Chapter 2

Deregulation: Reducing the Burden of Regulatory Costs

When appropriate, well-designed regulatory actions promote important social purposes, including the protection of workers, public health, safety, and the environment. At the same time, complying with regulations increases the cost of doing business and results in opportunity costs—business and consumer activities that are forgone due to regulation. For decades, the regulatory state has expanded and imposed an ever-growing burden of regulatory costs on the U.S. economy.

The Trump Administration has taken major steps to reverse the long-standing trend of rising regulatory costs. In 2017 and 2018, Federal agencies issued many times more deregulatory actions than new regulatory actions. From 2000 through 2016, the annual trend was for regulatory costs to grow by $8.2 billion each year. In contrast, in 2017 and 2018 Federal agencies took deregulatory actions that resulted in cost savings that more than offset the costs of new regulatory actions; in fiscal year 2017, deregulatory actions saved $8.1 billion in regulatory costs (in net present value), and in 2018, they saved $23 billion.

In this chapter, we develop a framework to analyze the cumulative economic impact of regulatory actions on the U.S. economy. Regulation affects productivity, wages, and profits in the regulated industry and in the economy as a whole. Economics tells us that the regulatory whole is greater than the sum of its parts. However, Federal regulations have traditionally been considered on a stand-alone basis. The Trump Administration's reform agenda uses regulatory cost caps to reduce the cumulative burden of Federal regulation. In addition to regulation-specific cost-benefit tests, the cost caps induce agencies to view all

their regulations as a portfolio, which is more congruent with the experiences of the households and businesses subject to them.

Small business owners, consumers, and workers gain when less regulation means lower business costs, lower consumer prices, more consumer choice, and higher worker productivity and wages. The chapter discusses a number of notable deregulatory actions during the Trump Administration, and gives detailed information about the association health plan rule; the short-term, limited-duration insurance rule; and the joint employer standard.

Government regulation is ubiquitous in modern economies. When appropriate, well-designed regulatory actions promote important social purposes, including the protection of workers, public health, safety, and the environment. As business owners and managers are aware, complying with regulations often increases the cost of doing business. Moreover, regulatory actions also result in opportunity costs: business and consumer activities forgone due to regulation. Ultimately, consumers and workers bear much of the burden, because business-entry barriers, higher costs, and lower productivity are reflected in higher prices, limited consumer choice, and lower real wages. For decades, the regulatory state has expanded and imposed an ever-growing burden of regulatory costs on the U.S. economy.

In 2017 and 2018, the Trump Administration took major steps to reverse the long-standing trend of rising regulatory costs. In fiscal year 2017, there were 15 significant deregulatory actions and 3 new significant regulatory actions, saving $8.1 billion in regulatory costs (in net present value), according to official measures (OMB 2017a). In fiscal year 2018, there were 57 significant deregulatory actions and 14 new significant regulatory actions, saving $23 billion (OMB 2018).

The Trump Administration's regulatory reform agenda uses regulatory cost caps to seek to reduce the cumulative burden of federal regulation. Economics tells us that the regulatory whole is different from the sum of its parts. Households and businesses are required to comply with new regulations along with old ones. Nevertheless, Federal regulations have traditionally been considered on a stand-alone basis. Under the Trump administration, agencies are now also given regulatory cost caps for the upcoming year. In addition to regulation-specific cost-benefit tests, the cost caps induce agencies to view all their regulations as a portfolio, which is more congruent with the experience of the households and businesses subject to them. While pursuing their agency-specific missions—for example, the Environmental Protection Agency's (EPA) mission to protect human health and the environment—the regulatory cost

caps provide the framework for agencies to evaluate regulatory costs, to consider deregulatory actions, and to set priorities among new regulatory actions. Moreover, when the executive branch sets the regulatory cost caps across all federal agencies, the caps reflect the priorities and trade-offs imposed by the cumulative regulatory burden on the U.S. economy.

The Trump Administration has sought to lift the burden of unnecessary regulatory costs while encouraging Federal agencies to preserve important protections of workers, public health, safety, and the environment. The regulatory reform agenda is guided by cost-benefit analysis—a systematic way to balance the benefits of regulatory actions, including the value of these important protections, with the costs. The regulatory cost caps require prioritization among costly rules. An agency cannot meet its cost cap simply by eliminating costly regulatory actions; it eliminates regulatory actions when the benefits do not justify the costs.

Last year, we discussed the impact of deregulation on aggregate economic growth (CEA 2018). Based on the evidence reviewed, we concluded that if the United States adopted product market regulatory reforms, over the next decade gross domestic product (GDP) could be 1.0 to 2.2 percent higher (CEA 2018).

In this chapter, we report on progress and dig deeper into the economic effects of regulation and deregulation. We develop a framework to analyze the cumulative economic impact of regulatory actions on the U.S. economy. Regulation affects the regulated industry and the economy as a whole. Consider the effects of a regulation—such as the expansive joint employer standard featured at the end of this chapter—that discourages specialization and encourages centralized decisionmaking along an industry's supply chain. Productivity and competition are often greater when separate businesses can specialize in the various tasks required to produce the final consumer good (Becker and Murphy 1992). For example, some businesses specialize in handling raw materials, others in branding and intellectual property, others in performing the clerical work, and still others in regional retail. But the regulation incentivizes a number of these supply-linked businesses to act as a single large business and as a result forgo many of the productivity gains from specialization and decentralized decisionmaking (see also chapter 8 of this *Report*). Productivity is further sacrificed as capital moves out of the industry. In certain circumstances (discussed below), one result can be lower pay for workers—even workers outside this sector—because the work done in the sector is made less productive due to the regulation, and because fewer employers are competing for workers in the sector. Consumers also will pay higher prices due to the regulation's effect on costs and diminished competition in the retail market.

Although estimating the benefits and costs of Federal regulatory and deregulatory actions might appear to be a technocratic exercise, the principles

that underlie the exercise are democratic. To complete an evidence-based cost-benefit analysis requires expertise not only in economic analysis but often also in scientific areas relevant to the regulated industry. Career public servants in the agencies provide the needed expertise; career public servants in the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) review the completed analyses. A previous OIRA Administrator, Cass Sunstein (2018), proclaimed the process as the "triumph of the technocrats." However, the goal of economic analysis is to estimate the benefits and costs based on the preferences of the people affected by the regulatory actions. Cost-benefit analysis is "an attempt to replicate for the public sector the decisions that would be made if private markets worked satisfactorily" (Haveman and Weisbrod 1975, 171). Cost-benefit analysis uses the information revealed in market transactions to guide public sector decisions. For example, a regulatory cost-benefit analysis places a high value on improving health and safety based on empirical evidence that people are willing to pay a great deal to reduce the risks of injury and death. The empirical evidence captures the public's preferences for health and safety, not the analyst's. The Trump Administration recognizes that the public—including workers, consumers, and small business owners—are key stakeholders in deregulation and actively seeks their feedback on proposed regulatory and deregulatory actions.

In the next section, we use our economic framework to discuss different types of regulatory actions and when they are needed to improve the economy. We then survey the current regulatory landscape and provide information on the number and costs of Federal regulatory actions, and on how the regulatory cost caps are reducing the regulatory burden on the U.S. economy. Following that, we use our framework to analyze the cumulative economic impact of regulatory actions. We then discuss lessons from our framework.

The chapter concludes with a set of three case studies that illustrate the value of meaningful regulatory reform. The case studies explore different aspects of how Federal deregulatory actions improve productivity and reduce costs for small businesses and their workers. The first case study is about a rule that allows more small businesses to form association health plans to provide lower-cost group health coverage to their workers. The second case study is about a rule that expands consumer options to purchase short-term health coverage. And the third case study is about the reform of the joint employer standard. Regulatory costs, and therefore the regulatory cost savings of the Trump Administration's regulatory reforms, are understated by the official measures in all three cases because the official measures did not include all the relevant opportunity costs, especially those accruing outside the regulated

industry. The case studies provide guidance on how to strengthen the regulatory analysis of deregulatory actions.[1]

Principles of Regulation and Regulatory Impact Analysis

Although there are tens of thousands of regulatory actions, a fairly simple economic framework helps organize their effects. Regulation affects productivity, wages, and profits in the regulated industry. Then, as capital and labor move in response to the compliance costs and incentive effects of the regulation, regulation affects productivity, wages, and profits in the economy as a whole. The effects of regulatory actions, taxes, and other market distortions accumulate multiplicatively within the industry and along that industry's supply chain, through what economists call "convex deadweight costs." The concept of convex deadweight costs is a well-established result in the economic analysis of taxation (Auerbach and Hines 2002). Taxes impose a burden on the economy in excess of the tax revenues collected; the excess burden is also known as the deadweight cost, the deadweight loss, or the welfare loss due to taxation. The deadweight cost function is convex; if the tax is increased by 10 percent, the deadweight costs of the tax increase by more than 10 percent. As we discuss in detail below, the regulatory deadweight cost function is also convex. A new regulatory action that increases regulatory costs by 10 percent increases the cumulative regulatory cost burden by more than 10 percent. As we discuss below, even though in many cases most of the burden of a regulatory action is outside the regulated industry, the burden can be quantified, primarily with information about the regulated industry alone.

Public Goods and Private Markets

The economic framework distinguishes public goods (and services), such as clean air, from private goods, such as automobiles and health insurance. The economic term "public good" refers to a good of which one person's consumption does not reduce the availability of the good for other consumers and of which it is difficult or impossible to exclude those consumers who do not pay for the good from using it. Due to these properties, households and businesses have insufficient incentives to purchase and produce public goods in private markets. For example, consumers tend to free-ride on other people's purchases rather than purchase the good for themselves. Although private goods are not necessarily free from market failures, individual households and businesses have significant incentives to engage in these activities, and they are situated in a chain of economic activity that is critical for understanding

[1] The CEA previously released research on topics covered in this chapter. The text that follows builds on the following research paper produced by the CEA: "Deregulating Health Insurance Markets: Value to Market Participants" (CEA 2019).

the cumulative effect of regulatory actions. A number of regulatory actions are designed to enhance public goods, even while the opportunity cost of such actions includes the loss of the output from private goods. Other regulatory actions are designed to increase the total value of private good production by correcting failures in the markets for private goods. Regulatory actions sometimes combine both these elements; but even in these cases, it helps to examine the economic functions separately.

Environmental regulatory actions are an important type of regulatory actions that trade private goods for public goods, where environmental quality is the public good. A number of employment regulatory actions are also examples, when they restrict employers' practices in order to promote, say, fairness. Regulations of public goods typically, although not always, involve a loss of private good output, usually when these regulations reduce productivity in the process of producing these goods.[2] The productivity loss is not by itself an argument against regulations of public goods, because the value of the public goods needs to be part of the cost-benefit analysis; but of course the amounts of losses and gains need to be accurately assessed.

Regulations to enhance productivity are assessed on the basis of their productivity effects; they may reduce productivity in some activities so as to increase it overall. For example, regulations designed to prevent a financial crisis enhance productivity. Chapter 6 discusses the Dodd-Frank Act, which established a wide range of regulatory mandates to reduce the likelihood and severity of future systemic financial crises. The Trump Administration's financial regulatory approach balances the benefits of preventing financial crises and the regulatory costs that Dodd-Frank imposed on the banking industry, on other financial providers, and on the public.

The Process of Doing Regulatory Impact Analysis

Regulatory actions promote important societal goals, but not without opportunity costs. Since President Reagan's Executive Order 12291 was issued in 1981, most Federal agencies have been required to use cost-benefit analysis to strike an appropriate balance in rulemaking (White House 1981). Early in their first terms, Presidents Clinton, Obama, and Trump each signed Executive Orders that continued to require most Federal agencies to conduct Regulatory Impact Analyses (RIAs) of new and existing rules. Each RIA includes a cost-benefit analysis. Federal independent regulatory agencies—such as the Consumer Financial Protection Bureau, the Securities and Exchange Commission, and the Federal Reserve—are not required to conduct RIAs (OMB 2017b).

[2] Sometimes a regulation prohibits certain types of labor from engaging in private-good production, in which case the output effect would come from fewer production inputs rather than less productivity. Some measures of productivity could even be enhanced if the prohibitions apply to the less productive inputs, but in this chapter we refer to productivity in the more specific multifactor sense (BLS 2018b).

Federal regulatory cost-benefit analyses are grounded in welfare economics, the branch of economics that studies questions about the well-being of a society's members. In principle, regulatory cost-benefit analyses should help guide Federal agencies to adopt the set of regulatory actions that net the largest societal benefits over regulatory costs. Key concepts in estimating benefits and costs are willingness to pay and opportunity costs. Federal agencies draw on extensive bodies of economic research that provide estimates of societal willingness to pay for beneficial regulatory outcomes, including improvements in health, safety, and the environment. The agencies also develop estimates of the opportunity costs of regulatory actions.

Cost-benefit analyses of deregulatory actions are guided by the same principles of applied welfare economics that guide cost-benefit analyses of regulatory actions. In particular, opportunity costs and willingness to pay continue to be the key concepts. The economic concept of sunk costs can also play an important role in analyzing a deregulatory action. Some firms' and consumers' responses to regulatory actions involve sunk costs that cannot be recovered, even if the action is subsequently modified or eliminated. As a result, the costs savings from a deregulatory action might be less than the costs of the original regulatory action. However, the existence of large sunk costs might point to an important source of opportunity cost savings from deregulatory actions. Sunk costs to comply with a regulatory action can serve as a barrier to entry that gives market power to established firms (Aldy 2014). Although these firms cannot recover their sunk costs, a deregulatory action that removes costly requirements can promote the entry of new firms, increase competition, and decrease prices.

The Current Regulatory Landscape

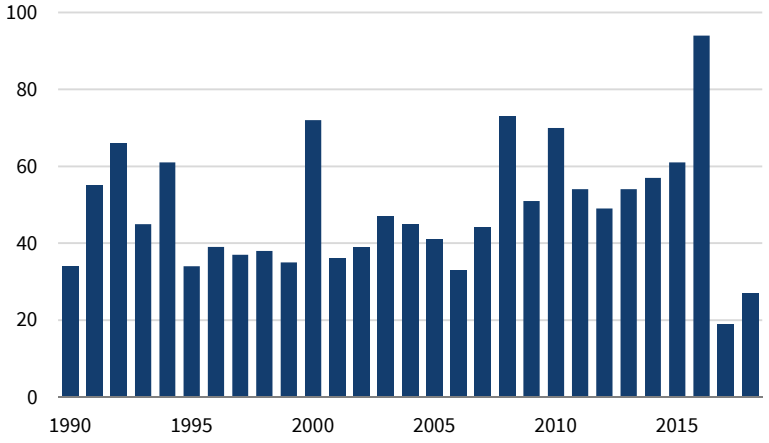
This section examines the current regulatory landscape. First, it explores current Federal regulatory and deregulatory actions. Then it explains how the Trump Administration's regulatory cost caps are reducing costs.

Federal Regulatory and Deregulatory Actions

Last year, we discussed the various approaches that researchers have taken to the difficult task of quantifying the extent of Federal regulation (CEA 2018). One approach is to count the number of pages in the *Federal Register* or the *Code of Federal Regulations*. Another approach is to use an index based on textual analysis of keywords in these publications, like "shall" or "must," that indicate restrictions on the economy. In this subsection, we review evidence on the number of rules and estimates of the regulatory costs. From 2000 through 2018, Federal agencies published over 70,000 final rules in the *Federal Register*—an average of more than 10 a day. OMB reviews those rules that are considered significant. Figure 2-1 shows the number of economically

Figure 2-1. Economically Significant Final Rules, Presidential Year 1990–2018

Number of rules



Sources: Office of Information and Regulatory Affairs; George Washington University Regulatory Studies Center.
Note: A presidential year begins in February and ends in January of the subsequent year. The final rule count includes all interim final rules and final rules.

significant rules—including both regulatory and deregulatory actions—that OMB reviewed in each presidential year (February of the given year through January of the next year). Throughout this chapter, we use "regulatory and deregulatory actions" as umbrella terms, but we use more precise terms when needed (see box 2-1).

Federal regulatory and deregulatory actions cover a wide range of economic activity. Above, we make the distinction between regulations to enhance productivity and regulations of public goods. Earlier discussions made a similar distinction between economic and social regulations (Joskow and Rose 1989). With the deregulation movement of the 1970s, Federal efforts shifted away from economic regulatory actions that restricted entry and regulated prices (see box 2-2). State and local economic regulation of sectors such as electricity remain common. Currently, many Federal agencies issue regulatory actions designed to promote social purposes, including the protection of workers, public health, safety, and the environment. Other Federal regulatory actions are designed to improve the functioning of specific sectors of the economy. This *Report* discusses the economics of sector-specific developments and policies, including regulatory and deregulatory actions, in its other chapters; chapter 1 discusses taxes, chapter 3 discusses the labor market, chapter 4 discusses healthcare, chapter 5 discusses energy, and chapter 6 discusses banking. In this chapter, we focus on crosscutting issues in regulatory and deregulatory actions that are independent of the specific industry being regulated.

Box 2-1. The Terminology of Federal Regulatory Actions

Agencies in the executive branch issue regulatory actions, also called rules, to implement Federal legislation passed by Congress. Executive Order 12866 established the process for the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget (OMB) to review proposed and final rules. Under this Executive Order, rules may be categorized as "significant" or "economically significant." OIRA coordinates the reviews of all the rules that it deems significant, which are specifically defined as rules that are anticipated to

1. "Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order."

Economically significant rules are a subcategory of significant rules that meet requirement 1 above of having an annual effect on the economy of $100 million or more or having other adverse effects. If a rule is deemed economically significant, an assessment of its economic benefits and costs is typically required before it is finalized.

The Congressional Review Act (1996) introduced the term "major rule" to the U.S. Code to categorize certain rules regulated by congressional action. A major rule is essentially an economically significant rule—one that is determined by OIRA to likely result in significant adverse economic effects or an annual effect on the economy of $100 million or more (U.S.C. Section 804[2]). However, not all economically significant rules are deemed to be major.

OIRA formally defined the terms "regulatory action" and "deregulatory action" when describing rules to better implement and track the Trump Administration's regulatory reform agenda under Executive Order 13771, which requires Federal agencies to issue two deregulatory actions passed for each new regulatory action. Under this Executive Order, a "regulatory action" is a finalized significant rule or guidance document that imposes total costs greater than zero. A "deregulatory action" can include any agency action that has been finalized and has total costs less than zero (including significant and nonsignificant rulemaking; guidance documents; some actions related to international regulatory cooperation; and information collection requests that repeal or streamline recordkeeping, reporting, or disclosure requirements).

Box 2-2. Economic Regulation and Deregulation

Economic regulation refers to the regulation of prices and entry into specific industries. Economic regulation has been used in industries with economies of scale, including electricity, telephone service, and cable television (Joskow and Rose 1989). In industries such as these, in theory it can make sense to restrict entry to a single firm to take advantage of economies of scale and lower production costs. To prevent the single firm from exploiting its market power and charging higher prices, prices are regulated so the firm earns a normal return. Economic regulation has also been used in multifirm industries, including airlines, banking, and trucking. Depending on the industry, economic regulations are implemented at the local, State, and national levels.

Although the principles of economic regulation are grounded in economic theory, in practice it has not always led to good economic results. In 1970, the Council of Economic Advisers described the "disappointing" performance of economic regulation: "Entry is often blocked, prices are kept from falling, and the industry becomes inflexible and insensitive to new techniques and opportunities for progress" (CEA 1970, 107). Amid other economic and political developments in the 1970s, the failures of economic regulation helped lead to the deregulation movement.

Perhaps the most dramatic success story is the deregulation of the airline industry. Rose (2012, 376) refers to it as "one of the greatest microeconomic policy accomplishments of the past fifty years" and credits deregulation as generating "lower average fares; greater numbers of flights, non-stop destinations, and passengers; dramatically different network structures; and increased productivity." Borenstein and Rose (2014) provide a brief history. In 1925, the U.S. government began regulating the airline industry with the Air Mail Act (43 Stat. 805). This legislation (and its amendments) allowed the Post Office to award contracts and created subsidies for mail delivery by private airlines. After mismanagement by the Postmaster General and a desire to regulate a chaotic marketplace, Congress passed legislation, including the Civil Aeronautics Act of 1938, that established the precursor to the Civil Aeronautics Board (hereafter the "Board"), to oversee economic regulation of the nascent industry (52 Stat. 977).

With the Board setting airfare and routes, airlines competed on in-flight quality, schedule convenience, and seat availability. The lack of price competition encouraged airlines to offer more frequent flights with fewer passengers and more amenities. Regulation also encouraged airlines to purchase new aircraft regularly to offer the latest technology, rather than allow assets to depreciate, because the Board did not allow airlines to charge lower prices for flights on older aircraft (Borenstein and Rose 2014). The ratio of passengers to seats available declined with the number of route competitors and route distance (Douglas and Miller 1974). The Board tried to maintain the industry's profitability by raising airfares, but the airlines responded by increasing flight

frequency, which further decreased passengers per available seat and raised costs closer to the price set by the Board.

President Carter appointed the economist Alfred Kahn as chair of the Board in 1977, with a mandate to deregulate the airline industry. With rising airfares in regulated markets, the Airline Deregulation Act of 1978 dismantled the Board and eliminated price controls, entry restrictions, and regulated networks. After 1978, load factors soared and profit yields fell as the airlines began to compete on price. Instead of comparing prederegulation and post-deregulation loads, profits, and prices, ideally researchers would compare the outcomes under deregulation to outcomes in a hypothetical counterfactual world where airline deregulation never occurred. Borenstein and Rose (2014) suggest that the Standard Industry Fare Level (SIFL)—created by the Board to determine airfares prior to deregulation and updated based on input cost and productivity changes—provides a useful counterfactual. Compared with the SIFL, in 2011 actual airfares were 26 percent lower. Using the SIFL counterfactual, in 2011 airline deregulation created $31 billion (in 2011 dollars) in benefits for consumers (Borenstein and Rose 2014).

In addition to the Airline Deregulation Act of 1978, the deregulation movement under President Ford and President Carter included the Railroad Revitalization and Regulatory Reform Act of 1976, the Motor Carrier Act of 1980, and the Depository Institutions Deregulation and Monetary Control Act of 1980. Alfred Kahn (1988) argued that airline deregulation helped make possible the deregulation of these other major industries.

Most of the Federal regulatory actions tabulated in the figures in this chapter are not economic regulations but instead are social regulatory actions designed to protect workers, public health, safety, and/or the environment, or to promote other social goals. OMB (2003) advises the Federal agencies issuing these regulatory actions that, in competitive markets, there should be a presumption against price controls, production or sales quotas, mandatory uniform quality standards, or controls on entry into employment or production. In this way, the lessons learned in the deregulation movement of the 1970s continue to shape current Federal regulatory practices.

Federal regulatory actions range from simple housekeeping to actions that change manufacturing processes, business practices, and ultimately the prices and availability of consumer goods and services. Between January 2000 and November 2018, OMB reviewed over 4,000 significant final rules. The Department of Health and Human Services accounted for 16 percent of the final rules reviewed by OMB, followed by the Environmental Protection Agency, with 11 percent, and the Department of Agriculture, with 8 percent. The Department of Transportation and Department of Commerce round out the top five agencies with the most final rules since 2000. Together, these top five rulemaking agencies accounted for almost half the significant rules

reviewed this century, while 44 other Federal agencies issued the remainder of the final rules (figure 2-2). It needs to be noted that an OMB review is currently not required for actions issued by Federal independent regulatory agencies. Until 2018, an OMB review was also not generally required for tax regulatory actions taken by the Department of the Treasury.

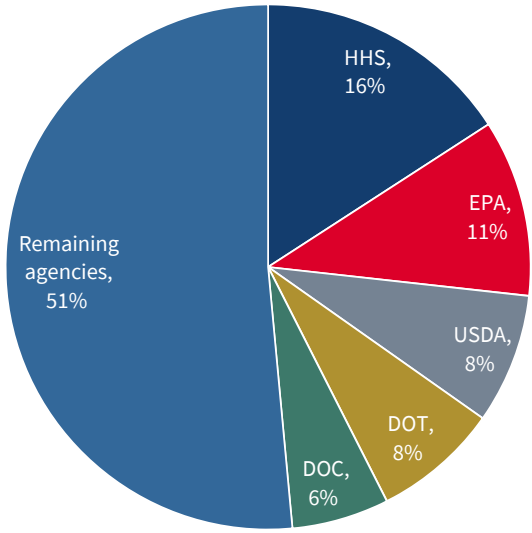
In its annual *Reports to Congress*, OMB provides an accounting of the benefits and costs of selected major rules published in the preceding fiscal year. Figure 2-3 shows the regulatory costs created by the new rules included in OMB's *Reports* each year from 2000 through 2018, and the planned costs from the OMB Regulatory Budget for 2019. Figure 2-4 shows the simple accumulation—ignoring interactions—of the costs of Federal regulatory actions. Regulatory costs are measured in constant, inflation-adjusted 2017 dollars and are on an annualized basis to show the ongoing costs that the rules will continue to impose on the economy. We report the midpoints of OMB's ranges of estimated costs. From 2000 through 2016, the annual trend was for regulatory costs to grow by $8.2 billion each year. If regulatory costs continued to grow at that rate, cumulative costs would reach over $163 billion by 2019 (figure 2-4).

However, the regulatory landscape changed in 2017 and 2018. From 2000 to 2018, the simple accumulation of regulatory costs totaled $138 billion, which is just over 11 percent lower than what would have been predicted based on the trend from 2000 to 2016 (figure 2-4; also see box 2-3 on small businesses' perspectives on regulatory costs). The growth in regulatory costs did not just slow down; it reversed. In fiscal years 2017 and 2018, deregulatory actions resulted in regulatory cost savings that more than offset the costs of new regulatory actions. Since 1981, Federal agencies have used a systematic general framework to estimate the costs of new regulatory actions, but over time there have been differences in methodologies and assumptions (OMB 2006). With this caveat in mind, from 1981 through 2016, cost savings from deregulatory actions more than offset new regulatory costs in only three years—in 1981 and 1982, which were the first two years of the Reagan Administration; and in 2001 when the Congressional Review Act was used to repeal a costly rule about workplace repetitive-motion injuries (OMB 2006).[3]

In this chapter, we define "deregulation" as any action by the government that reduces its control over business and consumer decisions. There are several ways to deregulate. Federal agencies' deregulatory actions account for most of the cost savings shown in figure 2-3. Deregulatory actions include revising regulatory processes, modifying existing rules, and eliminating existing rules. Deregulatory actions also include periodic updates of rules, such as fishing quotas or medical reimbursement rates, that save regulatory costs. For

[3] Because the rule about repetitive-motion injuries was repealed, later OMB reports do not include the rule's estimated costs in 2000 or the cost savings from its repeal in 2001. OMB also revises its estimates when needed. In figures 2-3 and 2-4, we use the later reports, which do not show a net cost savings in 2001.

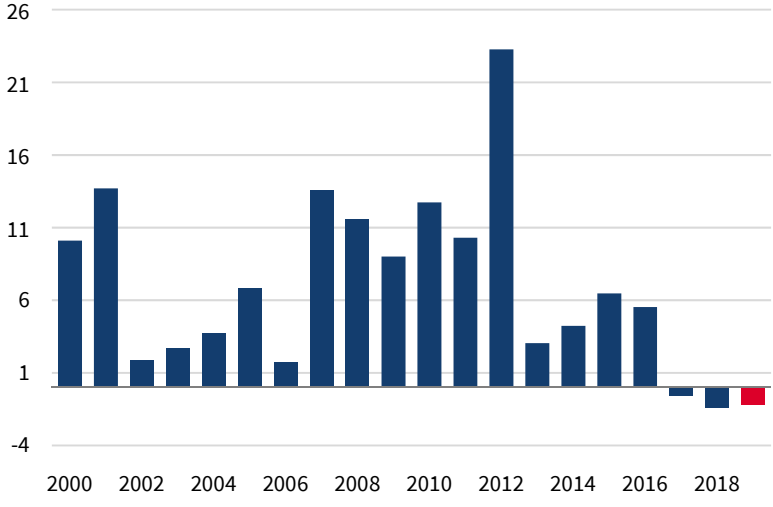
Figure 2-2. OMB-Reviewed Final Rules, by Agency, 2000–2018



Sources: Office of Management and Budget (OMB); CEA calculations.
Note: HHS = Department of Health and Human Services; EPA = Environmental Protection Agency; USDA = Department of Agriculture; DOT = Department of Transportation; DOC = Department of Commerce. The percentage calculation includes all the final rules reviewed by OMB per agency from January 1, 2000, to October 31, 2018.

Figure 2-3. Real Annual Costs of Major Rules, Fiscal Years 2000–2019

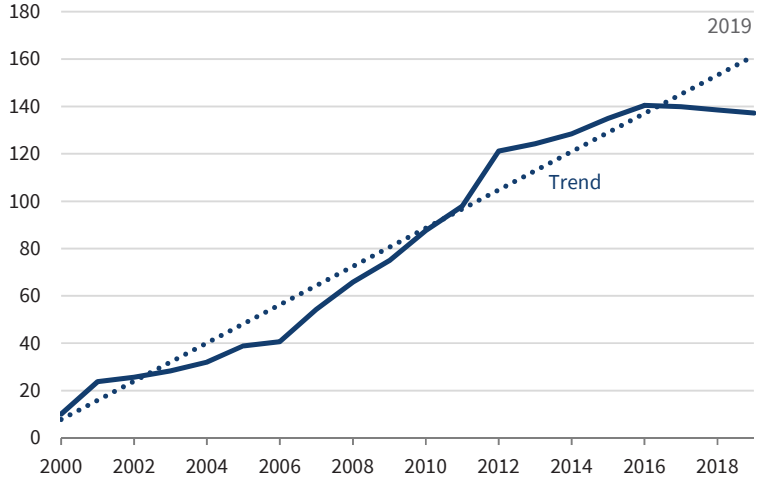
Dollars (billions, 2017)



Sources: Office of Information and Regulatory Affairs (OIRA); CEA calculations.
Note: The cost estimates for years 2000–2016 are taken from the most recent *OIRA Report to Congress* with an estimate for that year. The real cost estimate for 2019 is a projected estimate from the OIRA Regulatory Budget for fiscal year 2019. Annual cost estimates include all major rules for which both benefits and costs have been estimated.

Figure 2-4. Cumulative Costs of Major Rules, Fiscal Years 2000–2019

Dollars (billions, 2017)



Sources: Office of Information and Regulatory Affairs; CEA calculations.
Note: Cumulative costs begin in 2000, assuming there are no costs from before fiscal year 2000. Data from figure 2-3 were used to determine the yearly cumulative costs. The trend is calculated for 2002 through 2016.

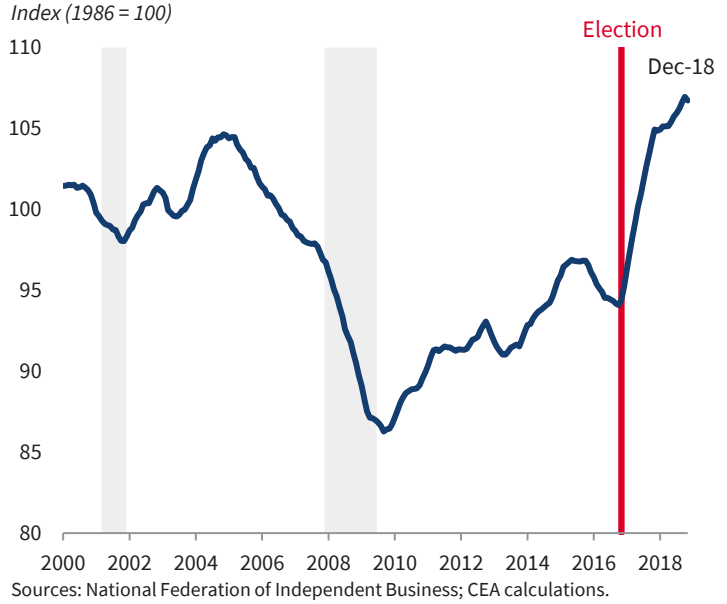
example, the National Oceanic and Atmospheric Administration is required by law to periodically review designations and protections of essential fish habitats. The 2018 revision of essential fish habitat designations opened large areas off the coast of New England to commercial sea scallop harvesting, resulting in a net economic benefit of $654 million.

Congress can deregulate by passing legislation that alters the statutory regulatory requirements. The economic deregulation movement of the 1970s involved major legislative actions to deregulate the trucking and airline industries (see box 2-2). More recently, the Tax Cuts and Jobs Act of 2017 included a provision that removed the tax penalty that enforced the Affordable Care Act's (ACA) mandate that individuals had to purchase health insurance (see chapter 4). The 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act modified regulation of the banking industry (see chapter 6). Congress can also use its authority under the 1996 Congressional Review Act to eliminate Federal regulatory actions. From 1996 through 2016, the Congressional Review Act had only been used once, in 2001 (mentioned above). In 2017, Congress used the act to overturn 15 rules, including the Fair Pay and Safe Workplaces rule and the Stream Protection rule. The deregulatory action for those two rules alone resulted in total cost savings of about $500 million. In 2018, Congress used the

Box 2-3. Small Businesses and the Regulatory Burden

Owners of small businesses have their own perspective on regulatory costs. The National Federation of Independent Business (NFIB 2001) regularly conducts monthly surveys of small business owners. One monthly NFIB survey question asks small businesses to identify the "single most important problem facing [their] business." They are given a list of common small business burdens and allowed to write in responses. Between 2012 and the election of President Trump, the NFIB reported that government regulation was the most frequently cited top concern for small businesses, at about 45 percent of the time. (The last report before the election was in October 2016. Survey responses do not distinguish between concerns about Federal regulations versus State or local regulations.) Since the election, regulation has never been the most frequently cited top concern of small businesses. NFIB also conducts monthly surveys assessing small business optimism. Figure 2-i shows an upward recent trend in the NFIB index of small business optimism. Small business optimism began to sharply increase after the November 2016 election and has now reached record highs.

Figure 2-i. Small Business Optimism Index, 2000–2018



Sources: National Federation of Independent Business; CEA calculations.
Note: Data represent a 12-month moving average. Shading denotes a recession.

act to overturn guidance issued in 2013 by the Bureau of Consumer Financial Protection.[4] Finally, deregulation can also result from litigation.

The Trump Administration's Regulatory Cost Caps Are Reducing Costs

The turnaround in the growth of regulatory costs is the direct result of the regulatory cost caps that were established early in the Trump Administration. In fiscal year 2017, there were 67 deregulatory actions and 3 new significant regulatory actions (22-for-1), saving in net present value $8.1 billion in regulatory costs. Of the deregulatory actions in fiscal year 2017, 15 were significant (5-for-1; see box 2-1 for a definition of significant actions). In fiscal year 2018, there were 176 deregulatory actions and 14 new significant regulatory actions (12-for-1), saving in net present value $23 billion in regulatory costs. Of the deregulatory actions in fiscal year 2018, 57 were significant (4-for-1). This turnaround reflects President Trump's January 30, 2017, Executive Order 13771, "Reducing Regulation and Controlling Regulatory Costs." This Executive Order requires Federal agencies to eliminate, on average, two regulatory actions for each new regulatory action and, for the first time, to meet a regulatory cost cap. In fiscal year 2017, the cost cap was set at zero; the regulatory costs created by any new regulatory actions had to be at least offset by deregulatory actions. In 2018, across all agencies, the cap was set at a $9.8 billion (present value) reduction in regulatory costs. In the first two years under Executive Order 13771, Federal agencies have more than met both the two-for-one requirement and the regulatory cost caps. See box 2-4 for more discussion of notable deregulatory actions.

Deregulation has been faster than many experts thought possible. The notice-and-comment requirements build a lot of inertia into the Federal rulemaking process for regulatory and deregulatory actions. Shortly after Executive Order 13771 was issued, Potter (2017) cautioned that to undo existing regulatory actions could take "many, many years." The record of deregulatory actions in 2017 and 2018 allays this concern. Looking to the future, for 2019 Federal agencies have adopted caps that, when met, will save another $18 billion in projected regulatory costs (net present value). In addition, in 2019 the Department of Transportation and the EPA expect to finalize a proposed rule regarding corporate average fuel economy. The $18 billion in regulatory cost savings in 2019 (net present value) do not include the potential regulatory cost savings from this rule. The Administration notes the impact separately in order to highlight ongoing reform across all agencies; the cost savings from this one-time deregulatory action are expected to be an order of magnitude larger than other deregulatory actions to date.

[4] The act states that Congress has 60 days after the rule is submitted to overturn it; because the 2013 policy guidance had not been submitted to Congress in 2013 for review, the 2018 Congress could overturn it.

Box 2-4. Notable Deregulatory Actions

Previous administrations have issued costly regulatory actions affecting markets for labor, energy, insurance, education, and credit—to name a few. These regulatory actions were imposing a large cumulative cost, and they reduced economic growth for the reasons examined in this chapter. Many of these actions have been overturned during the Trump Administration. And some of these overturned regulations were also notable, even when viewed in isolation.

In the labor area, the National Labor Relations Board (NLRB) had expanded the definitions of joint employer and independent contractor that would have reduced competition and productivity in labor markets, as discussed at the end of this chapter. The NLRB had also permitted "micro-unions," which means that subsets of employees could organize even if the majority of employees did not want to be represented by a labor union.

Several notable regulations from the previous Administration substantially added to employers' compliance costs. Its Overtime Rule required employers to track hours worked by a wider range of employees, including a number of white-collar workers, even though the rule would not substantially increase workers' pay as shown by basic economics (Trejo 1991) and as verified empirically by an economist at the Department of Labor (Barkume 2010). Furchtgott-Roth (2018) details the Trump Administration's changes in these rules, as well as changes to other notable rules affecting employers such as the Persuader Rule, the Fiduciary Rule, and Fair Pay and Safe Workplaces Executive Order.

The Federal Communications Commission's Open Internet Order (commonly called the Net Neutrality rule) restricted pricing practices by Internet service providers. Like price controls more generally, the rule would have resulted in a less productive allocation of resources. The commission repealed the rule in 2017.

Regulations may be increasing entry barriers and reducing competition in higher education, including Gainful Employment Regulations and the Borrower Defense Rule. The Trump Administration's Department of Education is currently reviewing these and other notable regulations.

Chapter 5 of this *Report* discusses how energy productivity has been enhanced by repealing or revising notable prior rules, including the Clean Power Plan, the Waters of the United States, the Waste Prevention Rule, the Stream Protection Rule, and the closure of an area on the coastal plain of the Arctic National Wildlife Refuge. The Safer Affordable Fuel Efficient (SAFE) Vehicles rule is also discussed below.

Notable health insurance deregulations include the setting of the ACA's individual mandate penalty to zero, giving small businesses more flexibility to join associated health plans, and eliminating previous restrictions on the sales of short-term, limited duration insurance (see the end of this chapter and chapter 4 of this *Report*).

Regulations had also hindered productivity and competition in the financial and banking sector. Chapter 6 of this *Report* discusses the Trump Administration's actions to reform implementation of the Dodd-Frank Act, nullify the Consumer Financial Protection Bureau's Arbitration Rule, and revise the National Credit Union Administration's Corporate Credit Union Rule.

The regulatory cost caps establish an incremental regulatory budget and create new incentives for Federal agencies. Rosen and Callanan (2014) provide a useful history and discussion of the idea of a regulatory budget. In 1980, the CEA described a regulatory budget "as a framework for looking at the total financial burden imposed by regulations, for setting some limits to this burden, and for making trade-offs within those limits" (CEA 1980, 125). Instead of establishing a budget limit on total regulatory costs—which, as the CEA mentioned, are hard to measure—Executive Order 13771 establishes a budget in terms of the incremental costs added or reduced by new actions; this Executive Order builds on earlier efforts to encourage retrospective regulatory review (see box 2-5).

Within each agency, the caps create internal incentives to prioritize costly regulations, to limit the compliance costs of new regulatory actions, and to remove outdated or inefficient existing actions. Breyer (1993, 11) argued that agencies often suffer from tunnel vision and pursue "a single goal too far, to the point where it brings about more harm than good." The cost caps help expand an agency's focus of vision. To pursue its agency-specific mission—for example, the EPA's mission to protect human health and the environment; under Executive Order 13771, the EPA now also has internal incentives to pay greater attention to regulatory costs. For example, Rosen (2016, 53) pointed out that given a regulatory budget, "an excessively costly regulation would come at an opportunity cost to the agency, because it would require the agency to forgo other regulatory initiatives." For the same reason, the regulatory budget gives the agency incentives to consider deregulatory actions, including the removal of outdated or inefficient rules. Although an agency that suffers from tunnel vision might tend to look mainly for opportunities to expand its regulatory portfolio, the cost caps shift the agency's focus to how it might alter its regulatory portfolio toward more cost-effective actions.

By creating an incremental regulatory budget, the cost caps serve a function similar to private businesses' accounts and to the Federal government's fiscal budget. Demski (2008) described the managerial uses of business accounting information as focusing on two questions—What might it cost? and Did it cost too much? The private sector business manager uses the information in the accounts to judge how well the management of each company division

Box 2-5. Retrospective Regulatory Review

In addition to conducting reviews of new regulatory actions, the Executive Orders issued by Presidents Reagan, Clinton, and Obama instructed Federal agencies to conduct retrospective reviews of currently effective regulatory actions (respectively, Executive Orders 12291, 12866, and 13563). The GAO (2007, 2014) and Aldy (2014) discuss the history of these efforts in detail.

In his 2012 State of the Union Address, President Obama highlighted the retrospective review of an EPA rule that, since the 1970s, had defined milk as an "oil" and forced some dairy farmers to spend $10,000 a year to prove that they could contain an oil spill. The elimination of this requirement was estimated to result in $146 million (in 2009 dollars) annually in regulatory costs savings. But it is perhaps more notable that the requirement was in place for over three decades. A report for the Administrative Conference of the United States assessed the broader impact of President Obama's emphasis on retrospective review (Aldy 2014). The study examined all major rules listed in the 2013 and 2014 OMB *Reports to Congress*. In 2013 and 2014, the ratio of deregulatory actions to new regulatory actions was 1 to 10, compared with the ratio of 4 to 1 achieved in 2018. (Including nonmajor deregulatory actions, the 2018 ratio was 12 to 1.)

A retrospective review yielded cost savings from 2012 to 2016. However, as shown above in figures 2-3 and 2-4, the total regulatory costs of major rules grew especially rapidly in 2012 and more slowly in the years 2013–16; by comparison, total regulatory costs fell in 2017 and 2018. Raso (2017) concluded that retrospective reviews were a "credible but small component of the Obama administration's rulemaking efforts."

DeMenno (2017, 8) studied public participation in agencies' retrospective review processes initiated in 2011. She found 3,227 comments across the 10 agencies in her sample, which she described as "significantly lower than agencies often receive for rulemakings." The EPA received somewhat over 800 comments and the Department of Education received 30 comments, compared with the 63,000 and 16,300 comments, respectively, that these agencies received about the Trump Administration's deregulation initiative.

and how well each division's strategy have performed. In a similar way, the executive branch can use the information in the incremental regulatory budget to judge how well each agency has performed—that is, how well each agency uses regulatory actions to improve societal welfare. A key difference between a private business and a Federal agency is that regulatory actions impose unreimbursed costs on private parties to comply with the actions. Because regulatory costs are like a hidden tax, the incremental regulatory budget also plays a similar role as the Federal government's fiscal budget. Without a regulatory budget, agencies might tend to treat private resources as a "free good" (Rosen

2016). Moreover, like the Federal budget, the regulatory budget strengthens political accountability and transparency (Rosen and Callanan 2014).

OIRA sets the regulatory cost caps that will be allowed for each agency. The cost caps may allow an increase or require a net reduction in regulatory costs. The cost caps impose a discipline on Federal agencies but allow for flexibility when agencies identify important new regulatory opportunities to better protect the public. OMB's guidance also allows agencies to accumulate cost savings. Otherwise, agencies would have an incentive to enact new regulatory actions at the end of the year so as to use up any regulatory cost savings that exceeded that year's cap.

The general public—including workers, consumers, owners of small businesses, and other interested parties—also contribute to the deregulatory reform process. The Administrative Procedures Act sets out the steps that Federal agencies must follow to take new regulatory and deregulatory actions (Garvey 2017). In the first step of the most common notice-and-comment process, the agency proposes a rule and invites public comment through a Notice of Proposed Rulemaking. Sometimes, public comment is solicited even earlier before issuing a prospective rule, through an Advance Notice of Proposed Rulemaking. These notices are published in the *Federal Register*. The public can also view and comment on proposed regulatory and deregulatory actions online via the website regulations.gov. The Trump Administration encourages public input on its deregulation initiatives. The Administration's Executive Order 13777 requires Federal agencies to establish Regulatory Reform Task Forces, and many agencies' task forces issue specific requests for public comment. For instance, in response to its request, the EPA received more than 460,000 public comments. After taking into account identical or nearly identical form letters, the EPA received 63,000 unique comments. The Department of Education received over 16,300 comments in response to its request. The workers, consumers, and business owners who participate in the regulated markets provided information from their own experiences about the likely effects of deregulation.

Several other countries have used regulatory caps similar to the Trump Administration's approach to deregulation (Gayer, Litan, and Wallach 2017; Renda 2017). Some countries have placed caps on regulatory requirements or actions, while others have placed caps on regulatory costs. In 2001, the Canadian province of British Columbia required that for every new regulatory requirement, two regulatory requirements must be eliminated. After having reduced regulatory requirements by 40 percent by 2004, the requirement was changed to a cap of no net increase in regulatory requirements. The provincial government reports that since 2001, these steps have reduced regulatory requirements by 49 percent (British Columbia 2017). In 2012, the Government of Canada (2015) required that for every new regulation (which are much less numerous than regulatory requirements), one regulation must be eliminated.

The Netherlands, Denmark, Norway, and the United Kingdom have adopted targets for net reductions in regulatory costs—that is, regulatory cost caps (Renda 2017).

Although Executive Order 13771 requires U.S. Federal agencies to estimate reductions in opportunity costs broadly defined, other countries focus on narrower measures, such as administrative burdens, compliance costs, or direct costs imposed on businesses (Renda 2017). Using narrower measures can have unintended consequences. For example, in the United Kingdom, requiring large retailers to charge for plastic bags was counted as a reduction in the net costs to businesses, even though this cost reduction was exactly offset by the increase in consumer costs (Morse 2016).

The Trump Administration's deregulatory process, established by Executive Order 13771, is crafted to achieve significant and sustained progress toward reducing the regulatory burden on the U.S. economy. After reviewing the recent history in the United States and other countries, Gayer, Litan, and Wallach (2017) note the potential of the Administration's deregulation efforts but caution that these efforts might not go far enough, or might go too far. The deregulatory actions in 2017 and 2018, and those planned for 2019, show that these efforts are overcoming the inertia built into the Federal rulemaking notice-and-comment process. At the same time, the requirement that deregulatory actions must be subject to the same rigorous cost-benefit analysis required of new regulatory actions helps ensure that deregulation will not go too far.

Why More Deregulation?

This section seeks to answer the question of why there needs to be more deregulation. First, it examines estimates of the aggregate cost of regulation. And second, it considers the need to level the playing field for deregulation.

Estimates of the Aggregate Cost of Regulation

Up to this point, we have focused on studies of the burden or costs of Federal regulatory actions. Of course, State and local regulatory actions also impose costs. State and local actions are too diverse to easily summarize, but examples help illustrate their range. Chapter 3 of this *Report* describes the extent and variation across States in occupational licensing. In the first half of 2018, just under one-quarter of all workers reported that they had an active professional certification or license, usually because it is required for employment. As another example, State laws regulating the beer industry are so inconsistent that it leads industry leaders to describe the domestic market as "like selling in fifty different countries almost" (Morrison 2013). State regulatory actions often prevent brewers from selling directly to customers. Although there is no conclusive evidence that these laws limit craft beer entrepreneurship, statistical

associations show that there are more breweries in places that provide easier access to markets for small producers (Malone and Lusk 2016).

Local regulatory actions add to the cumulative regulatory burden. Last year, we discussed the impact of local land use regulations, including an estimate that with decreased zoning restrictions in three cities—New York, San Jose, and San Francisco—the growth rate of aggregate output between 1964 and 2009 could have increased enough to increase GDP in 2009 by 8.9 percent (CEA 2018). Turning to other local regulations, the U.S. Chamber of Commerce Foundation (2014b, 11) ranks 10 U.S. cities on their regulatory environment for small businesses. The study uses the World Bank's Doing Business framework and compiles publicly available information from official U.S. sources (World Bank 2018). According to this measure, "Dallas and Saint Louis impose the lightest regulatory burdens on small businesses," whereas New York, San Francisco, and Los Angeles impose heavy burdens. For example, in New York starting a business requires 7 procedures, dealing with construction permits requires 15 procedures, and registering property requires 7 procedures. In another study, the U.S. Chamber of Commerce Foundation (2014a) examined regulations for food trucks. Boston and San Francisco, for example, require 32 procedures to open a new food truck, compared with Denver's 10 required procedures.

Some efforts have been made to estimate the total costs of regulatory actions in the United States. One approach is to build the total cost estimate from the bottom up, using regulatory action- and industry-specific estimates of regulatory costs. Taking this approach, the costs of Federal social regulation (i.e., actions designed to promote social purposes, including the protection of workers, public health, safety, and the environment) were estimated to be $198 billion in 1997 (in 1996 dollars) (OMB 1997). The 1997 estimate was built up from earlier studies, and then added OMB estimates of the costs of new regulatory actions from 1987 to 1996. OMB continued to use this approach through 2000, when it estimated that the total regulatory costs were in the range of $146 billion to $229 billion (in 1996 dollars). We updated the estimated total regulatory costs to 2018 by adding OMB's estimates of the costs of new regulatory actions after 2000 to the 2000 estimate. This exercise yields a midrange estimate that the total regulatory costs in the U.S. in 2018 were $421 billion (all costs adjusted to 2017 dollars). Taking the same general approach but using additional sources, a study published by the Competitive Enterprise Institute estimated the total costs of social regulations in the U.S. in 2018 were $1.2 trillion (Crews 2018).

OMB and a report by the Congressional Research Service noted important limitations for bottom-up estimates of regulatory costs. First, estimated costs are available for only a small fraction of all regulatory actions. Second, there are difficult questions about the quality of the original underlying data and analyses (OMB 2002; Carey 2016). Moreover, at a conceptual level, the simple

sum of action-specific costs does not necessarily provide an accurate measure of total regulatory costs. A major theme of this chapter is that the cumulative burden of multiple regulatory actions exceeds the simple sum of costs when each action is considered one by one. In light of these limitations, OMB (2002) deemphasized estimates of total costs, and subsequent OMB *Reports* no longer included them. Instead, the current practice is to focus on the last 10 years of major Federal regulatory actions (OMB 2017b).

Cross-country comparisons provide a different perspective on the extent of U.S. regulatory actions and on these actions' potential to improve economic performance. Cross-country comparisons from a number of different studies suggest that in the recent past, the regulatory burden in the United States was lower than in many, but not all, other countries. The cross-country rankings are not sufficiently current to reflect the Trump Administration's deregulatory actions. In the most recent data, the United States was 8th out of the 190 rated economies in the Ease of Doing Business ranking, lagging behind New Zealand, Singapore, Denmark, Hong Kong, South Korea, Georgia, and Norway (World Bank 2018). The United States is 27th out of 35 countries in the product market regulation ranking by the Organization for Economic Cooperation and Development (OECD) (CEA 2018).[5] A total of 3 of the top 4 OECD ranked countries have adopted regulatory caps—the Netherlands, ranked first; the United Kingdom, second; and Denmark, fourth. In last year's *Report*, we estimated that if the United States adopted structural reforms and achieved the same level of product market regulation as the Netherlands, U.S. real GDP would be 2.2 percent higher over 10 years (CEA 2018). In the Economic Freedom of the World overall ranking, the United States is sixth, trailing Hong Kong, Singapore, New Zealand, Switzerland, and Ireland.

These cross-comparisons also provide the basis for top-down estimates of total U.S. regulatory costs. The Congressional Research Service (Carey 2016) describes a prominent example of a top-down estimate from a report for the National Association of Manufacturers (Crain and Crain 2014). Crain and Crain use the World Economic Forum's Executive Opinion Survey to develop a proxy measure of the amount of regulation in each of 34 OECD member countries from 2006 to 2013. (The proxy measure is not the same as the OECD product market regulation index or the other cross-country indices discussed above.) They estimate a regression model that shows GDP per capita as a function of the regulation index and a set of control variables that capture other influences on GDP. They find a statistically significant association between their index of

[5]As noted in chapter 8 of this *Report*, the OECD product market survey was limited to the State of New York, and therefore may not be representative of the rest of the country. The data show that the United States is suffering from relatively high regulatory protection of established firms, due to exemptions from antitrust laws for publicly controlled firms (OECD 2018). In addition, the OECD notes that U.S. product market regulation is more restrictive than that of other OECD economies due to the prevalence of State-level ownership of certain enterprises, particularly in the energy and transportation sectors.

low regulatory burden and GDP per capita. They also compared the U.S. score on the regulation index with the average score on the regulation index in five benchmark countries with the lowest regulatory burdens. On the basis of this comparison, they estimate that if the burden of regulation in the United States were as low as in the benchmarks, U.S. GDP would be $1.4 trillion higher. This estimate forms one component of their estimate of the total regulatory costs in the United States (Crain and Crain 2014).

The Congressional Research Service notes that there have been a number of criticisms of this top-down estimate of regulatory costs (Carey 2016). It would be useful for policymakers to know the impact of different broad regulatory programs on the value of goods and services that the U.S. economy can produce. Comparing GDP per capita achieved by different countries that have taken different regulatory approaches mimics this thought experiment. In principle, the top-down approach should capture the cumulative burdens of regulatory actions. However, there are fundamental methodological challenges regarding how to measure regulatory burden across countries and on the validity of drawing causal inferences from the estimated statistical associations. Further econometric specification issues include the selection of the dependent and independent variables and the correct functional form of the relationship between the dependent and independent variables.

To sum up, total regulatory costs in the United States are difficult to estimate with precision. However, the cost estimates—which range from almost half a trillion to over a trillion dollars—are sufficiently large to justify the argument that deregulatory actions should be considered as a priority to help sustain U.S. economic growth. The cross-country comparisons of regulatory burdens also suggest that there is room to reduce the burden in the United States.

The Need to Level the Playing Field for Deregulation

If regulatory review worked perfectly, it might seem that deregulation would never be needed. Each deregulatory action is subjected to the same cost-benefit analysis required for new regulatory actions (OMB 2017a). Regulatory review thus requires that a deregulatory action's benefits (the regulatory costs saved) must justify the action's costs (the benefits forgone when the original regulatory action is modified or eliminated). The original regulatory review should have ensured that the benefits of the original regulatory action justified its costs. If the results of the original regulatory review were correct and unchanging, a deregulatory action should never be needed, and indeed should not pass regulatory review itself.

However, until the use of regulatory cost caps, the regulatory process was likely to have been tilted toward the benefits of expanding the regulatory state. Because regulatory actions address agencies' core missions—such as protecting workers, public health, safety, and the environment—there is a

natural tendency for the analyses to emphasize benefits over costs. In the past, some agencies' regulatory analyses came across like advocacy documents "to *justify* a predetermined decision, rather than to *inform* the decision" (Broughel 2015, 380); emphasis in the original). OMB's OIRA regulatory review process provides a check on this tendency. In the extreme, the focus on agency-specific missions leads to tunnel vision, causing regulators to go too far in pursuing their agencies' missions (Breyer 1993). The economic theory of regulation and public choice economics provide additional insights into the functioning of government bureaucracies. Regulatory actions can serve the interests of established firms in the industry—for example, by creating barriers that prevent the entry of new firms (Stigler 1971). Chapter 3 of this *Report* reviews evidence that State professional licensing requirements serve as barriers to entry rather than promoting the public interest. In addition to altruistic support for an agency's mission, Niskanen (1971) argues that self-interested regulators pursue actions that expand the scope and size of their agency.

Several examples illustrate the possible tilt in agencies' past analyses toward the benefits of regulatory actions over the costs.[6] Dudley and Mannix (2018) criticize RIAs of air-quality regulations. More generally, Dudley and Mannix (2018, 9) argue that agencies do not appear to search for benefits and costs objectively but instead focus on benefits and "quantify or list every conceivable good thing that they can attribute to a decision to issue new regulations." Gayer and Viscusi (2016) provide a detailed discussion of the controversial question of whether Federal agencies should measure the benefits of climate change policies from a domestic or global perspective. The "Circular A-4" guidance document (OMB 2003) instructs Federal agencies to focus on regulatory benefits and costs to citizens and residents of the United States. When a regulatory action has effects beyond the borders of the United States, agencies are told to report those effects separately (OMB 2003). However, previous analyses have compared the global benefits of major environmental regulatory actions with domestic compliance costs. For example, the EPA estimated that the proposed Clean Power Plan would yield global climate benefits in 2030 worth $30 billion (in 2011 dollars) (79 *FR* 67406). Gayer and Viscusi (2016) find that this estimate falls to $2.1 to $6.9 billion (in 2011 dollars), counting only domestic climate benefits. In contrast, Pizer and others (2014) argued that the global perspective is appropriate given the distinctive nature of the climate change problem and the need for global solutions.

[6] The tilt toward benefits does not hold across the board. For example, Department of Homeland Security's RIAs are often unable to quantify the benefits of safety rules that address high-consequence / low-probability events. However, the lack of quantified benefits does not necessarily avoid, and might even exacerbate, the tilt toward benefits. Under Executive Order 12866, when benefits and/or costs are unquantified, RIAs discuss whether the benefits of a regulatory action "justify" the costs. The subjective judgment about whether unquantified benefits justify the costs might allow more room for an intentional or unintentional tilt toward benefits.

Whether intentionally or not, other analyses have downplayed costs. For example, a regulatory analysis concluded that a 2016 rule that placed limits on consumers' options to purchase short-term health insurance would have no effect on the majority of consumers who purchased such coverage, but did not provide quantified evidence for this conclusion. In 2018, an analysis of a deregulatory reform of the 2016 rule discussed the potential for regulatory cost savings and concluded that the deregulatory action was likely to be economically significant and have an annual impact of over $100 million. The Congressional Budget Office (CBO 2018) projected that the 2018 deregulatory reform will lead to 2 million additional enrollees in short-term insurance. The 2018 deregulatory action did more than just remove the 2016 rule's restrictions. There is also uncertainty about the effects of the 2016 regulatory action and the 2018 deregulatory action. Despite these caveats, however, it is hard to reconcile the finding that the 2016 rule was not economically significant with the CBO's projections and with further analysis, which estimated that the 2018 deregulatory action of the short-term health insurance market will provide cost savings worth $7.3 billion in 2021 (CEA 2019).

A body of research compares the results of agencies' prospective regulatory analyses conducted before the rules were passed with the results of retrospective analyses conducted afterward (Harrington, Morgenstern, and Nelson 2000; OMB 2005; Morgenstern 2018). These comparisons of prospective and retrospective analyses have focused on the accuracy of the original estimates. However, the prospective/retrospective comparisons do not address the problem that important categories of costs were omitted entirely in the original analysis (Harrington, Morgenstern, and Nelson 2000). Moreover, the prospective/retrospective comparisons do not shed light on the magnitude of the omitted costs or how including them might have changed the results of the prospective analyses.

Whether intentionally or not, omitting important categories of costs will result in systematic underestimation of costs. Regulatory analyses typically focus on compliance costs, which are the most obvious source of opportunity costs. For example, Belfield, Bowden, and Rodriguez (2018) reviewed 28 RIAs of education regulatory actions from 2006 to 2015. They found that the education RIAs only calculated the paperwork costs of documenting compliance with regulatory actions—what Belfield, Bowden, and Rodiguez call the administrative compliance costs. Opportunity costs include, but are not limited to, administrative and other compliance costs. When a firm hires workers and purchases new capital equipment to comply with a regulatory action, for example, society gives up the value of the other goods and services that those workers and capital could have produced. Aggregate paperwork costs of regulation are substantial; if the 9.8 billion hours devoted to regulatory paperwork in 2015 instead were used by employees to create output equal to their average hourly earnings, it would total $245.1 billion, an amount equal to 1.35 percent

of that year's GDP (CEA 2018). But other sources of opportunity costs can be more subtle and difficult to see (see box 2-6). For example, when the intended or unintended consequence of a regulatory action is to prevent a purchase, the action prevents a mutually beneficial exchange. The buyer's potential gain is measured by the consumer's surplus—the difference between the maximum the consumer is willing to pay and the amount actually paid. The seller's potential gain is measured by producer's surplus—the difference between the minimum the producer is willing to accept and the amount actually received. The losses of consumer and producer surpluses are part, and potentially a large part, of the regulatory action's opportunity costs.

Federal agencies' analyses do not always measure consumer and producer surpluses because to do so would require estimates of the elasticities of demand and supply. OMB (2000, 13) argues that estimating consumer and producer surpluses "requires data that [are] usually not easily obtained and assumptions that are at best only educated guesses." The difficulty of measuring opportunity costs has often been discussed in subsequent OMB *Reports*, although different Administrations have given it different emphases (Fraas and Morgenstern 2014).

Even without a preceding tilt toward the benefits of the regulatory state, there are several other reasons deregulation will be needed and can lead to regulatory cost savings that more than offset the forgone benefits of the original regulatory action. First, in a dynamic economy, new products and technological developments will often require new approaches. For example, as the drone industry took off, the Federal Aviation Administration amended its rules to allow small, unmanned aircraft systems in airspace, and it changed the certification requirement of drones' remote pilots (81 *FR* 42063). Small, unmanned aircraft do not raise the same safety concerns as manned aircraft. The flight training and other requirements for pilots of manned aircraft imposed high regulatory costs and created few benefits when applied to pilots of drones. The development of automated vehicles poses similar challenges for the Department of Transportation (DOT). As a first step, DOT now interprets the definitions of "driver" and "operator" as not referring exclusively to a human but also to an automated system. And DOT (2018) encourages the developers of automated driving systems to adopt voluntary technical standards as an effective nonregulatory approach.

Second, new information can emerge that requires the reevaluation of regulatory actions. For example, after the Food and Drug Administration (FDA) issued a rule to implement the Food Labeling Act, companies and trade associations told the FDA about the difficulty of updating labels within the required time frame. The industry's concerns included the need for new software, the need to obtain additional nutritional information about its products, and the possible need to reformulate its products. In a deregulatory action, the FDA extended the compliance date by 1.5 years (83 *FR* 19619). The cost savings

Box 2-6. Opportunity Costs, Ride Sharing, and What Is Not Seen

The opportunity cost of a regulatory action is the value of the activities forgone because of the action. In a classic essay, the 19th-century French economist Frédéric Bastiat argued that taking into account not only that which is seen but also that which is not seen is the difference between a "good economist" and a "bad economist." His parable of the broken window is an example of opportunity costs. The "bad economist" concludes that the broken window is good for the economy; when the shopkeeper pays the glazier to repair the window, it encourages the glazier's trade. But the "good economist" recognizes that which is not seen; because the window needs to be repaired, the shopkeeper loses the enjoyment from the forgone opportunities to make other purchases. Likewise, in addition to the more easily seen compliance costs, regulatory actions often involve substantial opportunity costs.

Measuring the opportunity costs of regulatory actions can be difficult; they are not easily seen. The development of ride sharing provides an example where the opportunity costs of regulating the taxi industry can be estimated. Most major U.S. cities restrict entry into the taxi industry. A typical regulatory approach is to require taxi medallions, which are transferrable permits required to operate a taxi (Cetin and Deakin 2017). The restriction on entry drove up the price of taxi rides and created monopoly profits for the owners of medallions, which could be worth hundreds of thousands of dollars. Ride-sharing services including Uber and Lyft provide a close substitute for the services provided by taxis. The competition from ride-sharing services eroded medallion holders' market power and led to sharp decreases in medallion prices. Cohen and others (2016) analyze data on almost 50 million individual-level observations of users of the UberX service. The researchers exploit the richness of the data to estimate that in 2015, the UberX service generated about $2.9 billion in consumer surplus in the four cities studied. The gain in consumer surplus from UberX sheds light on the opportunity costs of the cities' regulation of taxis. The "bad economist" might conclude that restricting the number of taxis was good for the economy because it increased taxi owners' profits. But the "good economist" recognizes that which was not seen: the value consumers gain when ride-sharing services compete with taxis.

Reviews of deregulatory actions should attempt to account for as much of the opportunity costs as possible. Current guidance already stresses the importance of measuring opportunity costs (OMB 2003). Economic theory sometimes does not provide a simple formula to extrapolate the unseen opportunity costs from more easily observed regulatory compliance causes. Nevertheless, careful analysis and consideration of the likely consequences of regulatory actions will shed light on the opportunity costs savings that are possible from deregulatory actions. Public input into the deregulatory process is likely to be helpful in this exercise.

from the delay offset the benefits forgone because of the delay. The extension of the compliance dates does not prevent companies from revising their labels sooner, and data show that over 29,000 products have already adopted the new Nutrition Facts label (83 *FR* 19619). The extension reduces compliance costs while still promoting public health by helping consumers make better decisions about their food choices.

Another example of an agency using new information to reduce regulatory costs is the Federal Aviation Administration's (FAA) revision of a rule to allow ground tests of helicopters to demonstrate compliance for night operations. The FAA's airworthiness standards for helicopters require that each pilot compartment must be free of glare and reflection when operated at night. In the past, this aspect of airworthiness was evaluated by night flight tests, which cost, on average, about $37,000. The FAA determined that ground tests are equally effective to demonstrate compliance and cost only about $4,400 per test. The compliance cost savings for the entire industry were estimated to be about $277 million (in present value).

The Cumulative Economic Impact of Regulation

This section discusses the cumulative economic impact of regulation. First, we explore how the effects of regulation are transmitted through markets. Then we describe the cumulative regulatory burden—both its basic aspects and its costs along the supply chain.

The Effects of Regulation Are Transmitted through Markets

Even when the costs of regulations of public goods and regulations to enhance productivity might appear to fall primarily on a single industry, it is important to interpret productivity broadly for the economy as a whole because the industry's costs affect the movement of capital and labor between the regulated industry and the rest of the economy. Take the occupation of barbers. Their production technology—scissors, chair, sink, and a shop—has hardly changed in a century, even though their inflation-adjusted wages have grown by about a factor of five (Mulligan 2015b). The development of safety and disposable razors has helped consumers substitute toward the home production of shaves, but not haircuts. Nevertheless, barbers' wages grew even while their technology was static, mainly for two simple reasons: (1) Productivity grew in farming, manufacturing, information, and many other industries; and (2) barbers have a choice of occupation and industry, which means that either the wages of barbering keep up with the rest of the economy or barbering disappears as an occupation. Barbering is not special; every occupation has its wage determined by productivity elsewhere in the economy. Wages in any occupation and industry are determined by the industry's supply of and demand for labor, which in turn are determined by productivity elsewhere in the economy.

For example, the labor supply of barbers reflects their productivity in their next best alternative occupation and industry. Given the intimate relation between regulation and productivity, regulation will therefore usually have a significant economic impact beyond the regulated industry.

A regulated industry with price-elastic customer demand yields the more obvious result that higher costs increase the prices charged to customers, reduce production, and reduce industry employment and revenue. But the results of regulatory actions are less obvious, to the extent that industries like barbering face relatively price-inelastic customer demand. Consider a perfectly competitive market with constant unit costs. When a regulatory action drives up the unit cost of production, the change in industry revenues equals the change in consumer expenditures on the product. Given relatively inelastic demand, the increase in unit cost results in higher consumer expenditures and higher revenues. The higher revenues cover the costs of production and regulatory compliance. As Becker, Murphy, and Grossman (2006) pointed out, the paradoxical result is that more capital and labor are drawn into the industry, even though production and consumption are reduced. In other words, the opportunity costs in the price-inelastic case accrue primarily outside the industry because the rest of the economy must produce with less capital and labor.

Policymakers sometimes emphasize the potential impact of regulatory actions on jobs (i.e., the use of labor). Under Executive Order 12866, one of the criteria for when a cost-benefit analysis is required is if the action is likely to have a material effect on jobs. Under Executive Order 13777, agencies' Regulatory Reform Task Forces are required to prioritize repealing or modifying regulatory actions that eliminate jobs or inhibit job creation. However, for the reasons explained above, in some industries it can be misleading, both for magnitude and direction, to assess the benefits of a regulatory action solely on the basis of the jobs created or destroyed in the regulated industry (a strength of the current practice of regulatory cost-benefit analysis is that agencies do not assess benefits this way). Our framework also emphasizes that it is important to consider the effects—including job effects—outside the regulated industry.

Regulatory actions that affect the degree of competition in an industry are also cases in which productivity needs to be understood broadly. For example, a monopoly withholds production, and therefore its use of capital and labor, in order to extract higher prices from its customers. Its capital and labor are used elsewhere, where they are less productive, or are not used at all. Either way, the result of a monopoly is—all else being the same—less total output, and the result of competition is more total output.

We examine these effects in an economic framework similar to that of Goulder and Williams's (2003) model of excise taxes, where the primary difference is that an excise tax delivers its revenue to the public treasury, whereas

regulatory action may use up the revenue in less efficient production.[7] The framework has a composite commodity reflecting the value produced by the economy's many industries combined. The industries use capital and labor with efficiency that depends on regulation, either because regulation discourages certain types of production or, as with the monopoly example, because it distorts the interindustry composition of production. In the aggregate, therefore, both regulations of public goods and regulations to enhance productivity have many of the same consequences as aggregate "productivity shocks," which have been studied extensively in economics (Gray 1987; Crafts 2006).

The Cumulative Burden I: Within Industry

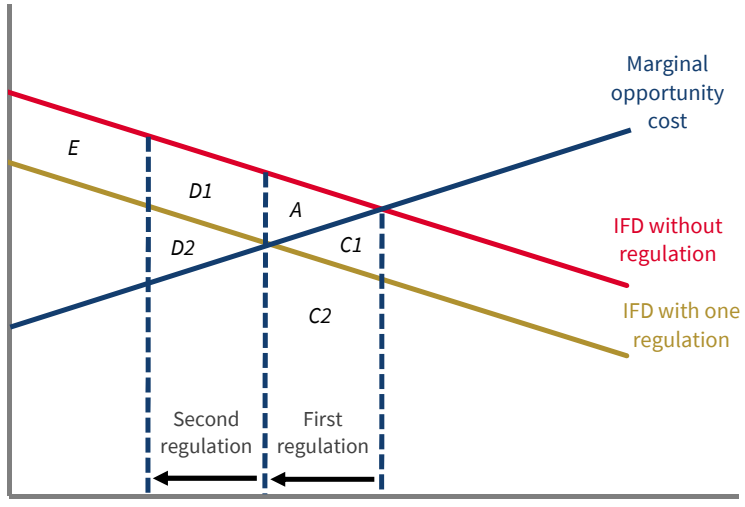
According to a former OIRA Administrator, "Cumulative burdens may have been the most common complaint that I heard during my time in government. Why, people asked, are agencies unable to coordinate with one another, or to simplify their own overlapping requirements, or to work together with State and local government, so that we do not have to do the same thing two, five, or ten times?" (Sunstein 2014, 588). The NFIB's surveys of the owners of small businesses confirm the OIRA Administrator's experience. The NFIB conducted regulation-specific surveys in 2001, 2012, and 2017. When asked which best describes the source of their regulatory problems, the majority of small business owners consistently responded that it was the total volume of regulations coming from many government agencies, as opposed to a few specific regulations coming from one or two agencies (in this question, respondents were not asked to identify specific regulations). In 2001, 50 percent of respondents identified the volume of regulations as the problem, compared with 47 percent of respondents identifying specific regulations. In 2012, the number of respondents citing the problem of the volume of regulations jumped to 62 percent. In 2017, this number dropped to 55 percent. This subsection analyzes how businesses experience cumulative burdens, and it uses the economics of convex deadweight costs and supply chains to assess these burdens and show how they have sometimes been neglected in cost-benefit analyses.

Figure 2-5 begins to illustrate cumulative burdens by focusing on a specific "regulated" industry that, like any other industry, has a downward-sloping factor demand curve that reflects the diminishing marginal value of what that industry produces. Factors refer to the labor, capital, and materials used in the production process. The industry factor supply curve represents the marginal opportunity costs: holding constant the total factors of production, when more factors are used to produce in the regulated industry, fewer are available to produce in the other industries.

[7] It is also possible that part of the "revenue" associated with a regulation's distortions goes to some of the market participants. A monopoly is an example where the industry output price is distorted and the revenue from that "tax" takes the form of a monopoly rent (Harberger 1954).

Figure 2-5. Distorted Allocation of Resources Among Industries

Marginal value product



Factor usage in the regulated industry

Note: IFD = Industry factor demand.

The value of production combined across all industries is maximized when the regulated industry is producing a quantity exactly at the intersection of the two curves shown in figure 2-5, where the marginal value product of the factors of production are equalized between industries. For the sake of illustration, we consider first one regulatory action, and then later add a second regulatory action that has the same size impact on factor usage in the regulated industry. Each action reduces the degree of competition in the regulated industry, for example by added legal or technological barriers to entering the industry. As noted above for the case of monopoly, a less competitive industry has less factor demand and therefore uses less of the factors of production. The first regulatory action therefore reduces the value of the regulated industry's output by the combination of areas *A*, *C1*, and *C2*. As a result of the reduction in the regulated industry's output, factors of production shift to other industries. Areas *C1* and *C2* represent the resulting gain in output value in the other industries. The value of the output loss combined across all industries is triangular area *A* shown in figure 2-5.

Because it is assumed for the moment that an important effect of regulation is competition, as emphasized at the end of this chapter with the joint employer standard, the part of the output represented by combined areas *E* and *D1* is retained by the industry's producers as economic profit rather than competitive factor incomes (i.e., competitive payments to labor and capital). For other regulatory actions, such as the two health insurance regulatory

actions examined at the end of this chapter, areas *E* and *D1* are output losses rather than a transfer of income.[8]

In this chapter, we use the public finance concept of deadweight cost to describe cumulative effects of regulation. If a regulatory action depresses an industry's resource usage by 1 percent, the lost transactions are likely those that were creating the least surplus, which is why these transactions disappear merely because of just one regulatory action. But when the second regulatory action comes along, the transactions of least value are already gone, so that the next 1 percent depression of the industry must eliminate relatively higher-value transactions than the first 1 percent did. This is shown in figure 2-5; even though the first and second actions have the same-size impact on factor usage in the regulated industry, the second action has a larger cost in terms of aggregate output. That is, combined areas *D1* and *D2*, which show the incremental cost of the second regulatory action in terms of aggregate output, are greater than area *A*, which is the corresponding cost of the first regulatory action. The field of economics usually refers to such costs as "convex"—given that doubling the regulatory action more than doubles the costs of regulation. The other side of the coin is that assessing the incremental costs of regulation requires an estimate of how much the industry has already been distorted.

In addition to showing how regulatory costs accumulate, figure 2-5 also shows why a regulatory action's effect on industry employment is not entirely a cost. Note that the value of the regulated industry's output is the area under the "without regulation" factor demand curve (colored red in the figure) up to the equilibrium factor usage for the industry. The impact of regulatory action on the value of the regulated industry's output is therefore the impact on that area due to the change in the amount of factor usage. Areas *C1* and *C2* therefore capture the value created by labor and capital that switch to other industries, which admittedly is less than the combined values *A*, *C1*, and *C2* that they would have created in the regulated industry. To the extent that the regulatory action causes capital and labor to cease employment entirely, we need to look at the aggregate factor markets, as we do in the next subsection.

The Cumulative Burden II: Costs along the Supply Chain

The interindustry cumulative cost shown in figure 2-5 is commonly considered in traditional cost-benefit analyses, but it is incomplete because the typical industry is surrounded by public policy distortions. The labor and capital used

[8] Even when the two areas reflect a lack of competition, they may ultimately prove to be output losses to the extent that market participants use their capital and labor in order to increase their share of the economic profits at the expense of others (Tullock 1967; Dougan and Snyder 1993). When the two areas reflect an output loss, it is possible that the industry factor demand curve is rotated counterclockwise (Mulligan and Tsui 2016), rather than shifted down as shown in figure 2-5, which corresponds to the case in which the final demand for the regulated industry's output is locally price elastic.

in the regulated industry, and elsewhere, are taxed. We show the accumulation of taxes and regulatory actions in figure 2-6, which shows the aggregate, economy-wide, long-run supply and demand curves for capital. For the same reason that the area under the "without regulation" industry demand curve in figure 2-5 is the value of industry output, the area under the corresponding demand curve in figure 2-6 is the value of long-run aggregate output. The aggregate capital demand curve is the sum of the capital demands of the regulated and other industries, and therefore the regulatory action shifts it down according to the regulated-industry shift shown in figure 2-5.[9]

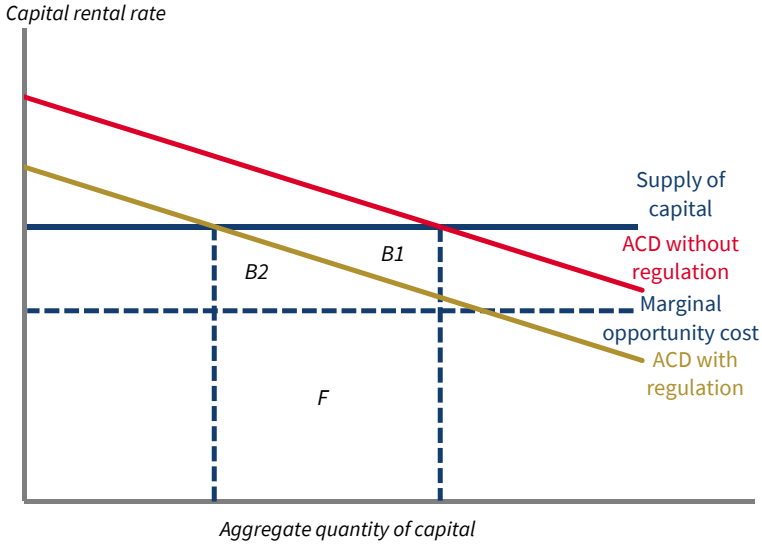
Figure 2-6 shows how the industry-specific regulation has a second effect on output by reducing the aggregate amount of capital in the economy. The amount of output lost due to less capital is equal to combined areas *B1*, *B2*, and *F*. As discussed below, output is reduced still further, to the extent that the regulatory action shifts down the aggregate labor demand curve and thus reduces the aggregate amount of labor.

Output is not necessarily the same as welfare, because increasing output with additional labor and capital comes at the cost of supplying the additional inputs—for example, the cost of delaying consumption in order to build up the capital stock. If the aggregate capital supply curve fully reflected the marginal cost of capital, then the only social loss to be found in figures 2-5 and 2-6 would be area *A*, representing the net loss of value created in the regulated and other industries. However, to the extent that the supply of capital is itself distorted—say, due to taxes on capital income—the marginal cost curve for capital is below the supply curve as drawn in figure 2-6, by a proportion equal to the tax rate for capital income.[10] The overall cost of regulatory action therefore includes not only area *A* in figure 2-5 but also the deadweight cost associated with the reduction in capital, shown as combined areas *B1* and *B2* in figure 2-6. As found by Goulder and Williams (2003), the deadweight cost and loss of output associated with reduced aggregate factor usage often significantly exceeds the loss of output that comes from distorting the composition of

[9] The quantitative relationship between combined areas *A*, *D1*, and *E* in figure 2-5 and combined areas *B1* and *B2* in figure 2-6 depends on what is also happening in the aggregate labor market, which for brevity is not shown in this chapter, and the degree to which economic profits are created or destroyed by the regulatory action. A regulation that affected only consumer goods industries and had no effect on economic profits might not shift the demand curve in figure 2-6.

[10] If capital were subsidized, then the marginal cost curve would be above the supply curve. In macroeconomics, the opportunity cost of capital is often referred to as the "rate of time preference" or the "rate of impatience," reflecting the fact that the opportunity cost of capital in the future is less consumption in the present (Romer 2011; Fisher 1930). If the regulation were increasing the value of output rather than decreasing it, then area *A* in figure 2-5 would be negative (an increase in productivity), so that the regulation increases the use of capital and areas *B1* and *B2* in figure 2-6 would be an additional benefit.

Figure 2-6. How Industry Regulation Affects the Aggregate Factor Market



Note: ACD = Aggregate capital demand.

activity among industries.[11] A regulatory cost imposed on a specific industry can add substantial excess burdens to the capital and labor markets. The case studies at the end of this chapter are such examples.

The aggregate labor market has a diagram analogous to figure 2-6, with the gap between labor supply and marginal labor cost due to taxes on labor income and other distortions of the labor market. In a small, open economy where wages are primarily determined in international markets, the picture would be quite similar, including a horizontal supply curve and a horizontal opportunity cost curve. Otherwise, we would draw the labor supply curve sloping upward and would also shift it due to the income effects of the productivity change (Ballard and Fullerton 1992). Either way, the labor market has an additional factor cost, analogous to figure 2-6's areas *B1* and *B2*. Moreover, to the extent that labor and capital are complementary production factors and regulatory action reduces their aggregate employment, there are further reductions in the aggregate demand for capital and labor and therefore further reductions in aggregate output and aggregate surplus.

Although not shown in figure 2-6, another possible effect of regulating an industry is to shift up the supply curves for capital and labor. For example, suppose the regulated industry has its capital taxed at lower rates than other industries. Then the cost-benefit analysis would commonly recognize that

[11] Goulder and Williams (2003) examined excise taxes rather than regulations, but the aggregate analysis is the same, as long as figure 2-5's areas *D1* and *E* are a transfer rather than an aggregate output loss.

additional capital tax revenue is a benefit of a regulation that induces capital to move out of the industry. But we must also count the costs associated with the reduced aggregate supply of capital due to the fact that the regulation raises the average marginal tax rate on capital. Those costs include lower wages (resulting from less capital investment) and a loss of capital tax revenue that potentially offsets the revenue gain reflected in the usual analysis.[12]

The cumulative cost of regulation can nonetheless be estimated in practice, primarily with information from the regulated industry. Specifically, only information from the regulated industry is required to estimate lost factor incomes *A*, *E*, and *D1*, which are the result of the regulatory actions holding constant the aggregate amounts of labor and capital. Because areas *B1* and *B2* (and their analogues in the labor market) are the result of the lost factor incomes shown in figure 2-6, their magnitude can be included by rescaling the industry-specific effects according to the "marginal deadweight cost of government revenue," as estimated in the field of public economics (Feldstein 1999; Saez, Slemrod, and Giertz 2012; Weber 2014).[13]

The additional factor costs of regulation have different implications for cost-benefit analyses, depending on whether a regulatory action is a regulation of public goods or a regulation to enhance productivity. The additional factor costs are associated only with industries that produce private goods using the factors of production and experience a net cost from the regulatory action. Take, for example, a regulation of a public good that improves environmental quality at the expense of reduced manufacturing output. Figure 2-5's area *A* measures costs (associated with a reduced value of production in manufacturing and the other industries) but not necessarily net costs, because it does not include the environmental benefit. Area *A* generates additional factor costs, such as those shown by areas *B1* and *B2* in figure 2-6, because capital and labor are used in the production of private goods. There is no additional factor cost (or benefit) associated with the environmental benefit because that is a public good. In other words, recognizing the additional factor costs can change the sign of the net benefit of regulations of public goods because they are associated with the output losses but not the environmental benefits.

Regulations to enhance productivity are different in this regard because their costs and benefits both accrue in industries that are producing private goods with the factors of production. In this case, if figure 2-5's areas *A*, *D1*, and *E* measure net costs, then areas *B1* and *B2* in figure 2-6 cannot change the

[12] Another example is the proposal to shift health insurance from employers to the individual market where taxation is greater. The shift has a benefit reflected in the additional tax revenue (Gruber 2011), but the shift also reduces the aggregate supply of labor because, holding tax policy constant, it raises the average marginal tax rate on work.

[13] The CEA (2019) followed this practice in its analysis of health insurance deregulatory actions, taking the rescaling factor to be 1.5: for every $1 of deadweight loss in the health insurance industry, it added another 50 cents of factor market distortion costs.

sign of the net cost; they only increase its magnitude.[14] To be more general, we note that to the extent a public good contributes to private production, some regulatory actions will be combinations of regulations of public goods and regulations to enhance productivity.

Our application of Goulder and Williams's (2003) framework has a rather simple supply chain where final goods markets ("the industries") draw directly from capital and labor markets, so that the cumulative cost of regulation is simply the combination of costs in final goods markets (represented in figure 2-5) and costs in factor markets (represented in figure 2-6). But in reality, multiple industries can be situated in a vertical supply chain, in which case there would be more than two sets of costs to consider. The cumulative costs can be especially large when individual industries in the chain pass on their costs more than one for one, which is a result known in the industrial organization field as "double marginalization" (Tirole 1988). The specification of the joint employer standard, discussed at the end of this chapter, is an example of how the Trump Administration's deregulatory actions have improved efficiency along supply chains.

Lessons Learned: Strengthening the Economic Analysis of Deregulation

This section considers lessons learned vis-à-vis strengthening the economic analysis of deregulation. First, it looks at how to diagnose market failure. Second, it describes the costs of regulatory actions that are correct on average. Third, it explores examples of the excess burdens of regulatory actions. Fourth, it looks at the burdens of nudge regulatory actions. Fifth, it describes how to expand the use of regulatory impact analysis.

Diagnosing Market Failure

Regulatory review should be careful to not overdiagnose market failure. The first step in a regulatory cost-benefit analysis is to identify the problem the action is intended to address: a market failure or other social purpose, such as promoting privacy and personal freedom (OMB 2003). In many circumstances, competitive markets tend to successfully guide the use of society's resources to their highest value. In economic terminology, markets fail when resources are not achieving their most highly valued use. A typical regulatory impact analysis should compare the benefits of correcting a market failure with the opportunity costs of the regulatory action. For example, an environmental regulatory action might address the market failure created by the negative

[14] For the purposes of the analysis in this chapter, the CEA assumes that the various industries affected by regulation are equally substitutable or complementary with the supplies of capital and labor. This assumption could be relaxed by examining the more general framework of Goulder and Williams (2003).

externalities when a manufacturing plant pollutes the air. Other market failures include a lack of market competition, inadequate consumer information, and when consumers and producers have asymmetric information.

Because the cumulative regulatory burden is large, when diagnosing market failures, the burden of proof should be high. The possibility of a market failure does not by itself mean that a Federal regulatory action is appropriate. Regulatory actions are costly and, like markets, government bureaucracies are imperfect (Kahn 1979). Federal regulatory actions are more likely to be appropriate when they correct market failures that result in large misallocations of resources. OMB (2003) guidance for RIAs tells Federal agencies to focus on significant market failures and, when feasible, to describe the market failure quantitatively. The burden of proof should be high, because a claim that there is a market failure must mean that something blocks mutually beneficial exchanges from taking place. In the example given above of a polluting plant, the potential exchanges are between the public, which values cleaner air, and the manufacturer, which could take costly steps to reduce air pollution (and the consumers of the product that is now more expensive).

Minor symptoms in which markets do not work perfectly should not lead to the diagnosis of a significant market failure. In situations where exchanges fail to take place, the Nobel laureate Ronald Coase (1960) identified the lack of clearly defined property rights and transaction costs as the root causes of market failure. All markets face transaction costs, so the question is not whether there is a market failure, but whether the transaction costs are a major barrier that prevents many beneficial exchanges (Zerbe and McCurdy 1999). In the polluting plant example, it is reasonable to expect that high transaction costs create a significant market failure. However, in other cases the potential market failure can be less clear. For example, indoor air pollution from secondhand cigarette smoke might seem to fit the definition of a market failure of an externality. But because the ownership of the airspace within their properties was both established and relatively easy to police, many hotel chains and some restaurant chains enacted smoking bans long before State or local laws required them to (Institute of Medicine 2009). In spite of some transaction costs—enforcement of the bans within their airspace—these voluntary bans were market successes. Hotel and restaurant owners could increase their profits by guaranteeing more valuable, clean air unpolluted by cigar and cigarette smokers to their nonsmoking customers who were willing to pay for access to it. However, voluntary bans might not go far enough to meet all social goals. In cases like this, a careful empirical analysis is required to determine the quantitative significance of the market failures that may remain.[15]

[15] As long as all parties (consumers, workers, and so on) can make voluntary transactions, it might be profit- and welfare-maximizing to allow smoking in certain establishments.

The Costs of Regulatory Actions That Are Correct on Average

In a market economy that is too complex for any regulator or scholar to fully understand, regulators are bound to make mistakes. Decades ago, Friedrich Hayek (1945, 524) insisted that centralized economic planning is impossible, even when regulators have access to much statistical information about the economy, because statistical information "by its nature cannot take direct account of these circumstances of time and place, and that the central planner will have to find some way or other in which the decisions depending on them can be left to the 'man on the spot.'"

At best, central planning is highly imperfect, and, as we illustrate with some important examples below, closely watched attempts to fine-tune industries with regulation have suffered costly failures. Remarking on the deregulation of the airline industry, Kahn (1979, 1) observed that "the prime obstacle to efficiency has been regulation itself, and the most creative thing a regulator can do is remove his (and her) body from the market entryway." One reason why Executive Order 13771 places great importance on receiving public input on proposed regulatory actions is that the households and businesses that will be burdened with the costs—Hayek's "man on the spot"—are in a better position to identify them.

The convex deadweight cost approach also complements Hayek's observation that planning is highly imperfect. Once we acknowledge that regulation involves errors of magnitude or even direction, the fact that the costs are convex means that optimal regulation is necessarily cautious because the benefit of pushing the market one unit in the direction of efficiency is less than the cost of (accidentally) pushing the market one unit in the direction of inefficiency. Regulation that is correct on average can nonetheless have a negative expected net benefit.[16]

Consider figure 2-5 again. The regulator identifies, say, an environmental benefit that justifies imposing a productivity cost equal to area *A*. This benefit would be obtained by contracting the industry by the increment shown in figure 2-5. If the regulator were perfect and the industry were contracted by that amount, the actual cost, *A*, would be equal to the environmental benefit. But if the regulator were imperfect—say, by having a 50 percent chance of contracting the industry by twice as much and a 50 percent chance of not contracting it at all—the expected cost of the regulatory action would be $(A + D1 + D2)/2$, which is greater than *A* because of the convex deadweight costs discussed above. This example shows how regulation would have costs equal to benefits when the regulation is exact, but expected costs exceeding benefits when the

[16] For a more extensive analysis, see Mulligan (2015a). Milton Friedman (1953) makes a related argument for cautious monetary policy. The Friedman model has macroeconomic variance as the cost rather than deadweight costs, but delivers a similar conclusion—that even monetary policy that leans against the wind on average can nonetheless make the business cycle more volatile—because variance is also a convex function.

regulatory action is correct only on average. When acknowledging that the effects of regulation are uncertain, it follows that the best estimate from a decision perspective is one that is pessimistic as to net benefits relative to the statistical expectation (Hansen and Sargent 2008).

Examples of the Excess Burdens of Regulatory Actions

Regulatory reviews of deregulatory actions should routinely account for the excess burdens of regulation. Accounting for excess burdens is consistent with current guidance, but it appears to be uncommon. Current guidance for regulatory reviews stresses the need to look beyond the direct costs of a regulatory action and to examine "countervailing risks," which are defined to include "an adverse economic . . . consequence that occurs due to a rule and is not already accounted for in the direct cost of the rule" (OMB 2003). The excess burdens of regulatory actions in other markets, such as the capital market shown in figure 2-6, fit the definition of an adverse economic consequence.

One lesson from research on taxation is that the excess burden depends on the existence and levels of preexisting distortions—taxes and subsidy programs—in the economy. A standard example from taxation is the excess burden of a new tax on a certain good (e.g., restaurant food), when there is a preexisting tax on a good that consumers see as a complement (e.g., gasoline used to drive to the restaurant). The new restaurant tax further reduces gasoline sales and magnifies the distortion created by the preexisting gasoline tax. The reduction in gasoline tax revenues measures the excess burden (Harberger 1964). The source of the excess burden is the misallocation of resources due to the preexisting gasoline tax; the new restaurant tax magnifies the resource misallocation in the market for gasoline. In the same way, a new regulatory action that increases costs in the restaurant business magnifies the preexisting resource misallocation in the market for gasoline and generates an excess burden that could be measured by the reduction in gasoline tax revenues.

To illustrate the potential magnitude of the regulatory excess burden due to a preexisting tax, suppose a hypothetical regulatory action increases the cost of producing a restaurant dish by $2. As a result of the price increase, suppose that the typical consumer reduces his or her purchases from 10 to 9 dishes a month. Because the restaurant dish and the gasoline are complements (due to the need to drive to the restaurant), further suppose that the restaurant regulatory action causes him or her to spend $10 less on gasoline per month. If the market for restaurant food is competitive with constant unit costs of production, the standard measure of the opportunity cost of the regulatory action is $19 per month: $18 in compliance costs ($2 for each of the 9 dishes still consumed) plus a consumer surplus loss of $1 a month. Assuming that taxes account for 30 percent of the price of gasoline (which is about true in Pennsylvania, where in 2018 the State gasoline tax of $0.587 a gallon is added to the Federal tax of $0.184 a gallon), the reduction in gasoline tax revenues

from this consumer—which measure the regulatory excess burden—is $3 a month. In this example, the total cost of the restaurant regulatory action is correctly measured to be $22. Failing to include the excess burden omits $3 in costs, or almost 14 percent of the total costs.[17] The share of the total costs accounted for by the excess burden depends on the strength of the demand-complementarity and the size of the preexisting tax (Goulder and Williams 2003). If the good with a preexisting tax is a substitute for the good produced by the regulated industry, the excess burden is negative—that is, the excess burden of the preexisting tax is reduced.

Moving from the hypothetical example to a real-world regulatory action, the 2010 Affordable Care Act required chain restaurants to post calories of menu items. Major cost elements in the RIA of this requirement included collecting and managing records of nutritional analysis, revising or replacing menus, and training employees (79 *FR* 67406). The FDA estimated that the compliance costs are $84.5 million (in 2011 dollars, annualized at a 7 percent discount rate). Based on an analysis that the labels will shift consumers toward healthier foods and reduce obesity, the FDA estimated that the annualized benefits are $595.5 million (in 2011 dollars). A more complete analysis of the calorie-posting rule would not exactly parallel the hypothetical example. Unlike the hypothetical example, the calorie-posting rule mainly creates fixed costs of compliance. However, if the fixed costs restrict entry and competition, the rule would still reduce consumption of restaurant food and of the complementary good, gasoline. Although the RIA's estimated compliance costs did not include an estimate of the excess burden imposed in the market for gasoline, in this case correcting the omission is unlikely to change the conclusion that the benefits of the regulatory action exceeded the costs. A more complete analysis could also consider other preexisting distortions that affect the chain restaurant industry, such as agricultural subsidies and the joint employer standard (discussed below). The potential complications illustrate a common challenge in RIAs—the need to include the most important distortions without making the analysis overly long and complex.

A cost-benefit analysis should account for changes in tax revenues when they measure the excess burdens that regulatory actions impose in the presence of preexisting distortions (Harberger 1964). The standard economic analysis of a tax increase measures the tax revenues generated and the excess burden imposed on the economy, known as the deadweight cost of taxation (Auerbach and Hines 2002). In a cost-benefit analysis of a tax increase, the change in revenues from that tax is merely a transfer payment that leaves

[17] In practice, an RIA of the restaurant regulatory action might fail to account for the reduction from 10 to 9 dishes per month. The approximation that assumes no reduction would lead the RIA to overestimate the compliance costs to be $20. The approximation in estimating compliance costs could offset part of the mistake of ignoring the $3 excess burden. In general, approximations and mistakes need not cancel each other out.

social benefits unchanged; the tax revenues represent a monetary payment from one group (the consumers who pay the tax) to another group. But the point of the example given above was to evaluate the hypothetical regulatory action that imposed new costs on the restaurant industry and also shifted consumer demand for gasoline when there already was a preexisting gasoline tax. Because of the preexisting tax, consumers have already given up the lower-value purchases of gasoline. Consumers' marginal willingness to pay for gasoline exceeds—by the amount of the tax—the marginal opportunity costs of the factors of production used in the gasoline industry. The preexisting gasoline tax results in the misallocation of resources to the market for gasoline. When the regulatory action increases the price of restaurant dishes and shifts the demand for the complementary good, gasoline, the resource misallocation due to the preexisting distortion is magnified. As a result, the regulatory action creates an excess burden, which is measured by the change in tax revenues.

By the same reasoning, a cost-benefit analysis should account for changes in subsidy expenditures when they measure excess burdens created by regulatory actions. Again, the common case where subsidy expenditures are treated as transfer payments does not apply. For example, chapter 4 discusses the costs and benefits of setting the Affordable Care Act's individual mandate penalty to zero. The CBO (2017) projected that setting the penalty to zero will reduce federal expenditures on ACA subsidies by $185 billion over 10 years. The ACA premium subsidy is properly treated as a transfer when the task is evaluating the effects of the subsidy. But the analytical task in chapter 4 is to evaluate removing the mandate penalty, not to evaluate changing the ACA subsidy rules. The reduction in subsidy expenditures measures the benefits of setting the penalty to zero. Parallel to the analysis of a preexisting tax, the preexisting ACA subsidy results in the misallocation of resources, and the mandate penalty magnifies the resource misallocation. A consumer who voluntarily gives up his or her subsidy when the mandate penalty is removed is not, by comparison with his or her situation with the penalty in place, harmed because the Treasury no longer provides a subsidy. Instead, the consumer has received a benefit by no longer being constrained by the tax penalty, and at the same time taxpayers benefit by no longer having to finance the ACA subsidy. As in the case for taxation, whether the regulatory excess burden is positive or negative depends upon whether the goods are substitutes or complements, as well as on whether the regulatory action decreases or increases subsidy expenditures.[18]

In practice, taking into account all the adverse economic consequences of a regulatory action might seem a daunting task. To estimate the costs of the Clean Air Act and the Clean Water Act, Hazilla and Kopp (1990) constructed an

[18] Self-paid treatment would also be provided in the absence of insurance enrollment and would, in the absence of behavioral considerations, be reflected in the height of the health insurance demand curve. The shapes of both the demand and supply curves would determine the discrepancy between surplus changes and federal budget effects.

econometric general equilibrium model that included 36 producing sectors on the supply side and a complete model of consumer behavior on the demand side. If the general equilibrium approach is taken, it is important that the models include the preexisting taxes and subsidies that drive the excess burdens of regulation. Murray, Keeler, and Thurman (2005) evaluated a possible rule of thumb that, to capture excess burdens, the direct costs of environmental regulatory actions should be adjusted upward by 25 to 35 percent. Their analysis showed that the rule of thumb is not necessarily a good approximation and concluded that whenever possible, estimates of regulatory costs should be based on the specific nature of the regulatory actions and likely interactions between the tax and regulatory systems.

In many circumstances, instead of a rule of thumb, an implementable formula provides a good approximation of the excess burden that a tax or regulatory action imposes in the labor market (Goulder and Williams 2003). The formula captures general equilibrium interactions that are often left out. The use of this approximation—and, when needed, extending it to include other important sources of excess burdens—allows reviews of new regulatory and deregulatory actions to be based on more complete estimates of total regulatory costs.

The Burdens of Nudge Regulatory Actions

Regulatory reviews should take a cautious approach to so-called nudge regulatory actions. The relatively new field of behavioral welfare economics suggests that policy nudges can help people make better decisions (Chetty 2015). The typical definition of a policy nudge is that it changes behavior, although it is easy to avoid and has a low cost (Thaler and Sunstein 2008). For example, employers can nudge their workers to save more for retirement by making enrollment in a 401(k) retirement plan the default option (Madrian and Shea 2001). Because it was easy for the workers to opt out of the 401(k) plan, changing the default option fit the definition of a nudge. Advocates argue that nudges help consumers make choices—in this case, saving more for retirement—that are in the best interests of the consumers themselves. However, behavioral welfare economics poses a number of challenges for regulatory reviews. Behavioral economics arguments might tend to exacerbate the tilt in the regulatory process toward the benefits of expanding the regulatory state. In addition, although some nudge regulatory actions may yield important benefits, they also may involve easy-to-overlook opportunity costs.

The basic challenge is whether "individual failures" should be added to the standard list of market failures as potential justifications for new regulatory actions. The logic in favor of adding them is the argument that policy nudges help people avoid making predictable mistakes—decisions that the individuals themselves would agree are not in their own best interest. The mistakes can be called "internalities"; individuals impose costs on themselves that they fail

to consider when making decisions. The main guidance document for regulatory review, "Circular A-4" (OMB 2003), does not discuss individual failures or internalities. OMB's (2003) guidance emphasizes that when possible, benefits should be estimated based on consumers' revealed preferences. In contrast, behavioral welfare economics emphasizes that because consumers make systematic mistakes, their revealed preferences are not a reliable guide for estimating benefits. For example, if consumers mistakenly fail to take into account future savings from more energy-efficient products, their revealed preference for inefficient products should not be used to measure the benefits of regulatory actions to promote energy efficiency. OMB's guidance and behavioral economics thus place different emphases on the role of revealed preferences in benefit estimation. However, OMB's guidance does not explicitly exclude methods of behavioral economics; nor does it exclude the argument that individual failures might provide the rationale for new regulatory actions. Executive Order 13707—issued September 15, 2015—encourages Federal agencies to apply insights from behavioral economics and, following Britain's example, a "nudge unit" (officially, the Social and Behavioral Sciences Team) was established to explore policy options. Increasingly, in practice RIAs discuss individual failures as providing a rationale for regulatory action.

In the past, Federal agencies have claimed that regulatory actions were needed because consumers and businesses failed to take into account the future savings from buying more energy- and fuel-efficient products (Gayer and Viscusi 2013). The arguments in the regulatory analyses echo long-standing claims about energy conservation policies (Allcott and Greenstone 2012). Much of the evidence for the claims came from engineering estimates of energy conservation cost curves. The engineering studies often concluded that energy can be conserved at a negative net cost—that is, that investing in energy conservation more than pays for itself. The apparently unexploited gains from investing in conservation might be viewed as evidence that many consumers and businesses make mistakes about energy conservation. However, engineering estimates typically omit opportunity costs and may fail to properly account for physical costs and risks. The shortcomings of engineering studies make the estimates "difficult to take at face value" (Allcott and Greenstone 2012, 5).

The opportunity costs of investing in energy conservation can take many forms. Allcott and Taubinsky (2015) conducted two randomized experiments to estimate the effect of providing consumers with more information about the energy efficiency of lightbulbs. In both experiments, even after efforts to inform consumers and call attention to the energy savings, large shares of consumers continued to purchase incandescent lightbulbs rather than compact fluorescents. The experimental results suggest that a regulatory action that bans incandescent lightbulbs creates significant opportunity costs for those consumers who simply prefer the lighting provided by incandescents. In principle, the benefits (or costs) of a ban on incandescent lightbulbs could be estimated

in two steps: First, complete an engineering estimate of the value of the energy savings; and second, adjust the engineering estimate downward to account for lost consumer surplus. An analogous approach has been used to estimate the value of reducing consumption of a good that harms health (Ashley, Nardinelli, and Lavaty 2015). The practical difficulty of implementing this approach has been called "a tall order" (Levy, Norton, and Smith 2018, 26).

In another important example of regulatory policy to conserve energy, the National Highway Traffic and Safety Administration (NHTSA) and the EPA set Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks. The rule, which was finalized in 2012, increased the stringency of the fuel economy standards, which were estimated to then require manufacturers to achieve a fleet-wide standard of 40.3 miles per gallon for the 2021 model year. This rule would have increased to 48.7 miles per gallon for the 2025 model year, if the NHTSA had the statutory authority to set standards that far into the future in a single rulemaking. The 2012 NHTSA regulatory impact analysis concluded that the benefits of the standards substantially exceeded the regulatory costs. In the analysis, future fuel savings for consumers accounted for 77 percent of the estimated benefits (Gayer and Viscusi 2013). In fact, the analysis estimated that the fuel savings for consumers would exceed the additional costs they would incur in the form of higher-priced vehicles. In contrast, holding everything else being constant, the regulatory actions cannot make a rational consumer better off and might make them worse off.[19] Some rational consumers might make the same fuel economy choices that the NHTSA's analysis estimated were "right," in which case the regulatory action would not change their behavior and thus would not create any benefits for them. Some rational consumers might instead decide that other car features are more desirable than future fuel economy, in which case the regulatory action makes them worse off. For example, under the standards, consumers might not be able to purchase cars they prefer with more powerful but less fuel-efficient engines. If the results of the 2012 analysis are accurate, one must believe that consumers who make such choices are not acting in their own self-interest. The standards also created environmental benefits, which played a "largely

[19] The regulatory actions reduce choices, and in general more choices are better than fewer choices. More technically, the fuel economy regulatory actions impose additional constraints on the consumer's optimization problem. The solution to a more constrained optimization problem cannot lead to an outcome that is preferred over the solution to a less constrained optimization problem. The regulatory actions might mean that everything else is not constant. For example, if there are economies of scale in producing more fuel-efficient cars, the CAFE regulatory actions could decrease the average cost. The cost reduction would benefit consumers who prefer more fuel efficiency. However, if there are also economies of scale in producing less fuel-efficient cars, there would be an offsetting cost increase for consumers who prefer other attributes, such as more powerful engines. Of course, all consumers can also be made better off by the reduction in externalities. The RIA measured those benefits separately. The question of consumer rationality is whether there are net private benefits for consumers from future fuel savings.

incidental role" in the cost-benefit analysis (Gayer and Viscusi 2013, 19). If the analysis were corrected so that consumers behaved self-interestedly, the estimated costs of the standards would have been greater than the estimated benefits (Gayer and Viscusi 2013; Allcott and Knittel 2019).

Recently, a 2018 NHTSA and EPA preliminary regulatory impact analysis of the proposed Safer Affordable Fuel Efficient (SAFE) Vehicles Rule concluded that a deregulatory action—in the form of retaining the 2020 standards through model year 2026—would reduce regulatory costs by between $335 billion (in 2016 dollars; 3 percent discount rate) and $502 billion (in 2016 dollars; 7 percent discount rate) over the lifetime of the vehicles (NHTSA and EPA 2018). The regulatory analysis is complex and runs over 1,600 pages. It considers eight regulatory alternatives and multiple conceptual and empirical modeling issues. Our discussion focuses on its treatment of the question of whether consumers undervalue fuel economy when making car purchases. New empirical evidence suggests that buyers undervalue fuel economy only slightly, if at all (Busse, Knittel, and Zettelmeyer 2013; Allcott and Wozny 2014; Sallee, West, and Fan 2016). The studies analyze data on the sales of different models of cars to identify the impact of higher fuel economy on the selling price. In addition, the studies use rich data to control for the influence of other attributes—for example, more engine power—that also influence the selling price. Holding these other factors constant, the studies find that consumers are willing to pay higher prices for more efficient cars that reduce their future fuel costs. The studies compare the estimated willingness to pay for higher fuel economy with estimates of the expected fuel savings. The estimated fuel savings depend not only on the car's fuel economy but also on future gasoline prices and the extent to which future savings are discounted. Depending on different assumptions about future fuel prices and discount rates, the studies estimate that when purchasing cars, consumers incorporate from 55 percent to over 100 percent of future fuel costs. Although the precise degree of undervaluation (if any) is difficult to know, the empirical evidence is inconsistent with the 2012 cost-benefit analysis implying that most consumers mistakenly ignore fuel economy.

When a regulatory analysis argues from behavioral economics that a regulatory action corrects individual failures, the RIA should apply the same evidence standards used when evaluating standard market failures. As mentioned above, OMB's (2003) guidance tells Federal agencies to determine that the market failure is significant, and that they should describe the failure both qualitatively and, when feasible, quantitatively. The discussion in the 2018 preliminary regulatory impact analysis of whether consumers undervalue fuel economy is a good example of an evidence-based and quantified description; the analysis suggests that the individual failure of undervaluation is probably not significant. In other cases, behavioral economics research on individual failures might sometimes fail to meet the standard of providing strong evidence for quantification. To a large extent, empirical evidence on individual

failures comes from experiments in economic laboratories. Although carefully designed and controlled experiments provide tight tests of specific behavioral hypotheses, it is problematic to try to extrapolate experimental results to predict how people make real-world decisions in markets.

Even with empirical support that a nudge is needed, measuring the costs of a regulatory nudge is difficult. This difficulty arises in part from the issue of how to precisely define what constitutes a nudge. The criteria that a nudge is easy to avoid and has a low cost are not precisely quantified (Thaler and Sunstein 2009). Some policies that correct supposed consumer mistakes are not nudges. For example, fuel economy standards are not a nudge; the standards are not easily avoided and impose opportunity costs because they limit the availability of cars with desirable features. In contrast, the Motor Vehicle Fuel Economy Label rule is a nudge designed to correct the same consumer mistakes. If this nudge worked, fuel economy standards would be unnecessary (Gayer and Viscusi 2013). Glaeser (2006) points out that other common nudge policies essentially create a psychic tax—even though the nudges do not require explicit payments, consumers bear a real cost. Cost-benefit analyses should account for the fact that stigmatizing behavior imposes real costs, regardless of whether the behavior is in the consumers' own best interest. More research is needed to develop empirical estimates of the costs of stigmatization and the willingness to pay to avoid it. Promising approaches include revealed and stated preference methods that have been developed to estimate the willingness to pay for other commodities that are not directly traded in markets (OMB 2003).

Expanding Use of Regulatory Impact Analysis

Another priority to strengthen the regulatory review process is to expand the number of complete and quantified regulatory cost-benefit analyses. Because the time, personnel, and resources available for regulatory reviews are limited, Federal agencies are only required to conduct cost-benefit analyses of significant regulatory actions. As a result, from 2000 through 2018, about 70,000 final rules were published in the *Federal Register*, and fewer than 6,000 of these rules were deemed significant under Executive Order 12866. Because the unreviewed rules were anticipated to not have economic effects greater than $100 million annually or other significant adverse effects, in principle they might account for a small share of total regulatory costs. However, given the volume of unreviewed rules, the uncounted regulatory costs might add up to a significant share. OMB should continue to carefully review agencies' analyses of whether the regulatory action is significant in the first place.

For a large fraction of significant rules discussed in OMB's *Reports to Congress*, the agencies were not able to completely quantify the benefits and/or costs. Furchtgott-Roth (2018) examines a number of important Federal labor market regulations, including the joint employer standard case study

at the end of this chapter, that were not evaluated with cost-benefit analyses when they were issued.[20] Unlike 1981 Executive Order 12291, which explicitly required an analysis of whether the potential benefits exceeded the potential costs, the current regulatory review Executive Order 12866, which was enacted in 1993, requires only that the potential benefits "justify" the potential costs. Although at other points this Executive Order still refers to maximizing net benefits, the wording might leave the door partly open for an unquantified cost-benefit analysis. In many cases, regulatory analyses have been incomplete (Hahn and Tetlock 2008). Studies of the U.S. regulatory review process have found that over the past 30 years, in only about one-third to one-half of the cases was the regulatory analysis able to conclude that the benefits exceeded the costs (Hahn and Dudley 2007). In most of these cases, the original analysis was simply unable to quantify the benefits and/or the costs. After reviewing OMB's *Reports on the Benefits and Costs of Federal Regulations* across different administrations, Fraas and Morgenstern (2014) concluded that the Obama Administration placed more emphasis on difficult-to-measure benefits such as the value of dignity and equity. Sunstein (2018) argues that as a general principle, regulatory cost-benefit analyses should try to measure the willingness to pay to honor moral commitments. Even when it is difficult to place a dollar value on a regulatory action's benefits, quantifying its costs makes the trade-offs involved more transparent.

Improving cost-benefit analyses of a set of regulatory actions known as "budgetary transfer rules" is another priority. Budgetary transfer rules involve changes in receipts or outlays, such as Medicare funding. An important principle of cost-benefit analyses is that lump-sum transfers that do not change economic behavior but simply transfer income from group A to group B do not yield net benefits or net costs. The benefits for group B are exactly offset by the costs imposed on group A. However, budgetary transfer rules are not lump-sum transfers and thus cause people to change their behavior. For example, a regulatory action that changes Medicare payments is not simply a transfer from taxpayers to healthcare providers. Taxpayers and healthcare providers will respond to the changed incentives created by the regulatory action. The transfer rule has a budgetary impact and also has effects on private sector behavior. As discussed above, a cost-benefit analysis should measure all the changes in consumer and producer surplus that result when regulatory actions change private sector behavior. In the past, most agencies typically reported only the estimated budgetary effects of the transfer rules and sometimes the direct compliance costs. Recognizing that "transfer rules may create social benefits or costs," OMB encourages agencies to report them "and will consider incorporating any such estimates into future *Reports*" (OMB 2017b, 22). The framework

[20] Some were issued by independent agencies, or were issued as informal guidance, or were considered economically insignificant.

we develop above provides guidance for more complete cost-benefit analyses of transfer rules.

A complete cost-benefit analysis of transfer rules also requires consideration of preexisting distortions—namely, subsidies and taxes. By the nature of transfer rules, the actions often change behavior that is already affected by government subsidies. For example, a Medicare transfer rule might increase or decrease coverage for healthcare services. A transfer rule might also increase or decrease total Federal expenditures that need to be financed through taxes. In many cases, one component of the costs of a transfer rule will be the rule's budgetary impact, rescaled by an estimate of the marginal deadweight cost of government revenue.

Until 2018, the OIRA review process generally excluded two important sets of regulatory and deregulatory actions: tax regulatory actions taken by the Department of the Treasury, and regulatory actions taken by independent agencies. Just as with the regulatory actions that are currently subject to cost-benefit analysis, these regulatory actions promoted important goals, but at an opportunity cost. A regulatory cost-benefit analysis is thus still needed to help strike the right balance.

On April 11, 2018, the Department of the Treasury and OMB signed a memorandum of agreement that outlines a new process for OMB to review tax regulatory actions under Executive Order 12866 (White House 2018). This agreement reflected Treasury's and OMB's shared commitment to "reducing regulatory burdens and providing timely guidance to taxpayers," particularly guidance necessary to unleash the full benefits of the Tax Cuts and Jobs Act. Under the agreement, a tax regulatory action will be subject to OIRA review if it has an annual nonrevenue effect on the economy of $100 million or more. Many tax regulatory actions are focused on improving the collection of tax revenues, and there is a long-standing process to review the revenue effects of the Department of Treasury's regulatory actions. However, similar to other agencies' regulatory actions, some tax regulatory actions are designed to change incentives so as to promote social goals. For example, the Department of the Treasury issued tax regulatory actions that clarify which transactions would quality for beneficial tax treatment for investments in Opportunity Zones, such as equity investments made in Qualified Opportunity Funds that invest in the Opportunity Zones. The proposed rule is expected to qualify as a deregulatory action because it will reduce taxpayers' planning costs. By reducing taxpayers' uncertainty, the rule should promote the goal of encouraging investments to flow into Qualified Opportunity Funds. (The Opportunity Zone initiative is discussed in more detail in chapter 3.)

Regulatory and deregulatory actions continue to be issued by independent agencies are not subject to the OMB regulatory review process. The economic framework we develop above is broad enough to encompass independent agencies' actions. The principles of regulatory cost-benefit analysis apply

equally well to these actions, although of course they will need to be applied to the specific contexts of the independent agencies. Several independent agencies have created groups to conduct economic analyses internally. In 2009, the Securities and Exchange Commission created the Division of Economic and Risk Analysis. In recent developments, the Consumer Financial Protection Bureau has established its own Office of Cost-Benefit Analysis, and the Federal Communications Commission is in the process of establishing an Office of Economics and Analytics. There remains an unmet need for cost-benefit analyses of the regulatory actions taken by the independent agencies. Coglianese (2018) discusses three proposed policy options for improving independent agencies' regulatory analyses: through the courts, through the OMB process, or through a required analysis undertaken outside OMB.

Case Studies of Deregulatory Actions and Their Benefits and Costs

This section presents three case studies of deregulatory actions and their benefits and costs. The first case study describes association health plans. The second study examines short-term, limited-duration insurance plans. And the third study discusses the specification of the joint employer standard.

Case Study 1: Association Health Plans

A major theme of this chapter is that the burdens of regulatory actions accumulate, which means that the cumulative costs of a set of actions will be larger than the sum of the costs of each regulatory action analyzed one by one. Case studies 1 and 2 illustrate the process in reverse: The cost savings from deregulatory actions also accumulate. The CEA's (2019) analysis used CBO projections and other evidence to conduct prospective cost-benefit analyses of two deregulatory actions taken in 2018 that expanded consumer health coverage options: the association health plan (AHP) rule; and the short-term, limited-duration insurance (STLDI) rule. These deregulatory reforms restore and expand options in health insurance markets within the existing statutory frameworks, including the Affordable Care Act. We discuss the benefits and costs of each action separately, but the analysis accounts for the cumulative nature of the deregulatory actions.

Specifically, the CBO (2018) projected the combined impact of the AHP and STLDI rules. The CBO's projections also incorporated the fact that the Tax Cuts and Jobs Act of 2017 had already set the individual mandate penalty to zero owed by consumers who did not have Federally-approved coverage or an exemption. (Chapter 4 provides a more detailed analysis of the individual mandate penalty.) Taking into account the zero-mandate penalty, the CBO (2018) projected that by 2023, the AHP and STLDI rules will lead to 4 million more AHP enrollees and 2 million more STLDI enrollees.

Before 2018, under Title I of the Employee Retirement Income Security Act (known as ERISA), the Department of Labor had adopted criteria in subregulatory guidance that restricted the establishment and maintenance of AHPs. On June 21, 2018, the Department of Labor issued the AHP deregulatory action to establish an alternative pathway to form AHPs that modified some of the criteria. The AHP rule is an example of how deregulation does not always involve the elimination of an existing rule, but can instead involve revising subregulatory guidance through notice-and-comment rulemaking.

The AHP rule's removal of regulatory burden expands the ability of small businesses and working owners without other employees to join AHPs. AHPs allow small businesses and certain working owners to group together to self-insure or purchase large group insurance. AHPs allow small businesses to offer their workers more affordable and potentially more attractive health coverage. Summing up over the groups of consumers whose health coverage options are expanded by the AHP rule, the CEA (2019) estimated that in 2021, after consumers and markets have had time to adjust, removing the regulatory burden will yield net social benefits worth $7.4 billion. In addition, these savings are estimated to reduce regulatory excess burdens by $3.7 billion.

Many uninsured Americans today work for small businesses. The ACA subjected health insurance coverage for small businesses to mandated coverage of essential health benefits and price controls (in the form of restrictions on how premiums are set) that are not required for large businesses. Under the ACA, AHP coverage provided to employees through an association of small businesses and certain working owners is regulated the same way as coverage sold to larger businesses. Interpreting ERISA, the AHP rule provides a new pathway to form AHPs that modified the earlier subregulatory restrictions. New AHPs will be able to form by industry or geographic area (e.g., for metropolitan areas and States).[21] Fully insured AHPs could be established beginning on September 1, 2018, while self-funded AHPs needed to wait until early 2019.

Two studies provide estimates of the effects of the AHP rule on insurance coverage and ACA premiums. The CBO (2018) projects that after the rule is fully phased in, it will expand AHP enrollments by about 4 million people. Also, the CBO projects that consumers who switch to AHP coverage will be healthier than average enrollees in small group or individual plans. Based on the CBO's projections, the CEA (2019) estimated that the AHP rule will cause gross (of subsidy) premiums in the nongroup market to increase by slightly more than 1 percent. Another study estimated that the proposed rule on AHPs will cause

[21] The AHP rule expands organizations' ability to offer AHPs on the basis of common geography or industry. For example, existing organizations such as local chambers of commerce could offer potentially large AHPs. According to the Association of Chamber of Commerce Executives, local chambers of commerce range in size from a few dozen firms to more than 20,000 firms. Depending upon the number of workers per chamber member, the potential group size of chambers of commerce-based AHPs range from the hundreds to the tens of thousands.

3.2 million enrollees to leave the individual and small group markets and enter AHPs by 2022 (Avalere 2018).

The AHP rule will allow small businesses to offer their workers more affordable health coverage by reducing the administrative cost of coverage through greater economies of scale. The share of the premium accounted for by administrative costs falls with insurance group size; the share is 42 percent for firms with 50 or fewer employees, compared with 17 percent for firms with 101 to 500 employees and 4 percent for firms with more than 10,000 employees (Karaca-Mandic, Abraham, and Phelps 2011). The AHP rule allows the average group size to expand, which reduces the average cost of AHP coverage—a significant advantage for many small and medium-sized businesses.

The AHP rule also gives small businesses more flexibility to offer their workers health coverage that is more tailored to their needs. At this point in time, it is speculative whether AHPs will provide relatively comprehensive coverage or more tailored coverage. Providing more choices over tailored coverage options could have substantial value for consumers. An analysis of choices made in the employment-related group market found that offering more preferred plan choices was as valuable for the median consumer as a 13 percent premium reduction (Dafny, Ho, and Varela 2013). The CEA's (2019) analysis did not include a separate estimate of the value of more tailored plan options. In some circumstances, there may be a trade-off between AHP group size and the extent of tailoring, because the more tailored plan might not be attractive to all potential AHP members. In this context, the estimate of the benefits of reduced administrative costs provides a lower bound for benefits; consumers who do not take advantage of the lower administrative costs of larger AHPs do so because they value tailored coverage more highly than the cost savings.

The AHP rule affects four groups of people: consumers who move out of ACA-compliant individual coverage in the nongroup market to ACA-compliant group coverage through an AHP; consumers who move out of small-group coverage; consumers who would have AHP coverage with or without the rule; and consumers who would have been uninsured without the rule. To estimate the effects of the AHP rule, the CEA (2019) used data from the CBO's (2018) projections and estimates of administrative costs. The AHP rule's addition of a new pathway to form AHPs, which modified the criteria for the creation of AHPs, decreased costs and thus increased the consumer surplus for AHP enrollees. The CEA's (2019) estimates include changes in the consumer surplus, and the reductions in the excess burden of regulatory costs. As discussed above, the consumer surplus and excess regulatory burden are often omitted. The CEA's (2019) analysis of the AHP rule provides a useful case study and guide to estimate these important aspects of regulatory costs.

The first step is to estimate the benefits that flow from consumers moving out of ACA-compliant individual coverage in the nongroup market. Based on differences in administrative costs of ACA-compliant coverage in the

individual market versus AHPs' ACA-compliant coverage in the group market, the CEA estimated that each enrollee who shifts from ACA-compliant individual coverage to ACA-compliant group AHP coverage saves $619 in administrative costs and enjoys $309 in net surplus from the cost reduction. In addition, the CEA estimated that after accounting for the loss of cross-subsidies and their effects on ACA-compliant premiums and subsidies in the nongroup market, each enrollee who shifts from ACA-compliant individual coverage into ACA-compliant AHP group coverage reduces third-party expenditures by $1,933. Aggregated over the 1.1 million enrollees who shift, in 2021 these effects of the AHP regulatory reform yield benefits worth $2.5 billion.

The second step is to estimate the benefits that flow from the roughly 2.5 million consumers who respond to the rule by moving out of small-group coverage into AHP coverage. By allowing enrollees to switch to AHPs that are larger than their existing small group plans, the CEA estimated that the AHP rule will on average reduce insurance administrative costs by $1,924, so each enrollee enjoys $962 of surplus from this cost reduction. The CEA assumed that the reduction in administrative costs also reduces Federal tax expenditures on health insurance by an average $349 per enrollee. Aggregated over the 2.5 million enrollees who make this shift, these effects of the AHP rule yield benefits worth $3.3 billion.

The third step is to estimate the benefits that the AHP rule generates for the consumers who would have AHP coverage with or without the rule. Due to the increase in average AHP group size, the CEA estimated that the rule reduces administrative costs by $335 per enrollee. The CEA assumed that the reduction in administrative costs also reduces Federal tax expenditures on health insurance by an average $61 per enrollee. The aggregate benefits from this effect of the AHP rule are worth $1.7 billion.

The fourth step is to estimate the benefits the AHP rule generates for consumers who would have been uninsured without the rule. The CBO (2018) projected that the AHP regulatory reform will reduce the number of uninsured consumers by 400,000. Because they are responding to a reduction in administrative costs that averages $619 per enrollee (as above), each newly insured AHP enrollee enjoys a consumer surplus of $309 from their purchase. The CEA (2019) also estimated that third-party costs of uncompensated care fall by $989 for each newly insured AHP enrollee. Offsetting these benefits, Federal tax expenditures on health insurance increase by an estimated $1,519 per newly insured AHP enrollee. The aggregated net costs of these effects of the AHP rule are $0.1 billion.

Summing up over the four groups of consumers whose insurance options are expanded by the AHP rule, the CEA (2019) estimated that in 2021, the rule yields social benefits worth $7.4 billion. The estimate of social benefits takes into account both the benefits and costs, including the possibility that the AHP

rule imposes new costs on a subset of enrollees in the nongroup market who pay higher insurance premiums.

Case Study 2: Short-Term, Limited-Duration Insurance Plans

The second case study considers an August 2018 deregulatory action that expanded short-term, limited-duration insurance (STLDI) plans. The 2018 STLDI rule revised a rule issued by the previous Administration in 2016. At the time of the enactment of the ACA and until the 2016 rule, STLDI plans had longer durations than allowed by the 2016 rule. The 2016 rule expressed a concern that consumers were purchasing STLDI plans as their primary form of coverage to avoid ACA requirements. The 2016 rule therefore shortened the total duration of STLDI plans from less than 12 months to less than 3 months (81 *FR* 75316).

The 2018 STLDI rule removed the restrictions created by the 2016 rule, which allows consumers more flexibility to purchase short-term insurance. On August 3, 2018, the Department of the Treasury, Department of Labor, and Department of Health and Human Services published a final rule that extended the length of the initial STLDI contract term to less than 12 months and allowed for the renewal of the initial insurance contract for up to 36 months, which is the same as the maximum coverage term required under COBRA continuation coverage (U.S. Congress 1985). Because the administrative costs and hassles of purchasing health insurance can now be spread out over a longer period of coverage, the STLDI rule also has the effect of lowering the average costs consumers pay for insurance. The CEA (2019) estimated that in 2021, the STLDI rule will yield benefits worth $7.3 billion. In addition, the savings in costs were estimated to reduce excess burdens by $3.7 billion.

Because STLDI plans are not considered to be individual health insurance coverage under the Health Insurance Portability and Accountability Act and the Public Health Service Act, STLDI coverage continues to be exempt from all ACA restrictions on insurance plan design and pricing. This allows STLDI plans to offer a form of alternative coverage to those who do not seek permanent individual health insurance coverage. The STLDI rule requires that STLDI policies must provide a notice to consumers that these plans may differ from ACA-compliant plans and, among other differences, may have limits on preexisting conditions and on health benefits, and have annual or lifetime limits.[22] Insurers were allowed to begin issuing STLDI plans on October 2, 2018—60 days after publication of the final rule.

Four studies provide estimates of the effects of the STLDI rule on insurance coverage and ACA premiums. The CBO projects that the STLDI regulatory reform will result in an additional 2 million consumers in STLDI plans by 2023 (CBO 2018). Based on CBO projections, the CEA (2019) estimated that the STLDI

[22] ACA-compliant coverage, including coverage offered on the exchange, continues to have no limits on preexisting health conditions.

rule will increase gross premiums by slightly more than 1 percent in the same time frame. The Centers for Medicare & Medicaid Services (CMS) project that by 2022, 1.9 million consumers will have STLDI policies and that, as a result, gross premiums for ACA coverage could increase by up to 6 percent (CMS 2018). A study published by the Urban Institute in 2018 predicts that the rule could increase STLDI enrollment by 4.2 million, but does not provide an estimate of the impact on gross ACA premiums (Blumberg, Buettgens, and Wang 2018). A 2018 study published by the Commonwealth Fund estimates that the rule could increase STLDI enrollment by 5.2 million and could increase gross ACA premiums by 2.7 percent (Rao, Nowak, and Eibner 2018).

Under both the 2016 and 2018 rules, STLDI plans are exempt from ACA requirements, including the mandated coverage of the 10 essential health benefits (CCIIO 2011). The 2016 STLDI rule limited the duration of an STLDI contract to less than 3 months. The 2016 rule's restrictions on the duration of an STLDI contract exposed potential STLDI enrollees to the risk of losing their STLDI coverage at the end of three months, or if they could obtain a new STLDI policy, having their deductibles reset, among other things. The CEA (2019) therefore modeled both the renewability restriction and the limited terms as an addition to the load costs and hassle of STLDI plans associated with applying for coverage every 3 months rather than every 36 months, which are hereafter referred to as "loads."[23] Assuming no tax penalty on the uninsured, the CEA compared high-loaded STLDI plans (2016 rule) with low-loaded STLDI plans (new rule), and took the difference to be the impact of the new rule.

Allowing for STLDI plans under the 2016 rule makes the CEA's analysis different from some others (e.g., Blumberg, Buettgens, and Wang 2018) that assume that no STLDI plan is available under the 2016 rule, and fundamentally changes some of the results. According to the CEA's approach, even under the 2016 rule, there would be little reason for consumers paying premiums far in excess of their expected claims to continue with ACA-compliant individual coverage, because at least they have the expensive but not impossible option of reapplying for STLDI coverage every three months. The marginal STLDI enrollees must instead be those who receive either an exchange subsidy or a cross-subsidy from other members of the ACA-compliant individual market risk pool.[24] The CEA's approach also does not permit adding an additional benefit to STLDI enrollees from relief from the essential health benefits mandate, because they already had that relief under the previous rule, albeit with higher loads.

[23] The CEA notes that, under the 2016 rule, a consumer having difficulty continuing STLDI coverage could turn to ACA-compliant plans, which in a sense is a choice with extra loading to the extent that the applicable regulations deviate from the consumer's preferences.

[24] It is possible that the 2017 ACA-compliant risk pool included a number of consumers with a low ratio of expected claims to net premiums, but this *Report* is looking at plan years 2019 through 2028, when the individual mandate penalty is zero and market participants have had time to adjust to the reality of high premiums for ACA-compliant plans.

Lower premiums result from smaller loads because premiums finance both claims and loads. But, with the exemption from ACA regulations, STLDI plans also have more freedom to control moral hazard and to dispense entirely with loads associated with unwanted services by excluding those services from the plan. These are some of the reasons why premiums for STLDI coverage are often less expensive than premiums for ACA-compliant individual market insurance plans (CMS 2018; Pollitz et al. 2018).

Many health insurance simulation models treat consumer choice as a negative- or zero-sum game. A person who reduces his or her net premium spending by $1,000 when he or she forgoes unneeded coverage merely increases by $1,000 the premiums that must be collected from those who retain that coverage. This assumption is unrealistic because of moral hazard, administrative costs, and the fact that the exchanges cap and means-test premiums. For example, this person's gross premium for the forgone coverage may have been $1,500 (he receives premium subsidies on the exchange), $300 of which goes to administrative costs, and another $1,200 goes to the person's own claims that were of little value but are made as long as he or she is forced to have the coverage. This person's enhanced choice saves taxpayers $500, and imposes no cost on the risk pool. As demonstrated in the CEA's 2019 report, a broader and more realistic range of insurance market frictions, and thereby more reliable conclusions, are possible without unduly complicating the analysis.

The STLDI rule affects three groups of consumers: consumers who move out of ACA-compliant individual coverage and into STLDI coverage; consumers who would have chosen STLDI coverage with or without the rule; and consumers who would have been uninsured without the rule. To estimate the effects of the STLDI rule, the CEA (2019) used data from the CBO's (2018) projections, estimates of the elasticity of demand for health insurance, and estimates of the administrative and time costs of STLDI coverage. Before the 2018 rule, the 2016 rule's restrictions on STLDI coverage increased costs and thus reduced consumer surplus for STLDI enrollees. The CEA's (2019) estimates include changes in the consumer surplus, and reductions in the excess burden of regulatory costs. As discussed above, the consumer surplus and excess regulatory burden are often omitted. The CEA's (2019) analysis of the STLDI deregulatory action provides a useful case study and guide to estimate these important aspects of regulatory costs.

The first step is to quantify the benefits that the STLDI rule generates for consumers who move out of ACA-compliant coverage into STLDI coverage. The CBO projects that the rule will result in 2 million new enrollees in STLDI plans. The CEA (2019) estimated that over 1 million of these are consumers who shift from ACA-compliant individual coverage to STLDI coverage. The CMS projects that the average STLDI premium in 2021 will be $4,200. Assuming that the elasticity of demand for STLDI coverage is –2.9, the CEA estimated that by removing

the combined effects of the limits on renewability, the limited term, and the administrative costs and hassles, the STLDI rule reduces the load by $1,218. On average, each enrollee who switches from ACA-compliant individual coverage to STLDI coverage thus enjoys a consumer surplus of $609. (The average net surplus equals one-half the total cost savings of $1,218.) After accounting for the loss of cross-subsidies, we estimate that each enrollee who shifts from ACA-compliant individual coverage to STLDI coverage reduces third-party expenditures by $3,459. Aggregated over the 1.3 million enrollees who shift, in 2021 these benefits of the STLDI rule are worth $5.3 billion.

The effects of the STLDI rule depend upon how many consumers shift from ACA-compliant individual coverage to STLDI coverage, and of those, how many received ACA premium subsidies. The CEA (2019) used the CBO's (2018) projections that over 1 million consumers will switch from ACA-compliant individual coverage. The economic analysis in the STLDI rule assumes that in 2021, 600,000 enrollees will switch from ACA exchange plans to STLDI coverage, and another 800,000 will switch from off-exchange plans. In terms of how many switchers received ACA premium subsidies, we assume that the STLDI switchers will be on average similar to the enrollees projected to respond when the tax penalty is set to zero (CBO 2018). This assumption is uncertain. The CMS (2018) projects that mostly unsubsidized enrollees will switch to STLDI coverage. Similarly, the economic analysis in the STLDI Final Rule anticipates that most consumers who switch to STLDI coverage will have incomes that make them ineligible for ACA premium subsidies. The CEA (2019) conducted a sensitivity analysis that estimated the benefits from the STLDI rule under different assumptions about the number of consumers who switch from ACA-compliant individual coverage and the number of unsubsidized switchers.

The second step is to quantify the benefits that the STLDI rule generates for consumers who would have chosen STLDI coverage with or without the new rule. The CEA (2019) assumed that 750,000 consumers would have chosen STLDI coverage with or without the new rule. Each of these consumers gains the $1,218 in reduced load costs (as noted above). Aggregating over 750,000 consumers, the STLDI rule yields an additional $0.9 billion in benefits.

The third step is to quantify the benefits that the STLDI rule generates for the consumers who would have been uninsured without the rule. The CBO (2018) projects that the STLDI deregulatory reform will reduce the number of uninsured consumers by 0.7 million people, each of whom also enjoys a consumer surplus of $609 from their purchases (as noted above). The CEA (2019) also estimated that third-party costs of uncompensated care will fall by $989 for each newly insured STLDI enrollee. Aggregated over 0.7 million, the benefits for previously uninsured consumers who move into STLDI plans add another $1.1 billion.

Summing up over the three groups of consumers whose insurance options are expanded by the STLDI rule, the CEA (2019) estimated that in 2021,

the rule yields benefits worth $7.3 billion. The estimate of social benefits takes into account both the benefits and costs, including the possibility that the STLDI rule imposes new costs on a subset of enrollees in the nongroup market who pay higher insurance premiums.

Case Study 3: Specifying the Joint Employer Standard

During the Obama Administration, a new, expansive standard for determining joint employers dramatically changed the landscape of labor regulation for the employers of millions of American workers. This new standard especially burdened franchising, which is a large and rapidly growing part of retail, technology, and other sectors. This subsection explains why returning to the previous—narrow—standard, as the Trump Administration is doing, enhances productivity, competition, and employment in labor markets, with a net annual benefit likely exceeding $5 billion. These results occur in large part because the expansive standard increased entry barriers into local labor markets and discouraged specialization along the supply chain.

The working conditions of many of the Nation's employees are "affected by two separate companies engaged in business relationship."[25] A joint employer standard specifies when two or more companies are simultaneously the employer for legal purposes, and therefore both joint and severally liable "for unfair labor practices committed by the other." The definition of a joint employer is pertinent to legal liability in Fair Labor Standards Act litigation, enforced by the Department of Labor, and to collective bargaining rules overseen by the National Labor Relations Board. The NLRB established a common law standard by deciding various cases over the years, although that standard was volatile between 2014 and 2018. In 2018, including a board member appointed by President Trump, the NLRB issued its Notice of Proposed Rulemaking proposing to follow the standard before 2015, which was that "to be deemed a joint employer under the proposed regulation, an employer must possess and actually exercise substantial direct and immediate control over the essential terms and conditions of employment of another employer's employees in a manner that is not limited and routine."[26]

In August 2015, a decision by the NLRB established a more expansive standard that did not require the control to be direct or to be actually exercised. The NLRB's shift to a more expansive standard became apparent to the business community no later than July 2014, when the NLRB Office of the General Counsel asserted that McDonald's was a joint employer (NLRB 2014; Greenhouse 2014). The Department of Labor had also, in 2016, provided

[25] The quotations in this section are from 83 *FR* 46681–82.

[26] In addition to issuing the Notice of Proposed Rulemaking in 2018, the NLRB issued a December 2017 decision returning to the earlier (narrower) standard, although that decision was vacated in 2018 "for reasons unrelated to the substance of the joint-employer issue" (83 *FR* 46685).

informal guidance specifying a more expansive standard, and then during the Trump Administration withdrew that guidance.

Consider a few examples. Company ABC retains a temporary agency TMP for some clerical staffing that needs to be performed at ABC's location. If TMP has no supervisor at ABC's location and ABC is selecting and supervising the temporary employees, then by both standards ABC is a joint employer of those employees. The determination would, under the narrower standard, be the reverse if TMP was doing the supervision without detailed supervisory instructions from ABC.

Company FRA is a franchisee for company XYZ, which specifies the daily hours that FRA stores are open for business but does not involve itself with individual scheduling assignments. XYZ would not be a joint employer under the narrower standard but probably would be under the expansive standard.[27] Under the expansive standard, the NLRB charged McDonald's, which has the vast majority of its restaurants owned and operated by independent franchisees, as a joint employer for its franchisees' actions (Elejalde-Ruiz 2016). The McDonald's case was settled in 2018, with McDonald's no longer designated as a joint employer (Luna 2018), although an administrative judge rejected the settlement, which may be headed back to the NLRB for approval.

From an economic perspective, a joint employer determination prohibits the division of management responsibility that normally coincides with the assignment of management tasks along a supply chain. By restricting the allocation of responsibility along the supply chain, the chain will be less productive and involve less division of tasks (Becker and Murphy 1992). As an important example, franchisers may need to abandon their franchise status and either abandon the company assets or deploy them in a less productive corporate (nonfranchise) structure, where all the workers in the chain are employed by the franchiser.

Franchising, which is "a method of distributing products or services, in which a franchiser lends its trademark or trade name and a business system to a franchisee, which pays a royalty and often an initial fee for the right to conduct business under the franchiser's name and system," is by itself a ubiquitous business practice—about half of retail sales in the United States involve franchised operations (83 *FR* 46694; Norton 2004). About 9 million workers are employed by franchises (Elejalde-Ruiz 2016; Gitis 2017). Temporary help services is another important business model affected by the joint employer

[27] The NLRB's expansive standard is more speculative to apply and derives from a single NLRB decision, *Browning-Ferris*; two dissenting NLRB members found it to be "impermissibly vague." Franchisers can be joint employers under the narrower standard if, e.g., they specify that franchisees provide specific fringe benefits to franchisee employees.

standard, with 266,006 firms in 2012 obtaining about 2.5 million employees from 13,202 supplier firms.[28]

An expansive joint employer standard affects the competitiveness of the markets for labor as well as the productivity of the affected industries. The NLRB's Office of the General Counsel, advocating the expansive standard, stated that such a standard is needed to give workers additional market power (Phillips 2014). To the extent that the expansive standard causes franchises to be absorbed by the franchiser, the monopsony market power of employers would be increased.[29] Either of these adverse competition effects of the expansive standard are represented by areas *D1* and *E* in figure 2-5 above, with the "regulated industry" understood to be franchised supply chains or the temporary help industry. In order to quantify the annual amounts contained in these areas, we first estimate that employment in these businesses is about 8 percent of total employment. Because their average pay is lower, we estimate that total wages for 2017 are about $386 billion for franchisees and temporary help services.[30] The monopsony power created by the expansive standard reduces the wages paid by these businesses. For each 1 percent that wages are reduced, the aggregate wedge between wages paid and marginal productivity is about $7.7 billion in 2017 and $11 billion a year on average for the years 2020–29.[31]

Krueger and Ashenfelter (2018) estimate that increasing the market power of employers by fully eliminating competition for labor among those franchisees associated with the same franchiser would create a labor wedge equal to about one-sixth of the inverse of the wage elasticity of industry labor supply. At an industry supply elasticity of 1 (or 4), this means that worker's wages are depressed by 8 (or 2) percent, respectively. Assuming that some franchising would have continued even with the expansive standard, these are upper bounds but suffice to show that the 1 percent effect hypothesized above is plausible.

The $11 billion per year is a transfer, but it also represents a reduction in the aggregate demand for labor. Given that labor is already significantly taxed,

[28] The number of firms is from 87 *FR* 46694; and the number of employees is from FRED (2018). Temporary help employment has now exceeded 3 million.

[29] Consolidation on the worker side of the market (that is unionization) may offset the wage effect of consolidation on the employer side. However, the two are reinforcing in terms of the amount of labor and therefore inefficiency because each side with market power tends to reduce quantities (demanded or supplied, as applicable) in order to squeeze the other side of the market (Williamson 1968; Farrell and Shapiro 1990; Whinston 2006).

[30] The Bureau of Labor Statistics finds that the annual mean wage of temporary help service workers was $37,090 in May 2017. We proxy franchisee workers' wages using the annual mean wage of workers in retail trade, i.e., $32,930. We then create an annual mean wage of both groups by taking a weighted average of the two groups' wages.

[31] This assumes wage elasticities of labor supply and demand that are approximately equal in magnitude, so that a 1 percent movement down the labor supply curve is associated with about the same movement up the labor demand curve. To convert a 2017 amount to an average for 2020 through 2029, we assume 5 percent annual growth.

there is a social cost of reduced labor demand for the reasons discussed in connection with figure 2-6. Using the same 50 percent deadweight cost factor used for the health insurance case studies, that makes an annual net social loss of about $5.5 billion from the anticompetitive aspects of the expansive standard. A similar cost calculation would result if it were assumed instead that the expanded standard creates a similar-sized wedge in the labor market due to additional unionization.

Any productivity effects need to be added to the anticompetitive aspects. The CEA has not yet been able to quantify these effects, aside from noting above the number of workers employed by franchisees and in the temporary help industry. Nevertheless, the productivity effects may be important because franchisers view the franchise system as essential for them to be innovative and adaptive to changing market conditions (Hendrikse and Jiang 2007). McDonald's is a major franchiser, and its annual reports show how it has increased the number of franchisee stores while decreasing the number of company stores. Its goal is to have 95 percent of its stores be franchise stores.

Related subregulatory guidance issued in 2015 by the Department of Labor proposed a revised test for independent contractor status. Independent contractors account for about 7 percent of U.S. employment (BLS 2018a; Furchtgott-Roth 2018) and are important in the relatively new sharing economy. The 2015 test shares many of the same economic issues with the expansive joint employer standard: specialization, competition, innovation, and so on. But potentially unique to independent contractors is the direction of the "tax gap"; the expansive independent contractor standard may increase revenues from employee and business taxation, whereas the expansive joint -employer standard may reduce it.[32] The additional labor or capital tax revenue resulting from the regulation is reflective of a benefit, although there is also a cost in the other direction due to a reduction in the aggregate supplies of labor and capital (recall figure 2-6).

In summary, the recent decisions by the NLRB and the Department of Labor to return to the narrow joint employer standard will create an annual net benefit of billions of dollars in the forms of added competition and productivity in low-skill labor markets. A rough estimate suggests that the net annual benefit will probably exceed $5 billion.

Conclusion

Regulation involves trade-offs. Many regulatory actions have helped protect workers, public health, safety, and the environment. However, ever-growing

[32] One issue, not yet resolved by the CEA, is whether business income franchisers are taxed at a lower marginal rate than business income of franchisees, especially now that the statutory corporate income tax rate has been cut. Regarding the employee / independent contractor tax gap, for varying conclusions see Bauer (2015) and Eisenbach (2010).

cumulative regulatory costs have burdened the U.S. economy. In 2017 and 2018, the Trump Administration's regulatory cost caps turned around the growth in regulatory costs. Small business owners, consumers, and workers gain when less regulation means lower business costs, lower consumer prices, more consumer choice, and higher worker productivity and wages that exceed any reduction in the regulations' benefits. Guided by cost-benefit analyses, Federal agencies are eliminating and revising regulatory actions when the benefits do not justify the costs and to improve the cost-effectiveness of regulatory actions in accomplishing their important goals.

This chapter has used an economic framework to analyze the need for, and potential of, the Trump Administration's deregulatory agenda. The framework emphasizes what small-business owners have long known—that regulatory costs accumulate and multiply. When an industry is regulated, the effects are felt across the U.S. economy. Starting in 2017 and 2018, the economy has started to grow stronger as the cost savings from deregulatory actions have begun to accumulate. Deregulation is improving the country's fundamental productivity and incentives to enable sustained economic growth.