Ferguson
Senior Vice President and General Counsel
Bristol Bay Native Corporation



Goldbelt | Issues Affecting Federal Contracting for Alaskan Native Contractors

The following are Issues that the Goldbelt Board of Directors have discussed with Congressional Members and the Senate Small Business Committee leadership to further support Alaskan Native Contractors and share concerns of policy changes that have impacted 8(a) contracting.

Issue 1: *Restore Follow-On Sole-Source Contacts to Provide Contracting Officers with Options*

Current Situation: Goldbelt is seriously concerned that 15 CFR 124.109 limitation prohibiting a follow-on contract to another 8(a) participant owned by the same tribe, is damaging to both the Government and tribes, by not allowing contracting officers, working with the Small Business Administration (SBA), to use firms which have performed well and understand their customer's requirements and mission.

While we acknowledge there were some growing pains for native contractors, policy changes in Section 811, of the 2010 National Defense Authorization Act (NDAA), have drastically negatively impacted native contractors with a significant downturn of sole source awards over $22 million. Federal Spending data shows the decline in overall sole source awards to Native companies continues to decline, from a total of $1.1B in 2013, to only $403.2M in 2016. Compared to the late '90s to early 2000's, it was not unusual to see sole source awards of $100M or more. While large non-competitive contract practices are still being done for large corporations (OEM's), tribally owned 8(a)'s have seen significant decline on the use of follow-on direct awards.

SBA & Congressional Request: Goldbelt requests SBA amend 13 CFR 124.109(c)(3)(ii) to allow tribally-owned firms to receive an 8(a)-sole source contract that is a follow-on contract to an 8(a) contract that was performed previously by another participant owned by the same Tribe.

Issue 2: *Section 811 Justification and Award Provision Federal Acquisition Regulation 6.603-1(b)*

Current Situation: Senator Sullivan received confirmation from the Secretaries that memos to the head of contracting to clarify review authority on Justification of Awards from $22M - $93M. The memo's address the following: Secretaries which state:

- The approval authority for Native 8(a) direct awards from $22-93M is no longer at the head of agency level; it is now at lower levels commensurate with contract value.
- The aforementioned approval threshold should not be seen as a barrier to awarding these contracts.
- There should be an effort to streamline each service's approval processes.

SBA and Congressional Request: Goldbelt is very appreciative of the Congressional efforts by Senator Sullivan and the US Senate during the nomination process to receive commitment from the Service Secretaries and ask for continued education and guidance to all levels of contracting to ensure barriers to J&A Authority at the Department continue to be removed.

Issue 3: *Secure the Indian Incentive Program (IIP), 5% Rebate to 5% Price Evaluation Preference*



Issues Affecting Federal Contracting for Alaskan Native Contractors

Current Situation: The IIP offers Native-owned businesses the opportunity to develop credible contract past performance which, in turn, permits them to compete and perform on future federal contracts. The program provides a 5% rebate on contracts greater than $500,000 to prime contractors who subcontract to Native-owned businesses. Originally funded at $40M, the annual appropriation for the IIP has decreased steadily, now at $15M since fiscal year 2011. At the $15M level, a 5% rebate translates to only $300M in *subcontracts* to Native businesses. Once this $15M ceiling is reached, payment on further prime contractor rebate claims are dependent on future years' funding. The current IIP program office has a two-year backlog of recipients.

SBA & Congressional Request: Amend the Indian Incentive Act of 1974 to change the present 5% rebate to a 5% credit/Price Evaluation Preference or increase funding of the IIP to encourage prime contractor inclusion of Native, ANC and Hawaiian Native Contractors

---

Issue 4: *Amending the Buy Indian Act (S. 1116) to expand federal contracting opportunities for Native Enterprises in the Interior Department and in the Indian Health Services.*

Current Situation: The Senate passed S.1116 by Senator John Hoeven on March 28, 2018 and is pending in the House. S. 1116 amends the Native American Business Development, Trade Promotion, and Tourism Act of 2000, the Buy Indian Act of 1910, and the Native American Programs Act of 1974 to provide industry and economic development opportunities to Indian communities. Specific to Buy Indian, Section 4, amends Section 23 of the Buy Indian Act and directs the Secretaries of the Interior, and the Health and Human Services, that "unless determined to be impractical and unreasonable," they:

1) *shall* employ Indian labor and
2) *may* purchase Indian industry products (including printing and facilities construction, notwithstanding any other provision of law) on the open market.

What is the Buy Indian Act?
The Buy Indian Act (25 USC 47) provides the Bureau of Indian Affairs (BIA) with the authority to set-aside procurement contracts for Indian-owned and controlled businesses. The Buy Indian Act describes uniform administrative procedures that BIA will use in all of its locations to encourage procurement relationships with eligible Indian Economic Enterprises (IEEs). The Buy Indian Act regulations are located at the Department of the Interior Acquisition Regulation (DIAR) part 1480, Acquisitions Under the Buy Indian Act. To increase the economic impact of The Buy Indian Act, rules authorize that the agency delegate the mandate to other bureaus in the department such as the National Park Service and the Bureau of Land Management.

Congressional Request: Goldbelt is appreciative of the positive progress by the Senate, but requests further provisions which will strengthen Alaskan Native and Native Contractors with the following amendments:

1) Request inserted language to mirror the Department of Veterans Affairs for contracting with Service Disabled Veteran Owned Businesses in 15 USC 644(g), where VA contracting officers must justify awards if they are not awarded to a qualified VOSB/SDVOSB on VA contracts.
2) Request enactment deadline for the Agency to develop and implement regulations and procedures for the Department of Interior and the Indian Health Services.
3) Request with the recent infrastructure bill, a Native/ANC set aside initiative through the US DOT Disadvantaged Business Enterprise



Issue 5: *The use of Lowest Price Technically Acceptable (LPTA) in the selection of procurement awards has proven to be inefficient for the government as a consumer, and has unfairly skewed contracting opportunities against Native contractors.*

Current Situation: A number of Native contractors reported the misuse of LPTA evaluations as a criterion within the DOD, particularly in instances where the DOD offered contracts for complex professional services. Goldbelt along with other Native American Corporations adopted the LPTA issue as a 2016 policy priority, worked together with strategic partners, such as the Professional Services Council, and presented the issue on various visits with Members of Congress and Congressional staff. The issue to limit the use of LPTA for the DoD was included as part of Section 813 of the FY2017 National Defense Authorization. While this change has taken effect, the use of LPTA in SETA specialty areas with highly qualified scientists, engineers, acquisition, and analysts has impacted institutional knowledge and the ability to recruit and retain the expertise needed to complete the mission, and has potential impact on national security.

SBA and Congressional Request: Although there have been Congressional action to limit LPTA usage, further education and guidance is needed by the Administration to educate all levels of contracting officials. We respectfully request Congress to monitor the implementation of Section 813 to assure that the limitations on the use of LPTA as stipulated in this Section are incorporated into rule changes.

Goldbelt
3025 Clinton Boulevard, Juneau, Alaska 99801-7109 (907) 790-4990 Fax (907) 790-4999
13900 Lincoln Park Drive, Suite 140, Herndon, Virginia 20171-3244 (703) 871-2091 Fax (703) 871-0026

Goldbelt, A History

- In the initial draft, Alaska Native Claims Settlement Act (ANCSA) left out four urban communities: Juneau, Sitka, Kenai and Kodiak, all of which were originally Alaska Native villages.
- ANCSA was amended to include the urban areas, but the cash settlement that was distributed to the original ANCSA Corporations did not go to the newly established urban corporations. The ANSCA Urban Corporation cash settlements went directly to the shareholders of the urban corporations. As an Urban Corporation, Goldbelt, does not participate in State of Alaska generated royalties as part to Section 7(i) and 7(j) of the Alaska Native Claims Settlement Act.
- The urban corporations were afforded the opportunity to select a township of land that had to take place within a 50-radius of the community. Without funds available for start- up costs, land surveys and legal representation, Goldbelt had to borrow money from the regional corporation to properly evaluate land for selection.
- When incorporation and land title conveyance was complete in 1974, Goldbelt was $1.3 million in debt to the regional corporation.
- After years of legal actions by environment groups blocking timber harvest on Goldbelt's lands, Goldbelt was $10 million in debt to the regional corporation after the second year of harvest, in 1984.
- Goldbelt has 28,000 acres of harvestable timber land. Timber sales provided the means to pay off the debt to the regional corporation and enter commercial business.
- Timber sales were not sufficient to diversify a reliable business portfolio. What has sustained Goldbelt, as a company, has been the opportunity to pursue 8(a) contracting.

Goldbelt
3025 Clinton Boulevard, Juneau, Alaska 99801-7109 (907) 790-4990 Fax (907) 790-4999
13900 Lincoln Park Drive, Suite 140, Herndon, Virginia 20171-3244 (703) 871-2091 Fax (703) 871-0026

- For various reasons, most Alaska Natives have not had the opportunity to start and run a business. **Government contracting through the 8(a) program has allowed Goldbelt to develop that expertise where:**
    - Shareholders earn family-wage careers
    - Shareholders gain technical industry expertise
    - The corporation pays dependable dividends, scholarships, contributions to Heritage Trust and Ancestral Trust to support families and elders



Native American Contractors Association
Protecting the rights of Indigenous Peoples to create economic development through government contracting
750 First Street NE, Suite 950, Washington, DC 20002 | Phone: 202.758.2676 | www.nativecontractors.org

Statement of Michael G. Anderson

Executive Director

Native American Contractors Association

"Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs"

Senate Committee on Small Business and Entrepreneurship

June 29, 2018

Introduction

The Native American Contractors Association (NACA) expresses our sincere appreciation to Chairman Risch and the Senate Committee on Small Business and Entrepreneurship for the Committee's Field Hearing held in Anchorage, Alaska on Friday, June 29, 2018. Entitled "Opportunities and Challenges with the Small Business Administration's Federal Contracting Programs," the hearing received testimony from small businesses representing the 2,506 small businesses in Alaska, of which 760 or 30.3% are listed as Native-owned.[1]

Formed in October 2003, and located in Washington, DC, NACA is a 501(c)6 trade association – the only advocate for community- and individually-owned Tribal, Alaska Native, and Native Hawaiian enterprises engaged in federal contracting. NACA members proudly serve our federal customers in all 50 states and internationally. In fiscal 2017, Native contractors provided $15.6 billion in quality goods and services in nearly every industry code to our federal customers.[2] The net profits Native entities derive from contracting funds a full range of economic development programs supporting cultural, education health care, land and resource management, and elder programs that touch 5.8 million Native Americans in communities across the country. NACA's mission is to protect the rights of Native Americans to create economic development through government contracting as a result of the nation-to-nation trust relationship recognized in the Constitution and treaties.

Therefore, economic development within Native communities is vital, and regular dialogue and consideration like this hearing is necessary and appreciated. Programs that exist today must not only remain intact, but be improved so that their intended design -- improving the lives of Native Americans and the ability to control their own destinies -- is realized. The existence of time-tested, proven programs, in which Native communities can invest and thus parlay the value of such capital, is critical to the achievement of a sustainable Native self-determination. Healthy, effective programs such as the Small Business Administration (SBA) Native 8(a) Business Development program, are critical to the ability of Native communities -- large and small, rural or urban -- to move closer to attaining the goal of self-determination.

In this testimony submitted for the record, NACA will underscore the importance of Congress' sustained support for the Native 8(a) Business Development Program, highlight two threats to Native 8(a), and finally stress the importance of expeditiously resolving the growing security clearance backlog that is disproportionately impacting small businesses. These are all topics within the jurisdiction of the Committee.

---

[1] Per the Small Business Administration's Dynamic Small Business Search (DSBS) engine (www.dsbs.sba.gov), July 15, 2018.

[2] Per the Federal Procurement Data System (FPDS) Next Generation (NG) (www.fpds-ng.gov). $15.6 billion was 3% of the federal procurement spend in fiscal 2017.

Importance of the Native 8(a) Business Development Program

The SBA Minority Small Business and Capital Ownership Development Program under Section 8(a) of the Small Business Act was created to provide participating small businesses with training, technical assistance, and contracting opportunities in the form of set-aside and sole-source awards. Recognizing the communal ownership of Tribal enterprises, in 1982 the Act was amended to permit Tribal enterprises to enter negotiated sole-source contracts. As community-owned Native organizations, Alaska Native Corporations (ANCs) were included in 1988, and Native Hawaiian Organizations (NHOs) in 2002. These provisions acknowledge the tremendous benefits Native 8(a) enterprises provide to entire communities of disadvantaged individuals, not just individual business owners. By creating these unique Native 8(a) provisions, Congress recognized the special needs of and its obligations to Tribes, ANCs, and NHOs.

As a result, Native 8(a) has become an economic development tool that creates jobs and builds Native communities while, at the same time, serving our federal customers' missions. The Native 8(a) Program permits enterprises owned by federally-recognized Tribes, ANCs, and NHOs certified under Section 8(a) of the Small Business Act to enter this business development program for government contracting. Native contractors that participate in the 8(a) business development program provide jobs and are integral to the growth of not only Native economies, but the U.S. economy as well. The Native 8(a) program is an effective tool for tribal communities to generate income for themselves and become self-sufficient, rather than depending on public assistance. The result is a mutually beneficial outcome for Native communities and the U.S. taxpayer as profits from Native 8(a) contracts will fund much needed Native community programs that may have otherwise been financed by taxpayer dollars.

Native 8(a) firms are only able to participate in the program after meeting stringent program entry eligibility requirements. Once certified, Native enterprises have two unique provisions: 1) contract value thresholds normally restrictive in 8(a) sole-source awards do not apply to Native 8(a) awards; and Native entities may have more than one company participating in the 8(a) program. This was the intent of Congress, given the substantial economic and social disadvantages facing Native communities coupled with the high number of Native Americans in need within these communities -- disadvantages faced by and encompassing entire Native communities and villages, as opposed to individuals who are socially and economically disadvantaged. The ability to operate multiple companies and preform larger contracts, produces the necessary level of resources to make a difference in developing Native communities.

Current Status of Native 8(a)

Table 1 shows that from FY 2014 through FY 2017, Native contracting grew 22.8%; in comparison federal procurement experienced 14.4% growth over the same period.[3] Yet, Native 8(a) grew only 4.5% while constituting just 1.3% of federal procurement spending. Native 8(a) sole source awards decreased 2.7%, and noticeably, the Department of Defense's total 8(a) sole source awards to Native contractors decreased three times more than the overall 2.7% decrease.

[3] Per FPDS-NG, July 15, 2018.

Fiscal Year	2014	2015	2016	2017	Growth
All Agencies	12.7	12.5	14.2	15.6	22.8%
DOD Only	8.3	7.9	9.1	10	20.5%
All 8a	6.6	6.4	6.7	6.9	4.5%
8a SS	3.7	3.3	3.5	3.6	-2.7%
8a SS DOD	2.6	2.2	2.2	2.3	-11.5%

Table 1. Value of Federal Procurement Contracting by Native Contractors (in $Billions)
Source: FPDS-NG

While a 22.8% increase in the overall total value of contract spending awarded to Native Contractors is a positive sign, there is cause for concern that procurement spending on 8(a) awards has remained relatively unchanged. Conclusively, the overall growth in Federal Contracting for Native Contractors has been in the competitive, non-8(a) award arena. But the consequence is that Native 8a awards, the foundational building block for Native economic development, remained almost 10% behind the government procurement spending trend in the same period.

NACA concludes, based on the evidence provided by this spending data, there has been a *net loss* of 8(a) contracting opportunities. The data validates what has been a very real concern for Native contracting and was recently voiced by Native contractors and 8(a) small business owners who attended the 2018 National 8(a) Alaska Regional Conference held in June 2018. NACA strongly contends the loss has happened because of two significant threats to small businesses – bundling and consolidation, and category management. These threats will have an adverse impact not only on Native communities, but other socio-economic and minority contractors – Woman-Owned (WOSB), Service-Disabled Veteran-Owned (SDVOSB), and Historically Underutilized Business Zone (HUBZone) businesses – described in the Federal Acquisition Regulations (FAR) Part 19.

Bundling and Consolidation

Congress has a history of concerns associated with contract bundling. In their letter dated October 7, 2013, the House Small Business Committee staff wrote:

"Unjustified contract bundling and consolidation remain among the greatest challenges for small businesses wishing to compete in the federal marketplace. When several separate, smaller contracts are combined into one unnecessarily large contract, it keeps small businesses from even submitting an offer, which limits competition. While in some cases, the benefits of bundling and

consolidation justify this procurement strategy, in others it simply limits competition to the detriment of small firms."[4]

The Small Business Act [15 USC 644(p)(B)] requires the SBA to annually submit a report to the Congress on contract bundling. In their fiscal 2016 report, the SBA noted "FPDS-NG and agency data collection sources do not currently contain sufficient information to quantify the extent to which bundling of contract requirements impacts the ability of small businesses to compete as prime contractors ...[5]" However, given these limitations, SBA reported the ultimate contract value of bundled contracts over the life of the contract to be over $1.6 billion dollars.

Continued oversight by the Committee to stress compliance with the Act and meet the intent of Congress in bundling and consolidation, can only serve to strengthen that compliance and ensure the SBA is provided the enforcement "teeth" needed to fully qualify any agency's intent to bundle or consolidate small business efforts into a contract.

Category Management

Category Management (CM) is also of great concern to NACA, and a threat to not only Native 8(a) firms, but small businesses as a whole. CM was created with the intent of providing the federal acquisition community with a more streamlined acquisition process based on major categories of federal procurement. The goal was to use existing subject matter expertise to create a more efficient process using "strategic sourcing, but also a broader set of strategies to drive performance, like developing common standards in practices and contracts, driving greater transparency in acquisition performance, improving data analysis, and more frequently using private sector (as well as government) best practices."[6]

Category Management has become one of the government's popular policies to procure goods and services in an efficient manner, with low prices from among firms often considered "best in class." When considered in this narrow view it seems like a positive tool. There are growing

---

[4] Letter from Committee Staff, Committee on Small Business, US House of Representatives, dated October 7, 2013. Hearing: "Bungling Bundling: How Contract Bundling and Consolidation Remain Challenges to Small Business Success." Available at: https://smallbusiness.house.gov/uploadedfiles/10-10-2013_hearing_memo.doc.pdf

[5] SBA Contract Bundling Report to Congress, Fiscal Year 2016, April 27, 2017, page 4. Available at: https://www.sba.gov/sites/default/files/resources_articles/FY2016_Bundling_Report_update.pdf

[6] OFPP Administrator Anne Rung Dec. 4, 2014 Memorandum: "Transforming the Marketplace: Simplifying Federal Procurement to Improve Performance, Drive Innovation, and Increase Savings." Available at: https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/procurement/memo/simplifying-federalprocurement-to-improve-performance-drive-innovation-increase-savings.pdf

concerns, however, as category management works against newer, less experienced small businesses in favor of the larger and/or more experienced firms – the very anti-thesis of the Small Business Program. It was a discussion topic at SBA Tribal Consultation sessions held in May and June, and it was the specific topic of a House Small Business Committee hearing on June 13, 2018. At the Alaska Region National 8(a) Conference, participants noted GSA's consolidation of 8(a) contracts into the present OASIS structure – without SBA's consideration or approval – yet with assurances that 8(a) task order contracts would be issued under OASIS which is a "best in class" CM contract vehicle.

Category Management has evolved from what was conceived as a management tool for collecting and analyzing federal spending into a combination of management information analysis and federal purchasing strategies. This transition to designing and using "Best in Class Awards" as a mandatory vehicle by which agencies must now purchase goods and services. Procurement policies must have the goal of fostering a competitive environment so that agencies may contract in a way that best fits their needs. Category Management limits that ability when agencies are required to use specific acquisition methods. This limits not only the variety of goods and services available, but also the ability to innovate and gain access to an array of different technologies and processes. We believe data and analysis will conclude:

1. There has been a trending loss of *the number of small business contract awards* – particularly to those FAR Part 19 socio-economic classes – 8(a), HUBZone, WOSB, SDVOSB.
2. That category management focuses on specific industry areas which, through best-in-class contracts, ultimately restrict prime contract awards for small businesses not engaged in those industry areas.
3. That an unintended consequence of category management will be the migration of businesses, including small businesses, to those specific industry areas to the detriment of sustaining a full industrial base capability necessary to our national security needs.

NACA is therefore very concerned about the drawbacks and potential impact of category management not only to our Membership – but to small businesses -- as it increasingly limits and diminishes our capacity to participate in procurement actions that employ this policy as their acquisition strategy. The continued use of category management will have an adverse effect on not only our Membership, but ultimately small businesses and our industrial base capabilities.

Security Clearance Backlog

In order to provide services to the federal government, contractors must be able to provide a skilled and qualified workforce. This includes the ability to obtain security clearances for both individuals and facilities. Obtaining these clearances is a major hurdle for not only Native 8(a) firms, but for all small businesses. The clearance process has statutorily established timeframes that are unable to be met as more investigations are needed. Tightening the bottleneck is a clearance process that remains virtually unchanged since its post-WWII inception in the late 1940s to early 1950s.

There are now approximately 750,000 individuals awaiting their initial security investigation, and 4 million individuals with existing security clearances who will require re-evaluation at periodic

intervals. In fiscal 2017 the average number of days to complete the fastest 90% of initial Secret clearances was 134 days, up from 108 days in fiscal 2016. The average number of days to complete the fastest 90% of initial Top Secret clearances was 331 days, up from 220 in fiscal 2016. This backlog and concurrent workload prolongs the availability of cleared contract employees required to bid, win, and perform contracts.[7]

There are a number of factors that have contributed to the bottleneck, and to effectively mitigate strategic changes must be employed. On March 7, 2018 the Senate Select Committee on Intelligence held a hearing to investigate the problem(s) and solicit possible solutions from government and industry leaders. The Committee found that at its core the backlog of security clearances is a management issue, those in key leadership roles have mismanaged many resources, bringing us to our current difficulties. Mismanagement of the security clearance process, personnel, and funds, have compounded over the years to form the jumbled backlog.

The fiscal 2018 Omnibus Appropriations Act was signed into law leaving federal agencies with 6 months at best to expend its fiscal 2018 funds. One estimate is that the government will spend $45-$55B in procurement funds each month – with the Department of Defense spending 60% of that rate; non-defense 40%. To achieve this goal, government contractors will need to have their pre-requisites completed and ready to go – to include security investigations and clearances. However, it is improbable that the backlog will be reduced sizably by then. The result is that small businesses will be left short of opportunities, and federal agencies will lose the unique capabilities of small businesses to meet their requirements.

The issue of prolonged security clearances affects the whole of the available and existing government workforce, military, federal civil service, federal contractors, and the many private industry employees that fulfill government contracts. Most profoundly, and disproportionately impacted by protracted security clearances are the small businesses that perform many support functions for the federal government. Unlike large businesses, small businesses are unable to absorb the impacts of placing work on hold as they wait for qualified people to receive clearance. Small businesses promote competition and are a vital check and balance mechanism that promotes competition, keeps prices low, and protects the supply chain feeding the ecosystem that supplies governmental services.

Addressing the shortfalls of the decades old, nearly unchanged process is a must, as background investigators still carry clipboards in the age of tablets and smart phones. Investigators still collect information through analog means (often recollecting data already on file), then spend precious time converting the information into digital format. The process must be updated to utilize current technology and techniques in a standardized manner. Complementing the technological updates, is a set of industry recommendations known simply as the "Four Ones:"

---

[7] "Security Clearance Reform." Statement of David J. Berteau, President &CEO, Professional Services Council. Select Committee on Intelligence, United States Senate. March 7, 2018. https://www.intelligence.senate.gov/sites/default/files/documents/os-dberteau-030718.pdf

- **One Application** — one standardized and digitized application for all clearance determinations, updated continuously and stored securely, 8 to form the "permanent digital record" for the initial and any subsequent suitability, access, or clearance determinations.
- **One Investigation** — enabling a dynamic, ongoing examination of individual risk by implementing continuous evaluation.
- **One Adjudication** — streamlining and standardizing the overly complex adjudication system so that one agency's clearance decision is respected by other departments and agencies, promoting reciprocity and efficiency.
- **One Clearance** — recognized across the entire Government, transferable from department-to-department, agency-to-agency, and contract-to-contract.

Continuous evaluations, or a real-time monitoring of individual risk factors is needed to improve clearance times by eliminating crowded, massive clearance requirements. This process change would likely employ risk evaluation techniques already used by industry, techniques that rely on open source information and monitoring of social media. Continuous evaluation will shortcut the required checkpoints by eliminating massive "one time" collections, with a constant feed of information. This method will help to identify risk factors that were not immediately apparent to investigators and account for the changes individuals experience that lead to incidents like the "Navy Yard shooting," or a Snowden-type leak of information.

Another process change would be the prioritization of clearances, or an acknowledgement that "first in/first out" does not work in the best interest of getting things done. Prioritization is part of our everyday lives, and a rigid security clearance process will break unless it can flex to accommodate the ever-changing needs facing our government.

Additionally, there is a need for greater understanding and use of both reciprocity and the issuance of temporary clearances. Public Law 108-458, Title III, Sec. 3001 (d) *Reciprocity of Security Clearances and Access Determinations;* "Requires all Federal agencies to accept security clearance background investigations and determinations that are completed by an authorized investigative agency or authorized adjudicative agency." However, the various agencies have not adhered to the intent of the Congress, and reciprocity is often lost to conflicting interpretations of the statue. Agencies must do better at honoring the reciprocity mandated by law.

Temporary clearances are another way to ensure that talented people are not lost as they wait for security clearances that may take 12, 18, or even 24 months. Security clearances and background checks have been established to ensure that the "wrong people" are not placed in positions that could damage our Nation, however, security clearances have morphed into something that impedes the "right people" from being placed into positions that will benefit our Nation. Granting individuals with a temporary clearance would grant limited access to classified material; this will protect our national security needs and mitigate the loss of our best and brightest.

Finally, there must be a better accounting for the funds dedicated to the performance of security clearances. Congress authorizes and appropriates funds dedicated to performing background investigations. However, it seems unclear that those dedicated funds are being used as Congress intends. The fear is that these funds are being lost to administrative duties that are only tangentially

related to the investigatory process. Agencies should be given clear guidance on how these funds should be used, and then be made accountable in their use.

The backlog in security clearances is merely symptomatic, the larger issue is a prolonged management, or mismanagement issue. To correct this issue, current technology and standards must be employed to streamline the process. Creating a standardized process will facilitate better data warehousing and data sharing between agencies, that will in turn facilitate a standardization in reciprocity. Likewise, improved management of funds will ensure that resources are allocated and used at the critical point of need. The backlog did not swell to nearly 750,000 overnight, and it will take time to work it back down to manageable numbers. The lesson learned should be, our processes must adapt to the changing times, in fact this process should seek technological advantages to stay ahead of the times, instead of lagging a half of a century behind.

Conclusion

The communities served by Native enterprises remain some of the most impoverished groups in the United States. There is still significant work to be done to effect positive and sustainable economic growth and benefits for these communities. The Native 8(a) program enables Native communities to drive economic development through self-reliance and business ingenuity. Supporting and growing these programs is essential to continuing the crucial development work occurring across Native America. The continued success of these communities and positive move towards self-determination requires the investment, access to capital, and economic opportunity programs like Native 8(a) provide.

At the same time, well-intended, process-driven programs like Category Management and Security Clearances are clearly important. However, their impact needs to look beyond their intents, and consider those unintended consequences impacting small businesses, and Native Enterprises.

Thank you for granting NACA the opportunity to provide testimony on this important subject. The focus and effort afforded the SBA, Native Enterprises and the 8(a) Program is a crucial component of ensuring that Congress meets its unique obligation and interest in providing for the self-determination of Native Americans. NACA applauds the Committee's investment in ensuring that Native communities have the tools necessary to develop and grow their economies. Providing for the continued success of government contracting as an economic development tool is fundamental to this goal.

Sincerely,



Michael G. Anderson
Executive Director

○