

**COMPETENCIES OVER DEGREES:  
TRANSITIONING TO A SKILLS-BASED  
ECONOMY**

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**HEARING**  
BEFORE THE  
**COMMITTEE ON EDUCATION AND THE  
WORKFORCE**  
**U.S. HOUSE OF REPRESENTATIVES**  
ONE HUNDRED EIGHTEENTH CONGRESS  
FIRST SESSION

HEARING HELD IN WASHINGTON, DC, JUNE 22, 2023

**Serial No. 118-16**

Printed for the use of the Committee on Education and the Workforce



Available via: *edworkforce.house.gov* or *www.govinfo.gov*

U.S. GOVERNMENT PUBLISHING OFFICE

53-757 PDF

WASHINGTON : 2024

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## **COMPETENCIES OVER DEGREES: TRANSITIONING TO A SKILLS-BASED ECONOMY**

**Thursday, June 22, 2023**

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON EDUCATION AND THE WORKFORCE,  
*Washington, DC.*

The committee met pursuant to notice, at 10:18 a.m. House Rayburn Office Building, Room 2175, Hon. Virginia Foxx, [Chairwoman of the Committee] presiding.

Present: Representatives Foxx, Thompson, Walberg, Grothman, Stefanik, Allen, Banks, Owens, Good, Miller, Kiley, Bean, Burlison, Moran, Chavez-DeRemer, Williams, Scott, Courtney, Wilson, Bonamici, Takano, Adams, DeSaulnier, Norcross, McBath, Hayes, Stevens, Manning, and Bowman.

Staff present: Cyrus Artz, Staff Director; Mindy Barry, General Counsel; Hans Bjontegard, Legislative Assistant; Cate Dillon, Director of Operations; Isabel Foster, Press Assistant; Daniel Fuenzalida, Staff Assistant; Sheila Havenner, Director of Information Technology; Meghan Heckelman, Intern; Claire Houchin, Intern; Amy Raaf Jones, Director of Education and Human Services Policy; Marek Laco, Professional Staff Member; Hannah Matesic, Deputy Staff Director; Audra McGeorge, Communications Director; Rebecca Powell, Staff Assistant; Kent Talbert, Investigative Counsel; Brad Thomas, Senior Education Policy Advisor; Ilana Brunner, Minority General Counsel; Scott Estrada, Minority Professional Staff; Gerardo Gutierrez, Minority Intern; Kristion Jackson, Minority Intern; Malak Kalasho, Minority Intern; Stephanie Lalle, Minority Communications Director; Angela Lopez-Albarran, Minority Intern; Raiyana Malone, Minority Press Secretary; Kevin McDermott, Minority Director of Labor Policy; Kota Mizutani, Minority Deputy Communications Director; Veronique Pluviose, Minority Staff Director; Jessica Schieder, Minority Economic Policy Advisor; Dhrtvan Sherman, Minority Staff Assistant; Banyon Vassar, Minority IT Administrator.

Chairwoman FOXX. The Committee on Education and the Workforce will come to order. I know that a quorum is present with a lot of friendly conversation going on. Without objection, the Chair is authorized to call a recess at any time. Thank you everyone for joining us today for hearing entitled Competencies Over Degrees: Transitioning to a Skills-Based Economy.

I thank the witnesses for traveling from as far as California to testify on such an important issue. Our economy is rapidly chang-

ing, and there is an urgent need to match the competencies of our future workforce within demand jobs. Advancements in technology, industries and the global markets are reshaping the opportunities available in America's economy.

Many employers are feeling the effects of America's economic growing pains as they struggle to access the skilled workforce needed to match the times. There is a growing recognition that the old ways of identifying talent are not working for today's economy.

To address this issue job creators across the country are shifting to skills-based hiring to broaden the talent pipeline and fill in demand, good paying jobs. It is time we reassess the definition of success in our society. Despite nearly two-thirds of Americans aged 25 and older not possessing a bachelor's degree, we have perpetuated the notion that such degrees are the only pathway to the middle class.

It is essential that we acknowledge the immense potential within individuals that transcends any demographic boundaries. We need to speak honestly about the educational paths we offer, and give priority to skills acquisition whether through work experience, military service, community college, certificate programs or online learning.

At its core skills-based hiring is based on the simple premise all learning should count. If a worker has the skills and competencies to do the job it should not matter how or where they obtain those skills. They should have the opportunity to compete for the job, by allowing all learning to be considered on a level playing field we can unlock the potential of the millions of Americans who gain skills through alternate routes.

After all, supporting the multiple educational pathways that Americans are choosing will make a difference only if employers are willing to look beyond the bachelor's degree, and recognize talent wherever it exists. The good news is skills-based hiring is gaining momentum as a solution to our workforce challenges. Increasing numbers of employers are removing degree requirements and instead focusing on specific skills and competencies needed for the job.

This approach not only widens the talent pipeline but has also proven to be more effective in hiring and retaining a high performing workforce. President Trump led the way in reforming Federal hiring through executive action, emphasizing skills over degrees. Several states, including Colorado, Maryland, Utah, Pennsylvania, Alaska, North Carolina and New Jersey, South Dakota, Ohio, and Virginia have also eliminated degree requirements for most State government jobs.

Employers are taking charge by creating their own pathways to identify and recruit skilled workers, including internships, apprenticeships, boot camps and on-the-job learning opportunities. These initiatives equip candidates with the exact skills required to excel in their roles.

However, for our workforce system to align with the demands of a skills-based economy it needs significant updates. One challenge faced by employers is navigating the landscape of skills-based credentials. The increasing number of programs and opportunities

emerging, consistent and transparent information about credentials and the competencies they indicate is vital.

Information on credentials should be funded and accessed easily through the workforce system. In turn, employers would have a greater ability to gauge the skills a worker possesses and determine his or her ability to succeed on the job. The workforce system could also play a crucial role by providing support, and reworking job descriptions around the competencies, and utilizing competency-based assessments to verify the skills of job seekers.

In order to help more employers, particularly small businesses, build their own pathways for workers to develop critical skills, the system must place a greater emphasis on employer led initiatives. Additionally, we must acknowledge that directly addressing the skills of prospective workers can be more difficult for employers from the legal and regulatory perspective, than simply relying on a bachelor's degree as a proxy for ability, despite the fact that degree requirements automatically exclude the vast majority of Americans.

Greater clarity and technical assistance on the lawful use of assessments would help more job creators make the shift to skills-based hiring. In conclusion, our economy is undergoing significant changes, and it is imperative that we adapt. I look forward to facilitating that shift in a bipartisan effort with my colleagues, by reauthorizing the Workforce Innovation and Opportunity Act, WIOA. With key reforms to WIOA we can begin to bridge the skills gap in our Nation's workforce.

Let us seize the opportunities presented by a skill-based economy where individual potential and competency are celebrated above all. With that, I look forward to the discussion today, and yield to the Ranking Member for his opening remarks.

[The Statement of Chairwoman Foxx follows:]



## COMMITTEE STATEMENT

**Opening Statement of Rep. Virginia Foxx (R-NC), Chairwoman  
Committee on Education and the Workforce Hearing:  
“Competencies Over Degrees: Transitioning to a Skills-Based Economy”  
June 22, 2023**

(As prepared for delivery)

Thank you to everyone for joining me today for a hearing entitled, “Competencies Over Degrees: Transitioning to a Skills-Based Economy.” Thank you to the witnesses for travelling from as far as California to testify on such an important issue.

Our economy is rapidly changing, and there is an urgent need to match the competencies of our future workforce with in-demand jobs. Advancements in technology, industries, and the global market are reshaping the opportunities available in America's economy.

Many employers are feeling the effects of America’s economic growing pains as they struggle to access the skilled workforce needed to match the times. There is a growing recognition that the old ways of identifying talent are not working for today’s economy. To address this issue, job creators across the country are shifting to skills-based hiring to broaden the talent pipeline and fill in-demand, good paying jobs.

It is time we reassess the definition of success in our society. Despite nearly two-thirds of Americans aged 25 and older not possessing a bachelor's degree, we have perpetuated the notion that such degrees are the only pathway to the middle class.

It is essential that we acknowledge the immense potential within individuals that transcends any demographic boundaries. We need to speak honestly about the educational paths we offer and prioritize skills acquisition, whether through work experience, military service, community college, certificate programs, or online learning.

At its core, skills-based hiring is based on a simple premise – all learning should count. If a worker has the skills and competencies to do the job, it should not matter how or where they obtained those skills. They should have the opportunity to compete for the job. By allowing all learning to be considered on a level playing field, we can unlock the potential of the millions of Americans who have gained skills through alternate routes. After all, supporting the multiple educational pathways that Americans are choosing will make a difference only if employers are willing to look beyond the bachelor's degree and recognize talent wherever it exists.

The good news is skills-based hiring is gaining momentum as a solution to our workforce challenges. Increasing numbers of employers are removing degree requirements and instead focusing on specific skills and competencies needed for the job. This approach not only widens the talent pipeline but has also proven to be more effective in hiring and retaining a high-performing workforce.

President Trump led the way in reforming federal hiring through executive action, emphasizing skills over degrees. Several states, including Colorado, Maryland, Utah, Pennsylvania, Alaska, North Carolina, New Jersey, South Dakota, Ohio, and Virginia, have also eliminated degree requirements for most state government jobs.

Employers are taking charge by creating their own pathways to identify and recruit skilled workers, including internships, apprenticeships, bootcamps, and on-the-job learning opportunities. These initiatives equip candidates with the exact skills required to excel in their roles.

However, for our workforce system to align with the demands of a skills-based economy, it needs significant updates.

One challenge faced by employers is navigating the landscape of skills-based credentials. With an increasing number of programs and opportunities emerging, consistent and transparent information about credentials and the competencies they indicate is vital. Information on credentials should be funded and accessed easily through the workforce system. In turn, employers would have a greater ability to gauge the skills a worker possesses and determine his or her ability to succeed on the job.

The workforce system can also play a crucial role by providing support in reworking

job descriptions around competencies and utilizing competency-based assessments to verify the skills of jobseekers. In order to help more employers, particularly small businesses, build their own pathways for workers to develop critical skills, the system must place a greater emphasis on employer-led initiatives.

Additionally, we must acknowledge that directly assessing the skills of prospective workers can be more difficult for employers from a legal and regulatory perspective than simply relying on a bachelor's degree as a proxy for ability – despite the fact that degree requirements automatically exclude the vast majority of Americans. Greater clarity and technical assistance on the lawful use of assessments would help more job creators make the shift to skills-based hiring.

In conclusion, our economy is undergoing significant changes, and it is imperative that we adapt. I look forward to facilitating that shift in a bipartisan effort with my colleagues by reauthorizing the Workforce Innovation and Opportunity Act (WIOA). With key reforms to WIOA, we can begin to bridge the skills gap in our nation's workforce.

Let us seize the opportunities presented by a skills-based economy, where individual potential and competency are celebrated above all.

Mr. SCOTT. Thank you, Dr. Foxx. Thanks to the leadership of President Biden and congressional Democrats, our economy is thriving. In the span of 29 months, President Biden has created more jobs than any previous President has created in a single 48-month term.

The past 2 years respectively, were the first and second largest job growth years in American history. That all happened while the President was improving the deficit situation that he inherited. As a result, we are not meeting today to discuss how to revive our economy, we are discussing strategies to continue to build the economy from the ground up and the middle out, address long-standing challenges in the labor market, and help find workers meaningful careers. For example, employers are continuing to look for skilled workers to fill the record number of new jobs. Over the years, far too many employers have fallen into the habit of requiring college degrees for jobs that do not necessarily require them.

This approach dismisses qualified job applicants who are skilled, and able to work, but are not even eligible because they do not hold a college degree. Both employers and our economy are losing out on the roughly two-thirds of talented, working-age Americans who do not hold a 4-year degree.

Moreover, requiring a college education contributes to economic disparities for people who are disproportionately facing barriers to completing higher education. Employees are increasingly evaluating job applicants based on experience and skills assessments, rather than formal credentials or degrees.

Major companies across industries, from Google to IBM in the tech sector to Costco and Publix in the retail sector, have been adopting skills-based hiring. Similarly, the Federal and State governments, and you mentioned many states, are looking to this ap-



proach for an increasing number of job applicants. For the past 2 years, 10 states, with both Democratic and Republican Governors, have passed policies to implement skills-based hiring for new public service jobs.

Notably, the previous administration also issued an executive order that instructed the Federal Government to implement skills-based hiring, and the current administration released new guidelines on skills-based hiring within the Federal Government. These initiatives demonstrate that skills-based hiring has the potential to provide workers with another established pathway to find good-paying jobs.

I am encouraged by the bipartisan enthusiasm for skill-based hiring. I appreciate the Chairwoman's interest in exploring how programs in the Workforce Innovation and Opportunities Act, or WIOA, can do a better job of ensuring equitable employment opportunities for those with barriers to employment.

When the House passed the legislation to reauthorize WIOA with bipartisan support last Congress, we included provisions that support those from historically disadvantaged backgrounds, such as the increasing use of wraparound services and codifying comprehensive services for justice-involved individuals.

I am also hopeful that this committee can discuss how the government can facilitate skills-based hiring practices, without driving a wedge between the value of a college degree and skills and experience. College degrees remain the surest pathway to economic mobility. This does not mean that everyone should be forced to go to college, nor does it mean that everyone should be restricted to receiving skills training.

Both higher education and skills training should be accessible to every American. In other words, Democrats agree that skills-based hiring has the potential to make our economy more efficient, more equitable, and more productive. We must do our due diligence to ensure that new hiring practices close income gaps and expand pathways to employment.

To do that, we need a robust body of evidence that considers the employment outcomes of these individuals. Simply put, we must ensure that skills-based hiring is not just equitable in concept, but equitable in practice. To that end, I hope we can pass a bipartisan and fully funded reauthorization of WIOA that relies on evidence-based practices, and better engages employers in our workforce development system.

We should also pass two initiatives that remove financial barriers to upskilling. One, the National Apprenticeship Act of 2023, that is because registered apprenticeship programs rely on skill-based hiring, and are alternative ways to economic prosperity, and Workforce Pell, which would enable students to use Pell grants to access short-term programs proven to lead to good careers.

Today, I look forward to discussing how these steps would unlock the full potential of our economy, rebuild the middle class, provide employers with the skilled workers they are looking for, and create more options for workers to find meaningful careers. Thank you, Madam Chair, and I thank the witnesses for being with us this morning, and I yield back.

[The Statement of Ranking Member Scott follows:]



## OPENING STATEMENT

House Committee on Education and the Workforce  
Ranking Member Robert C. "Bobby" Scott

### Opening Statement of Ranking Member Scott (VA-03)

Full Committee Hearing

*"Competencies Over Degrees: Transitioning to a Skills-Based Economy"*

2175 RHOB

Thursday, June 22, 2023 | 10:15 a.m.

Thank you, Dr. Foxx.

Thanks to the leadership of President Biden and Congressional Democrats, our economy is thriving.

In the span of 29 months, President Biden has created more jobs than any previous president has created in a single, 48-month term. And the past two years, respectively, were the first and second largest job growth years in American history. And that all happened while the President was improving the deficit situation that he inherited.

As a result, we are not meeting today to discuss how to revive our economy—we are discussing strategies to continue to build the economy from the ground up and the middle out; address long-standing challenges in the labor market; and help find workers meaningful careers.

For example, employers are continuing to look for skilled workers to fill the record number of new jobs.

Over the years, far too many employers have fallen into the habit of requiring college degrees for jobs that do not necessarily require them. This approach dismisses qualified job applicants who are skilled and able to work but are not even eligible because they do not hold a college degree. Both employers and our economy are losing out on the roughly two-thirds of talented, working-age Americans who do not hold a four-year degree.

Moreover, requiring a college education contributes to economic disparities for people who are disproportionately facing barriers to completing higher education.

Employers are increasingly evaluating job applicants based on experience and skills assessments rather than formal credentials or degrees. Major companies across industries—from Google to IBM in the tech sector to Costco and Publix in the retail sector—have been adopting skills-based hiring.

Similarly, the federal and state governments—and you mentioned many states—are looking to this approach for an increasing number of job applicants. For the past two years, 10 states, with both Democratic and Republican governors, have passed policies to implement skills-based hiring for new public service jobs. Notably, the previous administration also issued an executive order that instructed the federal government to implement skills-based hiring, and the current administration released new guidelines on skills-based hiring within the federal government.

These initiatives demonstrate that skills-based hiring has the potential to provide workers with another established pathway to find good-paying jobs.

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When the House passed legislation to reauthorize WIOA with bipartisan support last Congress, we included provisions that support those from historically disadvantaged backgrounds, such increasing the use of wrap-around services and codifying comprehensive services for justice-involved individuals.

I am also hopeful that this Committee can discuss how the government can facilitate skills-based hiring practices without driving a wedge between the value of a college degree and skills and experience.

A college degree remains the surest pathway to economic mobility. But this does not mean everyone should be forced to go to college, nor does it mean everyone should be restricted to receiving skills training. Both higher education and skills training should be accessible to *every* American.

In other words, Democrats agree that skills-based hiring has the potential to make our economy more efficient, more equitable, and more productive.

But we must do our due diligence to ensure that new hiring practices close income gaps and expand pathways to employment. And, to do that, we need a robust body of evidence that considers the employment outcomes of these individuals.

Simply put, we must ensure that skills-based hiring is not just equitable in concept, but equitable in practice.

To that end, I hope we can pass a bipartisan and fully funded reauthorization of WIOA that relies on evidence-based practices and better engages employers in our workforce development system. We should also pass two initiatives that remove financial barriers to upskilling: one, the *National Apprenticeship Act of 2023*, that's because Registered Apprenticeship programs rely on skills-based hiring and are alternative ways to economic prosperity, and Workforce Pell, which would enable students to use Pell grants to access short term programs proven to lead to good careers.

Today, I look forward to discussing how these steps would help unlock the full potential of our economy, rebuild the middle class, provide employers with the skilled workers they're looking for, and create more options for workers to find meaningful careers.

So, thank you Madam Chair and I thank the witnesses for being with us this morning. I yield back.

Chairwoman FOXX. Thank you, Mr. Scott. Pursuant to Committee Rule 8(c), all members who wish to insert written statements into the record may do so by submitting them to the Committee Clerk electronically in Microsoft Word format by 5 p.m., 14 days after the date of this hearing, which is July 6, 2023.

Without objection, the hearing record will remain open for 14 days to allow such statements and other extraneous material referred during the hearing to be submitted for the official hearing record. I now turn to the introduction of our distinguished witnesses.

Our first witness is Dr. Karin Kimbrough, who is the Chief Economist for LinkedIn located in Sunnyvale, California. Our second witness is Dr. Mark Smith, who is Director of H.R. Thought Leadership for the Society of Human Resource Management, SHRM.

Our third witness is Dr. Papia Debroy, who is Senior Vice President of Insights for Opportunity at Work. Our final witness is Dr. Dan Healey, who is Head of People for Customer Success for SAP, which is located in Newton Square, Pennsylvania.

You certainly have some interesting titles today. We thank our witnesses for being here today and look forward to your testimony. I will remind the witnesses we have read your written statements, and they will appear in full in the hearing record. Pursuant to Committee Rule 8(d) and Committee practice, I ask that you limit your oral presentations to a 5-minute summary of your written statements.

I also remind the witnesses to be aware of the responsibility to provide accurate information to the Committee. I now recognize Dr. Kimbrough for 5 minutes.

**STATEMENT OF DR. KARIN KIMBROUGH, CHIEF ECONOMIST,  
LINKEDIN CORPORATION, SUNNYVALE, CALIFORNIA**

Ms. KIMBROUGH. All right. Thank you. Chairwoman Foxx, Ranking Member Scott, and members of the Committee thank you for inviting me to testify today. My name is Dr. Karin Kimbrough, and I serve as the Chief Economist at LinkedIn. My team has been researching how we as a nation can do better to match talent to jobs, to enhance outcomes for individuals and employers alike.

I appreciate the opportunity to share LinkedIn's insights on a skills-first approach to hiring talent. In the U.S. today, there are 10.1 million unfilled jobs on LinkedIn alone. The number of open jobs has doubled in the past 3 years. At the same time there are nearly 70 million workers that are not being considered because they lack a college degree.

These include Americans like Sierra, who had worked to acquire new skills over the past few years and is now seeking a better paying job as an IT manager, however she finds she is consistently shut out, not because of lack of skills, but a lack of a degree in a system that too often overlooks other means of recognizing talent.

Sierra, and our more than 200 million U.S. members interact with millions of employers seeking new and exciting job opportunities, and this gives us at LinkedIn a real time view of our economy, and how companies find and hire talent. It also shows us that our current system of hiring is simply not working. It leaves far too many people behind.

The Bureau of Labor Statistics indicates that there are nearly 1.6 unfilled position for every unemployed person in the U.S., highlighting a large imbalance between labor demand and supply. When employers hire based on degrees, they miss out on half the workforce.

In particular, this locks out roughly three-quarters of rural Americans, Hispanic Americans and Black Americans who do not currently hold a 4-year degree. Our nation and our economy cannot afford such a system to continue. This trend has major implications for growth in equality and inflation. It is also unlikely to change dramatically in the foreseeable future given early retirements and an aging workforce.

We recently released a comprehensive report which highlights how a skills first approach to hiring can address this gap by vastly expanding the pool of qualified talent, and Democratizing access to jobs. Our research found that in the U.S. the impact of shifting to a skills first approach increases the number of qualified, eligible workers by nearly 20 times.

With a skills first approach in jobs where women are particularly unrepresented, such as technology or construction, the proportion of women in the U.S. talent pool would increase 26 percent more than it would for men. We also found that younger workers are in the best position to benefit.

In the U.S. the talent pool increases more than 18 times for Millennials and more than 21 times for Gen Z workers. This approach incidentally also serves employers, who can be more adaptive in meeting their changing labor needs which will only accelerate with the continued advances of technology.

We are already seeing evidence of this skills first approach taking hold at many levels. Most significantly, our data indicate that roughly one in five job postings on LinkedIn no longer require a degree. Today, almost half of hirers on LinkedIn use skills data to filter candidates for jobs.

In the last year, LinkedIn members have added 380 million skills to their profiles. Let me be clear, we recognize the value of a college degree. It is a meaningful signal of competency and skills; however, we need to create multiple pathways to signal relevant talent and skills. We believe that there are several ways that Congress can help advance a skills first approach.

As part of the reauthorization of WIOA we recommend a few things. First, encourage employers, states and local governments who receive WIOA funds to use skills first hiring. Allow funds to support employers seeking to implement skills-based hiring. Leverage the required skill assessments to enable credentials reflecting current skills and allow support of research evaluation and dissemination of skills first hiring efforts.

In addition, we support Pell Grants being used for short-term programs, and we urge you to consider other recommendations included in our report. Thank you for the opportunity to share our insights, our thoughts, and our recommendations. LinkedIn looks forward to working with this Committee as you pursue policies which promote a skills first agenda for Sierra and the 70 million Americans.

[The Statement of Ms. Kimbrough follows:]



**Written Testimony of Dr. Karin Kimbrough  
Chief Economist  
LinkedIn Corporation**

**House Committee on Education and the Workforce**

**“Competencies Over Degrees: Transitioning to a Skills-Based Economy”**

June 22, 2023

Chairwoman Foxx, Ranking Member Scott, and Members of the Committee: thank you for inviting me to testify today.

My name is Karin Kimbrough, and I am the Chief Economist at LinkedIn. I lead a team of economists and data scientists dedicated to understanding how the world of work is evolving. We study workplace trends, the opportunities for career starters, and the relative availability of work across multiple industries worldwide. I have worked in the public and private sectors on macroeconomic research and finance for over 20 years, including nearly a decade at the Federal Reserve Bank of New York, where I was a vice president in the Markets Group. I appreciate the opportunity to share insights from our extensive research. An area of particular focus, and relevant to today’s hearing, is our research on understanding how we as a nation can better match talent to jobs to enhance outcomes for individuals and organizations alike.

Let me begin by highlighting the story of a worker who over the past few years has been employed as a Help Desk Technician where she has been quickly acquiring an entirely new set of digital skills. Ideally, she would be able to leverage these new skills to advance to become an IT Manager, which pays more and provides better benefits. However, in her quest for a new job, she finds she is consistently shut out of being considered even for an interview. Not because of her lack of skills, but instead the lack of a college degree. She is why I am here today to speak with you. But let me backup and explain why we at LinkedIn feel her plight and millions like her must be addressed for the good of all workers and our nation’s economy.

Since 2003, LinkedIn has pursued a clear, yet bold vision: to create economic opportunity for every member of the global workforce. We pursue this vision by connecting workers to make them more productive and successful. Our members publicly share their detailed professional profiles – essentially their resumes – in order to be discovered and to discover others. There are more than 930 million LinkedIn members across almost every country in the world, including over 200 million members in the United States. They interact with over 63 million companies, 131,000 schools, and millions of jobs on our platform. Every minute, we see nearly eight members hired into a role. This provides an amazing opportunity to see and share what is happening across the U.S. labor market in a far more up-to-date and granular way than other sources of data. This includes an understanding of localized hiring trends, the movement of people and jobs, as well as skills and certifications that are most in demand.

It is the job of my team of economists and data scientists to get these unique insights into the hands of policymakers at the national, state, and local level so that they can make more timely, more informed, and, ultimately, better economic policy decisions. This information also enables my team to carry out research to better understand the broader dynamics of our economy.



### The Need for a Skills-First Approach to Hiring

As we all know, there is an incredible amount of talent in America. However, we need to change how we recognize it, so that we are not leaving workers with skills behind. This is particularly true when it comes to defining talent in ways that go beyond the long-held notion that a college degree must be the sole or determining factor when and if an individual has acquired skills and knowledge.

Take the example of the help desk technician I mentioned earlier; we too often see the opportunity to move into a new, higher paying job with stronger benefits denied. Not because of a lack of skills or relevant job experience, but due to the lack of a college degree.

Our nation and our economy cannot afford to allow such a system to continue.

According to BLS data, there are currently 10.1 million job openings and only 6.1 million officially unemployed individuals in the U.S. This indicates that there are more than 1.6 unfilled positions for every job seeker, highlighting a large imbalance between labor demand and supply. This ratio is still higher than the pre-pandemic average. This trend of plentiful jobs and not enough workers can have major implications for growth, inequality, and inflation. These figures are unlikely to change dramatically in the foreseeable future given factors such as early retirements and an aging workforce.

In the U.S. alone, when employers use degrees as a proxy for skills, they miss out on half of the workforce. This includes many of the 70 million workers who are skilled through alternative routes, such as military service, workforce development programs, skills bootcamps, and learning on the job. In particular, this locks out 79% of rural workers, 79% of Hispanic workers, and 72% of Black workers, who currently do not hold a four-year degree.

This not only results in imbalances between the demand for talent and the supply of workers, but it can also contribute to non-degree holders losing a vital path for upward mobility.

It is time to rethink the way we hire and grow talent. Traditional methods focus mainly on two onramps for hiring: whether the candidate has a specific degree or whether they hold (or have had) a similar job title. This excludes millions of potential candidates right out of the gate. At LinkedIn, we would like to see multiple onramps to the job market, one where skills and abilities can count as much as degrees and prior titles. Our research and our experience indicate that we need a new approach to how we identify, recruit, and nurture talent.

This past April, we released a comprehensive report about what such a skills-first approach would mean for the labor market.<sup>1</sup> As our report highlights, a skills-first approach can vastly expand the pool of qualified talent and democratize access to jobs. The good news is that progress is being made, and there are steps Congress can take to facilitate further growth.

I will go over each of these benefits briefly.

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<sup>1</sup> LinkedIn Economic Graph, *Skills-First: Reimagining the Labor Market and Breaking Down Barriers*, <https://economicgraph.linkedin.com/research/skills-first-report>.



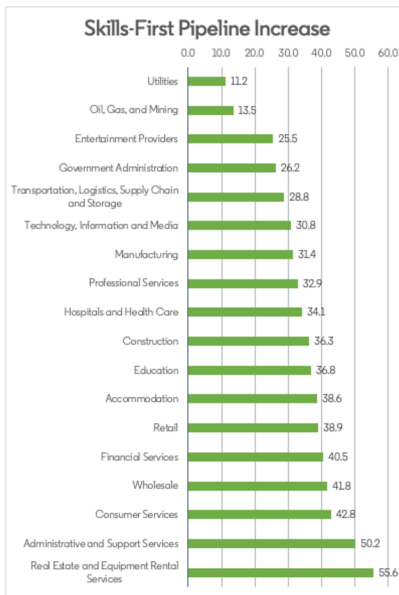
### Skills-First Hiring Expands the Talent Pool

Our research found that in the U.S., the impact of shifting to a skills-first approach would increase the number of qualified, eligible workers by nearly 20 times. This increase in the talent pool means employers would have a greater ability to fill open jobs and allow them to do so in a way that more effectively matches the specific skills needed for such jobs with workers.

The extent to which talent pools would be expanded varies significantly across jobs. For example, in the U.S., a skills-first approach increases the talent pool for Digital Marketing Managers by almost 22 times because many of the skills associated with this job — such as Digital Marketing, Web Analytics, and Online Advertising — are common across other jobs.

Similarly, as highlighted in the chart below, the effect of skills-first hiring on the availability of talent also varies considerably by industry. The increase in the number of potential candidates is especially pronounced in industries such as Consumer Services, Retail, and Administrative and Support Services. These industries require skills that may overlap across occupations and industries. This indicates that workers with the necessary job skills are being left out of traditional recruiting efforts because they have not held those jobs or worked in that industry before, despite the fact they likely possess relevant skills.

Skills-First U.S. Talent Pool Increase by Industry







### **Skills-First Hiring Democratizes Opportunity**

Traditional labor market signals have disproportionately excluded particular groups from opportunities, relying, even today, on more traditional, limited ways of filling jobs and expanding the workforce. This approach leaves out wide swaths of people who have the capabilities businesses need, in particular those without a degree, women, and youth.

First, consider workers without a college degree. As I noted above, millions of working-age adults in the U.S. cannot even apply to nearly three quarters of posted jobs due to degree requirements. We are not suggesting that employers ignore degrees or that degrees are not meaningful or useful signals of competency or skills. Instead, employers need to broaden their perspective to look beyond degrees as the only way of signaling relevant talent and skills.

Taking a skills-first hiring approach would, on average, increase the talent pipeline of workers without bachelor's degrees by 12% more than for workers with degrees in the U.S. This figure rises to as much as 26% for some industries.

Second, a skills-first approach increases female representation in talent pools, especially in occupations that currently have low female representation. We define occupations where women are most underrepresented as those occupations that are in the bottom quartile for their country in terms of the share of women employed in the last five years. These occupations span multiple industries but are most concentrated in Technology, Construction, and Manufacturing.

This approach could include qualified women in the candidate pool at a 26% higher rate compared to men for jobs where women have been underrepresented. For example, in the U.S., only 20% of workers with the title Test Engineer are women, but women make up 47% of the possible talent pipeline based on relevant skills. When companies look beyond job titles and hire a Test Engineer based on skills, the overall talent pipeline for women increases by 9 times compared to the pipeline for men, which increases by 3 times.

Finally, it is important to consider the benefits for the future of our workforce as well. Younger workers are in the best position to take advantage of a skills-first future. In the U.S., a skills-first approach to hiring increases the talent pool by 18 times for Gen X workers; 18.6 times for Millennial workers; and 21.5 times for Gen Z workers.



### Skills-First is More Responsive to the Ever-Changing Demand for Skills

A recent LinkedIn Future of Skills report<sup>2</sup> found that skills changed by 24% on average globally since 2015. In most cases, the pace of change accelerated during the COVID-19 pandemic. Another recent report estimates that as many as 44% of workers' skills will be disrupted in the next five years.<sup>3</sup>

A skills-first approach allows employers to be more adaptive to meeting these ever-changing skill requirements, which may or may not reflect the types of skills offered through available college degree programs. For example, employers seeking cybersecurity talent are facing a significant shortage of skilled professionals. Despite a 23% increase in cybercrime complaints from 2016 to 2021<sup>4</sup> and a 39% increase in relevant jobs postings over the same period, the active cybersecurity workforce during that time has only grown by 21%. Those with bachelor's degrees or higher qualifications in the U.S. make up 88% of the cybersecurity workforce. The skills-first approach that can increase talent pipelines up to 19 times overall could help to realize similar gains for cyber as well.

Job seekers also benefit from this approach. When LinkedIn started highlighting for job seekers that their skills matched job postings, we discovered that individuals who applied to jobs that matched their skills had a higher success rate in landing a job, often requiring fewer applications.

### Progress is Already Being Made

LinkedIn is not alone in recognizing the potential of a skills-first approach as reflected by the collective efforts of individuals and employers as well as a growing number of states. To date, 13 states have announced efforts to expand more state jobs to those who may not have a degree but are otherwise qualified.<sup>5</sup>

In the past year, LinkedIn members added 380 million skills to their profiles, up over 40% year over year. We are also seeing LinkedIn members add certifications to their profiles at an accelerated rate, up 16% in 2022 compared to 2021. Candidates who complete LinkedIn Skill Assessments and display a badge on their profile have shown to be 20% more likely to get hired than those who do not.

Employers are also showcasing signs of embracing this new way of thinking about talent. In the last year, more than 45% of hirers on LinkedIn explicitly used skills data to fill their roles, up 12% year over year. Additionally, when looking for candidates on LinkedIn, recruiters are 25% more likely to search by skills than they were 3 years ago, and 50% more likely to search by skills than by years of experience.<sup>6</sup>

<sup>2</sup> LinkedIn Economic Graph, *Future of Skills*, <https://linkedin.github.io/future-of-skills/>.

<sup>3</sup> See World Economic Forum, *Future of Jobs Report*, May 2023, [https://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2023.pdf](https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf).

<sup>4</sup> See Federal Bureau of Investigation, *Internet Crime Report 2021*, [https://www.ic3.gov/Media/PDF/AnnualReport/2021\\_IC3Report.pdf](https://www.ic3.gov/Media/PDF/AnnualReport/2021_IC3Report.pdf).

<sup>5</sup> See Papia Debroy and Blair Corcoran de Castillo, *States are leading the way in tearing the 'paper ceiling' and making good jobs available to workers without degrees*, June 16, 2023, <https://www.brookings.edu/blog/the-avenue/2023/06/16/states-are-leading-the-way-in-tearing-the-paper-ceiling-and-making-good-jobs-available-to-workers-without-degrees/amp/>.

<sup>6</sup> LinkedIn Talent Solutions, *The Future of Recruiting 2023*, <https://business.linkedin.com/talent-solutions/resources/future-of-recruiting>.



Our data also indicates roughly one in five job postings (19%) in the U.S. no longer require degrees, up from 15% in 2021. Further, our Future of Recruiting Report also reveals that 75% of recruiting professionals predict skills-first hiring will be a priority for their company in the next 18 months.<sup>7</sup>

#### Recommendations for Congress

To effectively implement a skills-first hiring approach, it will take the continued effort of workers, employers, and policymakers. We believe there are several ways Congress can help advance a skills-first approach and offer the following recommendations, which are particularly relevant for this Committee. As part of our Skills-First report, we provide recommendations for how policymakers, business leaders, and workers can help to accelerate the shift to skills-first hiring. Our recommendations for policymakers focus upon four key areas.

These include urging the expanded use of skills-first hiring in government jobs; developing public-private efforts around skills-first strategies; funding public efforts to ensure education and workforce programs are teaching the skills required by employers; and including funding for programs to support current workers whose jobs are most at risk due to changing skill demands.

Consistent with several of these recommendations, we also urge this Committee to take advantage of the reauthorization of the Workforce Innovation and Opportunity Act (WIOA) to promote a skills-first hiring approach. In particular, we believe several provisions could be added in order to promote and expand skills-first hiring by:

- Encouraging employers who use WIOA funds for on-the-job experience, incumbent worker, or transitional worker programs to use skills-first hiring, including by increasing the Federal proportion of wages covered in such workforce development;
- Encouraging the use of skills-first hiring by any state or local government receiving WIOA funds;
- Expanding current technical assistance provisions to include support to employers seeking to implement skills-first hiring, which could be carried out through intermediaries such as employer associations;
- Leveraging the currently required skill assessments under WIOA to enable such assessments to result in credentials reflecting current skills; and
- Allowing funds to support research, evaluation, and dissemination of skills-first hiring efforts and to assess the impact of Federal policies to promote such efforts.

In addition to WIOA reauthorization, we support the bipartisan effort to expand pathways for more individuals to gain skills by allowing Pell grants to be used for short-term programs that lead to a recognized credential tied to the fastest growing and most in-demand skills.

Finally, although not under this Committee's jurisdiction, we also urge Congress to continue to advance the bipartisan Chance to Compete Act (H.R. 159/S.159), which addresses barriers in implementing a skills-first approach in the hiring of Federal workers. I applaud your work, Chairwoman Foxx, for

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<sup>7</sup> *Id.*



introducing this legislation along with Congressman Khanna, who represents LinkedIn's Corporate Headquarters, and we are pleased it passed the House earlier this year by a near unanimous vote.

#### **Conclusion**

As our nation's economy continues to go through a transition spurred on by the impact of COVID-19, changing demographics, and increased global competition, it is critical we focus on the talent needed to keep pace with this transition.

This means rethinking the ways in which individuals can obtain and demonstrate their skills, but also ensuring that however skills are obtained, they are fairly considered by employers who are seeking qualified talent to fill good jobs.

Thank you for the opportunity to share our insights, thoughts, and recommendations on these important topics, and I look forward to working with this Committee as you pursue policies which promote a skills-first policy agenda.

Chairwoman FOXX. Thank you very much, Dr. Kimbrough. Dr. Smith, you are recognized for 5 minutes.

#### **STATEMENT OF DR. MARK SMITH, DIRECTOR OF H.R. THOUGHT LEADERSHIP, SHRM, ALEXANDRIA, VIRGINIA**

Mr. SMITH. Good morning. Madam Chair Foxx, Ranking Member Scott, and honorable members of the Committee. I am Mark Smith, Director of H.R. Thought Leadership at SHRM, and I am happy to testify for you today about skills-based hiring.

On behalf of the 325,000 members of SHRM, thank you for this opportunity to be a witness on this important issue. Particularly, on the use of skills assessments. Skills-based hiring is about ensuring people have a chance to showcase their actual qualifications for the job. Unbiased, and validated skills assessment measure the critical knowledge and skills needed for a job.

Simply put, they open the doors to opportunity. SHRM research has found that more than half of employers use pre-employment assessments, and 78 percent of those say it improves the quality of hires. These assessments connect employers to applicants who have been historically underrepresented, including those who did not attend top tier schools, people who served in the military, or were incarcerated.

Workers with disabilities, youth who did not attend college, and older workers. The use of skills assessment requires careful management, and SHRM has identified best practices to consider when utilizing these assessments, including conducting a self-assessment to determine whether current employment practices disadvantage certain groups, creating objective, job-related qualification standards, and implementing practices that diversify the pool of candidates.

While there are several strategies for determining the job relatedness of a selection procedure, I will highlight two that are most relevant for skills testing. First, determining validity through con-

tent related evidence involves demonstrating that the test content matches what employees need to do on the job.

This involves a careful analysis to understand what's required to perform the job, followed by creating or adopting a test that reliably measures these skills. Second, a criterion related validation consists of administering the test to a group of people, usually job incumbents, and then evaluating them on the job. To the extent that people who score higher on the test perform better on the job, the test demonstrates its validity.

There are several tools and approaches available to make the validation process easier. For example, the Federal Government has created a foundation with the Department of Labor supporting Ona system, which saves time and effort for organizations by providing valuable skill information for nearly 1,000 occupations.

There are also existing tests available to employers for screening applicants on a variety of skills and skill levels, but employers must consider that these tests require some form of local validation. Some employers turn to credentialing organizations for verifying the skills of applicants by hiring individuals who already have the relevant credentials.

Despite the benefits of skills assessments, many employers are not taking advantage of them. Some believe that skills tests are not worth the required effort, while others find the process too complex. Still others fear lawsuits or penalties from the EEOC or other agencies.

As this Committee pursues the reauthorization of the Workforce Innovation and Opportunity Act, there are several ways in which this law may be used to elevate skills-based hiring. This includes expanding the range of business services made available to employers through local one stop career centers, to include assistance with implementing a skills-based hiring system using unbiased and validated skills assessments.

WIOA should also be amended to expand the transparency of credentials and ensure that participants enrolling in an eligible program have a clear understanding that such a credential validates their job relevance. In addition to changes to WIOA, SHRM supports the Advancing Skills-Based Hiring Act introduced by Representative Stefanik last Congress.

This would provide employers with confirmation from the EEOC when their use of a specific assessment meets the burden of being job related. Enacting this legislation will give employers the assurance they need to implement a skills-based hiring system. Thank you.

[The Statement of Dr. Smith follows:]



**Written Testimony of Mark Smith, Ph.D.  
Director, HR Thought Leadership  
SHRM**

**Submitted to the  
House Committee on Education & the Workforce**

**Hearing on  
Competencies over Degrees: Transitioning to a Skills-Based Economy  
Thursday, June 22, 2023**

Chairwoman Foxx, Ranking Member Scott and members of the Committee: I am honored to testify before the House Committee on Education & the Workforce on behalf of SHRM and its nearly 325,000 HR professionals and business executive members in 165 countries, who impact the lives of more than 235 million workers and their families—about 1 in 3 Americans. For 75 years, SHRM and HR have worked together to drive holistic change in the world of work. SHRM serves as the foremost expert, convener and thought leader on issues impacting today's evolving workplaces. Thank you for this opportunity to testify on the important issue of skills-based hiring, particularly on aspects related to the use of skills assessments in hiring decisions and talent development.

We are now undoubtedly in a skills-based economy, which commands new strategies and approaches to meet hiring and retention needs. SHRM and its members see firsthand the challenge of filling jobs in today's labor market, which is why we have been leading the way in providing resources on using skills-based hiring and skill credentials to acquire top talent. To that end, HR departments are evolving to adapt skills-based hiring practices.

To level set, let's first answer what skills-based hiring is and why it is essential today. Skills-based hiring goes beyond education and experience requirements to focus on the skills match between candidates and roles.<sup>1</sup> Such practices can provide instant economic opportunities for millions of job seekers, help relieve talent shortages, increase diversity and strengthen internal mobility in the workplace.<sup>2</sup> Skills-based hiring becomes a talent acquisition solution for the skills

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<sup>1</sup> See *SHRM Online* article "Skills-Based Hiring Requires Commitment to Change," Roy Maurer (March 28, 2023), <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/skills-based-hiring-requires-commitment-to-change.aspx> (last visited on June 16, 2023).

<sup>2</sup> *Id.*

gap and a talent shortage, especially today as the United States is facing a talent shortage that is expected to persist for years.<sup>3</sup> Furthermore, 82 percent of HR executives and 80 percent of HR professionals agree that labor shortages are the second most significant external challenge facing workplaces.<sup>4</sup>

Skills-based hiring is about ensuring that people have a chance to showcase their skills and qualifications. Skills-based hiring can be as simple as employers looking at skills listed on a resume, or it can consist of more formal assessments of skills. Skills-based hiring can be achieved by hiring entities recognizing skilled credentials and properly utilizing skills assessments. The [SHRM Foundation](#), the 501(c)(3) nonprofit affiliate of SHRM, has made educating employers about the use of skill credentials in talent acquisition a priority through the SHRM Foundation's [Skilled Credentials at Work Initiative](#).

### **The Use of Skills Assessments**

A form of skills-based hiring comes through the use of skills assessments. Skills assessments are *unbiased and validated assessments that measure the critical knowledge and skills required to perform specific jobs*. It is the use of job-relevant tests of knowledge and skills. It is also important to briefly describe what skills assessments are not. We are not referring to cognitive ability tests. Ability tests are typically more general than tests of knowledge or skill. Ability test items are not linked to jobs from a content perspective in any meaningful way; that is, the elements of ability tests will not look like the job in any comprehensive way. Skills assessments are much more responsive to education than ability tests. Taking classes to learn about a job should lead to better scores on the skills assessments; ability tests tend to be more resistant to changes based on education.

SHRM research found that more than half of employers—56 percent—use pre-employment assessments to gauge job applicants' knowledge, skills and abilities. Of these organizations, 1 in 4 plan to expand their use of these assessments in the next five years. Seventy-nine percent of HR professionals say that scores on pre-employment skills assessments are just as important as or more important than traditional criteria such as degrees or years of experience when deciding which applicants are the most qualified. Seventy-eight percent of HR professionals say the quality of their organization's hires has improved due to their use of assessments.<sup>5</sup>

Most organizations seek to use skills assessments to bolster their personnel and develop talent pipelines. And we should note that we are assuming that organizations are implementing these skills assessments in a standard and consistent way across applicants. Administration conditions, scoring procedures and all other relevant factors should be consistent to ensure that all applicants have a fair chance to pass the assessment. These skills assessments can help employers connect to groups of applicants who have been historically underrepresented and are untapped talent, such as people who developed skills while serving in the military, people who were formerly

<sup>3</sup> See *SHRM Online* article "Labor Shortages Forecast to Persist for Years," Roy Maurer (January 23, 2023), <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/labor-shortages-forecast-to-persist-2023.aspx> (last visited on June 16, 2023).

<sup>4</sup> SHRM Workplace Trends for 2023 (Exhibit A).

<sup>5</sup> SHRM 2022 Talent Trends Research. (Exhibit B).



incarcerated, workers with disabilities, youth who did not attend a two-year or four-year university, or older workers seeking to reskill to close the skills gap.<sup>6</sup>

#### **Legal and Regulatory Issues with the Use of Skills Assessments**

As stated in the [Uniform Guidelines for Employee Selection Procedures](#) (the “Uniform Guidelines”) [first issued by the U.S. Equal Employment Opportunity Commission (EEOC) in 1978], organizations are allowed to use standardized tests and other selection procedures to help select new employees. However, organizations must pay attention to whether these tests produce disparate impacts concerning protected classes.<sup>7</sup> In other words, even though tests are used consistently across applicants, they might lead to different pass rates for different groups (e.g., race, ethnicity and gender groups). Unfortunately, organizations will often only know if a test produces disparate impact after the test has been in use.

The *Uniform Guidelines* further state that the fact that a test has disparate impact does not mean that test is inappropriate or illegal. However, a demonstration of validity is required at that point. For example, an examination of grammar for a copy editor job might lead to higher pass rates for females than males. This disparate impact would be legal only if the organization has properly validated the test and demonstrated that it is a valid measure of grammar skills for the job.

SHRM has identified a few best practices for employers to keep in mind when utilizing skills assessments:

- Monitor for EEO compliance by conducting self-analysis to determine whether current employment practices disadvantage people of color, treat them differently or leave uncorrected the effects of historical discrimination in the company.
- Analyze the duties, functions and competencies relevant to jobs. Then create objective, job-related qualification standards related to those duties, functions and competencies. Make sure they are consistently applied when choosing among candidates.
- Recruit, hire and promote with EEO principles in mind by implementing practices designed to widen and diversify the pool of candidates considered for employment openings, including openings in upper-level management.

#### **Ways of Demonstrating Validity**

The general logic behind using pre-employment tests is that applicants who score higher on valid (i.e., job-related) pre-employment assessments will likely perform better on the job itself if selected. The recognized source for professional and scientific standards in this arena is the *Principles for the Validation and Use of Personnel Selection Procedures* (the “Principles”) by the Society for Industrial and Organizational Psychology. Validation is the accumulation of evidence supporting a selection procedure’s job-relatedness. As stated in the *Principles*, a selection procedure or test is valid:

*“[W]hen evidence supports the accuracy of inferences made from scores on, or evaluations derived from, those procedures regarding some important aspect of work behavior (e.g., quality or quantity of job performance; performance in training, advancement, tenure, turnover, or other organizationally pertinent behavior).”*

<sup>6</sup> See SHRM Online article “Skill-based Hiring Requires Commitment to Change”, Roy Maurer (March 28, 2023), <https://www.shrm.org/resourcesandtools/hr-topics/talent-acquisition/pages/skills-based-hiring-requires-commitment-to-change.aspx> (last visited on June 16, 2023).

<sup>7</sup> 29 CFR § 1607.11



While there are several strategies for determining or evaluating the job-relatedness or validation of a selection procedure, the two most relevant to the context of skills testing involve comparing the test's content with the job's requirements and comparing scores on the test with performance on the job.

1. **Determining Job-Relatedness through Content-Related Evidence:** Often called *content validation*, this involves demonstrating that the test content—the tasks the applicants are required to perform, the problems they are asked to solve, etc.—matches what job incumbents need to do or know on the job. For example, a test that requires applicants to pick up small metal components and combine them quickly to build a product would be seen as content-valid for a job that requires job incumbents to pick up small components and assemble them quickly into another product. The logic again is that job applicants who make a large number of products correctly in a given time frame (receiving a high score on the test) would be better assemblers than applicants who assemble fewer products correctly in a given period.

The first step in developing and validating an assessment based on a content-related strategy involves conducting a careful work analysis to understand what's required to perform the job thoroughly. This process, known as job analysis or task analysis, is an objective way of determining the most important tasks and the knowledge, skills, abilities and other personal characteristics (KSAsOs) required to complete them.

Once the work analysis is complete, the process shifts to building a new test or evaluating an existing selection procedure to ensure that it reliably measures the key required KSAsOs. Demonstrating an assessment's job-relatedness via a content validation strategy occurs when an organization shows that components/items in the assessment measure essential job requirements.

2. **Determining Job-Relatedness by Demonstrating the Relationship Between Assessment Scores and Job Performance:** The logic of using tests for selection is that applicants who score higher on valid tests will likely perform better on the job if selected. This second validation strategy involves testing that logic more directly. Sometimes called *criterion-related validation*, this strategy consists of administering the test to a group of people and then evaluating those same people as they perform the job. An essential part of a criterion-related validation study involves having an objective way of measuring job performance.

The next step utilizes inferential statistics to determine the accuracy with which each person's test score is related to performance on the job. To the extent that the people who score higher on the test perform better on the job and those who score lower on the test perform worse on the job, the test has demonstrated validity or job-relatedness via a criterion-related validation strategy.

#### **Ways of Lessening the Burden of Demonstrating Validity**

Using the O\*NET ([www.onetonline.org](http://www.onetonline.org)) is a good start for documenting job information, such as tasks and worker requirements. Developed under the sponsorship of the U.S. Department of Labor and the Employment and Training Administration (USDOL/ETA), this system provides

valuable information for companies about the nature of almost 1,000 occupations. However, it is imperative to note that organizations need to check O\*NET information for localized accuracy, as organizations should not assume it is accurate for their specific organization or needs. Regardless, starting a job analysis or other validation project with information from the O\*NET can save much time and effort.

There are also many off-the-shelf tests available to companies for screening applicants on a variety of skills and skill levels. Some are traditional tests similar to those that have been used for years, and others involve new technologies. Even though these tests already exist, organizations should understand that they still must undergo localized validation.

Validity transportability also can provide a way to demonstrate the validity of an existing test without a heavy burden for organizations. The process of transportability allows an organization to use valid evidence from one location and equate it to a separate location that did not undergo the validation effort. An organization needs to provide job analysis evidence that the two jobs (or the same job in two areas) are essentially the same. And if they can prove this, the validation evidence from one place can transport to a different one.

Another way to reduce the burden on organizations for creating and validating skills tests is to rely on external credentialing organizations. For example, large software companies often create certifications that involve rigorous tests that allow individuals to demonstrate competence in their product. If such credentials are available for job-relevant skills, giving credit to such credentials can be a viable way to include these skills in the hiring process. However, hiring organizations should still vet these credentials to ensure that they are of high quality (such as only considering credentials accredited by an external party) and that the skills they are verifying are job-relevant.

#### **Recommendation to Improve the Validation of Skills Assessments**

With skills assessments, building content-related evidence is typically the most appropriate way to determine job-relatedness, especially when an organization is making a new test or selection procedure. In other cases, a mix of content- and criterion-related validation approaches might be appropriate for skills testing, especially where a large number of incumbents in the same jobs/roles and existing skills and knowledge tests are available.

#### **Limited Use of Skills Assessments**

Despite the benefits of using skills assessments in hiring, many companies are not taking advantage of them. As noted previously, SHRM research showed that reasons for the limited use of skills assessments involve a lack of resources and a belief that such tests are not worth the required time or effort.

In our experience, another reason for this is the need for more understanding of the process of creating and validating the tests. While this is understandable because of the complex nature of testing, the skills test development and validation process does not have to be overly burdensome. Another reason we have seen that organizations fail to use skills assessments is the fear of lawsuits or penalties from the EEOC or other government agencies. There has been a fear in many organizations that using tests to screen applicants will make them a target for penalties, and these organizations tend to believe that it is prudent to avoid testing altogether.

### **Recommendations to Congress**

SHRM offers the following recommendations to Congress specific to the Workforce Innovation and Opportunity Act (WIOA) and the Advancing Skills-Based Hiring Act:

***Workforce Innovation and Opportunity Act:*** In the context of this Committee’s efforts to reauthorize WIOA, there are several ways to promote skills-based hiring and remove barriers toward its use:

1. **Business Services.** Under WIOA, funds must be used to support the provision of business services through the one-stop delivery system. SHRM recommends regulations to clarify that such services may include those tailored to specific employers, such as “human resource consultation services, including but not limited to assistance with writing/reviewing job descriptions and employee handbooks.” Such regulations should be incorporated into the statute, which specifically promotes technical assistance being provided to employers to support the identification and use of skills assessments and strategies for implementing a skills-based hiring system.
2. **Credential Transparency and Validation.** WIOA should support external credentialing organizations to create and validate skills tests used to earn credentials by individuals participating in workforce development programs supported under WIOA. Furthermore, WIOA should support the transparency of all credentials funded under the Act so that participants and employers are aware of the extent to which specific credentials/certifications involve rigorous tests that can validate the skills an individual passing such assessment has gained. Such information should be embedded in the material included as part of the Eligible Training Provider List under WIOA.

***The Advancing Skills-Based Hiring Act:*** Last Congress, SHRM supported the Advancing Skills-Based Hiring Act. This legislation would provide employers with confirmation from the EEOC when their use of a specific assessment meets the burden of being “job-related.” As noted previously, confusion on the part of employers concerning federal requirements around the use of pre-employment assessments is a common barrier to implementing a skills-based hiring program. Enacting this legislation will help give employers the assurance they need to move forward.

### **Conclusion**

Every day, businesses miss out on talented people because their gifts, aptitude and skills are more challenging to identify than a degree on a resume. Skills-based hiring recognizes the abilities of all workers, regardless of where these skills are obtained. SHRM and the SHRM Foundation are committed to educating HR leaders and people managers about skills-based hiring to ensure that *all* learning paths are granted weight in assessing whether a person can thrive in a job. SHRM looks forward to partnering with Congress to increase knowledge, reduce barriers, and support work, workers and workplaces transitioning toward a skills-based hiring and retention mindset.

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**Additional SHRM research resources:**

- *Making Skilled Credentials Work: A New Strategy for HR Professionals* (Report [link](#)).
- *The Rise of Skilled Credentials in Hiring* (Report [link](#)).

Chairwoman FOXX. Thank you, Dr. Smith. I now recognize Dr. Debroy for 5 minutes.

**STATEMENT OF DR. PAPIA DEBROY, SENIOR VICE PRESIDENT  
OF INSIGHTS, OPPORTUNITY@WORK**

Ms. DEBROY. Good morning, everyone. Chairwoman Foxx, Ranking Member Scott, and members of the committee. Thank you for the invitation to be with all of you today. It is an honor to speak with you all. My name is Papia Debroy, and I am a researcher with the nonprofit social enterprise Opportunity at Work.

I am going to begin my remarks today actually by anchoring us in our labor force. There are about 140 million of us who are showing up to work every day, active. Of that 140 million, about 60 million of us have a bachelor's degree, or a higher level of educational attainment.

These workers have traversed a pathway through higher education that is critical to our economy. In addition to these 60 million workers though, are another 70 million; they have a high school diploma, do not have a bachelor's degree, but are skilled. They are skilled through alternative roots, that acronym is STARS.

Who are these workers that we call STARS? Well, they are our cousins, they are our neighbors, our siblings, our parents. They have gained skills through military service, through community college programs. Most of the time they have gained skills by showing up to work every day getting better at their jobs and gaining skills on the job.

We know the world is different for STARS than workers with a bachelor's degree. When a STAR entered the workforce in 1989 at the age of 25, they were earning less than a worker with a bachelor's degree. That has historically been the case. If you track the STAR for the next 30 years of their career is what you see is that 30 years into their career, a STAR is still not earning what the bachelor's degree worker was earning on day one of work.

That inequality is new to this generation. STARS make up a significant portion of our workforce in every region of this country. In Virginia, STARS are 48 percent of the workforce. In North Carolina, they comprise 54 percent of the workforce. In both states, they contribute to the economy in jobs ranging from sales representatives to software developers, to registered nurses.

When a job requires a degree, employers automatically screen out almost 80 percent of Hispanic workers, more than 70 percent of Black workers, 75 percent of rural workers, and nearly 70 percent of veterans. While bachelor's degree programs have been, and always will be, a critical pathway to higher wages in this country, tens of millions of STARS are also gaining valuable skills for higher wage jobs, and they should not be locked out of opportunity.

Especially because if you study the skills of STARS, what you will see is that millions of them are positioned for higher wages today. 30 million STARS have skills to make a transition to a high-

er wage job if they were given access and opportunity to do so today.

They are positioned for jobs we call gateway and destination jobs. Unfortunately, these are precisely the jobs they have been locked out of. They have lost access to almost 7 and a half million gateway and destination job opportunities in the past two decades.

These jobs include jobs like secretaries, H.R. assistants, computer support specialists, medical diagnostic technicians. These degree barriers are compounded by other barriers, misperceptions, biases, weaker professional networks. They amount to something we call the paper ceiling, and more than half of our workforce faces it.

What might we do to actually tear the paper ceiling? First, as an employer, the public sector plays a critical role. Federal, State, and local government actors are some of the largest employers in every State in this country, yet the government is requiring degrees for its roles more often than the private sector, and State and local governments require degrees more often than Federal positions.

I do want to note how quickly the public sector has acted upon realizing this error. 14 states as of this week have removed degree requirements for State roles in the past 12 months. Second, we need a 21st century Federal workforce data infrastructure. All labor market participants need trustworthy, granular, timely and accurate data on occupations, vacancies and employment wages and skill needs.

We need that data longitudinally and across geographies. Third, we must strengthen WIOA. WIOA is the primary funding source offering STARs access to skills training and support service programs. Through it we must elevate community colleges, and the key players they are in local economies.

The majority of STARs have some college credit, and nearly one of every five STARs has an associate's degree. Finally, employers must be incentivized to shift to skills-based hiring. Policy makers can actually support employers as they experiment with new ways to do this. For example, employers are deploying apprenticeships and other work-based learning programs in many new roles in the US labor market. It is time to tear the paper ceiling for STARs. Thank you for your time today.

[The Statement of Ms. Debroy follows:]

Written Testimony of Papia Debroy, Opportunity@Work  
As Prepared for Delivery Before the U.S. House Committee on Education and the Workforce  
**"Competencies Over Degrees: Transitioning to a Skills-Based Economy,"**  
June 22, 2023

### Introduction

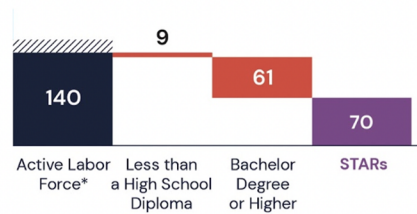
Chairwoman Foxx, Ranking Member Scott, and distinguished Members of the Committee, thank you for the opportunity to testify before you today. It's an honor to be here to discuss the American workforce. By way of introduction, my name is Papia Debroy, and I lead the research and data analytics teams at the nonprofit social enterprise Opportunity@Work.

With my testimony today, I want to accomplish three tasks: First, I want to introduce you to the 70+ million workers in the United States who are [Skilled Through Alternative Routes](#) – or STARs. These workers do not have a bachelor's degree, do have a high school diploma and have valuable skills. In fact, [our analyses](#) show there are [30 million STARs who have skills to make transitions to significantly higher wages today](#), if given the opportunity and access. Second, I want to speak about the barriers they face, barriers which include degree screens, misperceptions, and access to professional networks. These barriers amount to a "[paper ceiling](#)" which has resulted in a stunning inequality: it takes the median STAR 30 years of work to earn the starting wages of a worker with a bachelor's degree. Last, employers and policymakers are positioned to make a significant difference in the trajectory of STARs in the coming generation through targeted investments in our federal data infrastructure, through the Workforce Innovation and Opportunity Act, and by supporting investments in apprenticeships, community colleges and other pathways.

### **STARs are a vast, overlooked, skilled & diverse pool of workers who comprise half the workforce**

STARs make up more than half the 140+ million workers in the labor market. STARs gain skills through many different pathways including community college, military service, partial college, training programs, entrepreneurship, and most commonly, by learning on the job.

**Figure 1. More than 70 million workers are Skilled Through Alternative Routes (STARs) instead of a bachelor's degree.<sup>1</sup>**



STARs make up a significant portion of every region's workforce in the country. In Ranking Member Scott's Commonwealth of Virginia, STARs are 48% percent of the workforce; in Committee Chairwoman Foxx's state of North Carolina, STARs are 54% percent of the workforce. In both states, they contribute to the economy in jobs ranging from sales representatives to software developers to registered nurses.<sup>2</sup>

When a job requires a degree, employers automatically screen out 80% of Hispanic workers, more than 70% of African-Americans, 75% of rural Americans, and nearly 70% of veterans.<sup>3</sup> While bachelor's degree programs have been, and always will be, a critical path to higher wages in our country, tens of millions of STARs are also gaining valuable skills for higher wage jobs, and they cannot and should not be locked out of opportunity. Learning – wherever it happens – must translate to earning for the American workforce.

#### **STARs face barriers to mobility in today's labor market**

STARs experience the labor market differently from workers with a bachelor's degree. When a STAR entered the workforce in 1989 at the age of 25, they were earning less than the worker with a bachelor's degree. That has historically been the case. In this generation though, STARs never caught up. Thirty years into their career, at the age of 55, STARs just start to earn what the bachelor's degree worker was earning at the beginning of their career at age 25.<sup>4</sup> We are essentially equating a four year degree with 30 years of work experience. That is a stunning inequality that is new to this generation of workers.

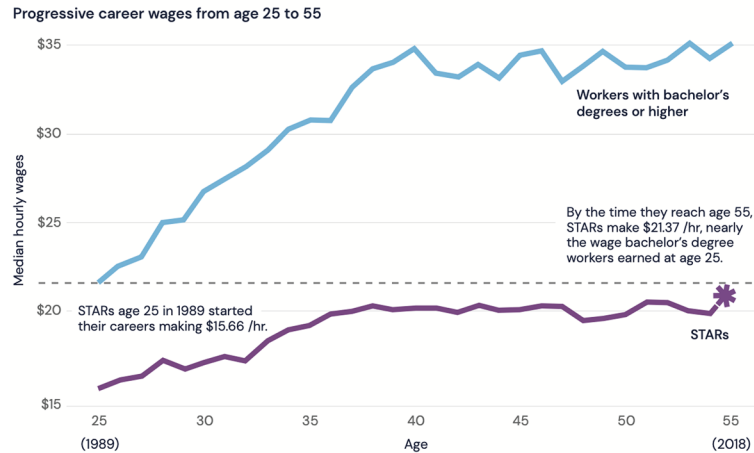
<sup>1</sup> We exclude 20 million workers under the age of 25 from our analysis of the labor force to ensure that the majority of the population studied has completed their education. Source: Opportunity@Work Analysis of the 2021 Current Population Survey, Annual Social and Economic Supplement, Integrated Public Use Microdata Series

<sup>2</sup> Opportunity@Work analysis of the 2019 1-year American Community Survey, Integrated Public Use Microdata Series.

<sup>3</sup> Ibid.

<sup>4</sup> Blair, Peter Q, Debroy, Papia and Heck, Justin. "Skills, Degrees and Labor Market Inequality." National Bureau of Economic Research Working Paper. July 2021. <http://www.nber.org/papers/w28991>.

**Figure 2. It takes a STAR 30 years of work experience to reach the starting wages of a college graduate<sup>5</sup>**



Analyses by our organization, Opportunity@Work, show that more than [30 million STARs have the skills](#) to do significantly higher-wage work, but systemic barriers prevent them from moving ahead. Employers' increasing use of degree screens—which have been adopted mostly in a piecemeal fashion rather than by grand design—is based on two false assumptions: First, that low-wage equals low-skill, and second, that a bachelor's degree is the only gateway to relevant skills. As a result, [70% of new jobs](#) in the past decade are ones in which employers frequently require a bachelor's degree. But this practice—aimed mainly to manage the surge in digital applications—has severe adverse effects on the majority of the workforce that does not have a bachelor's degree. It compounds other barriers related to the mobility of some subgroups (such as [Black STARs](#)), [manager beliefs](#) and biases, [professional networks](#), and a lack of access to transportation, child care, and other key services.

These barriers are what we term “[the paper ceiling](#)” and result in a lack of access to high-wage careers that affect all American workers, but disproportionately limit historically marginalized groups. This has become one of the greatest equity issues of our generation. We have an opportunity in front of us to tear the paper ceiling. How might we do this?

<sup>5</sup> Source: Adapted from Blair, Debroy, and Heck (2021). Data are from the 1989 to 2019 Current Population Survey, Annual Social and Economic Supplement, Integrated Public Use Microdata Series.



### There are skills-based pathways for STARs in our labor market, but STARs have systematically lost access to them

Our research shows that a journey to equity begins with understanding that [all work requires skills – and thus all workers have skills](#). For example, if you're showing up to work every day as a retail worker, our Department of Labor suggests you're bringing 35 skills to your job: persuasion, active listening and speaking skills amongst them. What we at Opportunity@Work have analyzed is how those skills position these workers for lots of other high-paying jobs in the US labor market: we've studied 130 million job transitions made by workers in the past 10 years to understand when, and how, STARs translate their skills to higher wages. What we find is that STARs do leverage those skills to make transitions to higher wage jobs: for instance, retail workers frequently use those skills to transition to sales representatives. In the last five years, almost 100,000 STARs have achieved skills-based economic mobility by moving from retail workers to sales representatives.<sup>6</sup>

**Figure 3. Skills-based pathways in the U.S. labor market suggest the majority of STARs have skills for significantly higher wage work, today<sup>7</sup>**



When STARs make an upwardly mobile transition to higher wages, they most commonly do so to a subset of jobs in our labor market – almost [300 jobs we term gateway and destination jobs](#). Unfortunately, the pathways into these jobs are precisely the ones that have been increasingly blocked for STARs. In fact, STARs lost access to [almost 7.5 million](#)

<sup>6</sup> Opportunity@Work analysis of the Occupational Information Network (O\*NET) 25.3 Database and 2012 to 2021 Current Population Survey, Annual Social and Economic Supplement, Integrated Public Use Microdata Series. Blair, Debroy, and Heck (2021).


<sup>7</sup> Ibid.

[gateway and destination job opportunities](#) in the past two decades. The kinds of jobs they're being locked out of include roles such as secretaries, human resource assistants, customer service representatives, computer support specialists, medical diagnostic technicians, and more.

These are historically the jobs that have opened the door to upward mobility to American families. When STARs are blocked from these jobs, they are also blocked from the next, higher-paying job on an upward career pathway. Further, we find that [STARs of color face higher barriers to these critical gateway and destination jobs](#) – they don't access the same upwardly mobile transitions, and when they do, they earn less than their white counterparts. A similar story is true for [female STARs](#): when they get the job, they earn less than their male counterparts.

Despite the myriad of barriers STARs face, STARs are represented in almost every occupation in the U.S. labor market.<sup>8</sup> They represent millions of proof points that workers can gain skills through alternative routes to be successful in middle- and high-wage work. This analysis suggests we need to re-open these jobs and pathways for STARs. And, we must position STARs for the tens of thousands of new jobs that will be added to our labor market in the coming years.

**Spotlight on STAR LaShana Lewis.** LaShana Lewis grew up in East St. Louis. She took an early interest in computers and volunteered her time to IT professionals who taught her the computer science basics. After high school, LaShana was accepted into a strong computer science program at a technical university in Southern Illinois, but when her mother got sick, she had to drop out.



Because she had built important skills, she believed she could land a tech job. However, for 10 years, she applied to jobs but got nowhere. She worked in call centers, drove buses and even found part-time work as a substitute teacher for a computer class. When the instructor left, LaShana applied for the full-time job, but the school told her they couldn't hire her without a degree. "But you know I can do it," she said. Their answer? "We do. It's such a shame."

<sup>8</sup> Opportunity@Work analysis of the 2019 1-year American Community Survey, Integrated Public Use Microdata Series.

Eventually, LaShana connected with LaunchCode, which helped her demonstrate her skills and land her first tech job as a software engineer at MasterCard. She flourished in that role. Since then, she has become the Chief Technology Officer of a startup in St. Louis and founded her own consulting company. She even has a patent in her name.

70+ million STARs have [70+ million stories](#), just like LaShana's. As [she has said](#) "People say I am one in a million, but I know I am one of millions."

### Charting a path forward for STARs requires employers to implement skills-based hiring

We are frequently asked where communities should start if they want to turn the tide for STARs? Specifically, what is the role of employers?

First, let's be clear that the private sector is not the only employer of focus. The [public sector plays a critical role](#), as federal, state, and local government actors are some of the largest employers in every state across the country. Yet, the government is requiring degrees for its roles more often than the private sector, and state and local government roles require degrees more often (60%) than federal (49%) or private sector (36%) positions.

I want to recognize [how quickly the public sector has acted](#) upon realizing this error. Thirteen states have removed degree requirements for state roles in the past 12 months. Many leaders realize that these actions are low-cost ways to open state hiring processes to more applicants and improve economic mobility for qualified workers who have been largely excluded from state hiring systems. This sends a message to everyone in a state – including other employers – that if a worker has the skills to do a job, they should have access to the job and the potential career advancement it offers.

Second, employers must be incentivized to shift to skills-based hiring. Whereas traditional hiring practices use education, previous employers, years of experience, and job titles as indicators of a job candidate's capabilities, skills-based hiring focuses intentionally on the specific skills needed to do the job. This sounds straightforward, but it requires a shift in culture and practice.

The [implementation of skills-based hiring](#) requires specific, targeted adjustments to standard hiring practices, from how you write your position descriptions to how you screen, interview, and assess candidates. This includes: (a) rewriting job descriptions to replace degree requirements with skills requirements, (b) broadening sourcing and recruitment

strategies to attract new and different candidates, (c) rethinking interview protocols to assess candidates' skills rather than their "fit", and (d) looking internally to create more upward mobility opportunities for the STARS you currently employ.

More broadly, employers must recognize that skills, not credentials and certainly not social capital, are the currency of the labor market. Bringing that clarity to talent management practices – from hiring, to training, performance management, and promotion – is the first step toward a more efficient and effective labor market. Indeed, the return on these investments in skills-based hiring extends far beyond the hiring process. With larger, more diverse pools of applicants and more effective candidate assessment, employers can expect to see an increase in the quality of new hires as well as improvements in productivity, employee engagement, and retention.

In addition to the labor market and employer benefits, skills-based hiring enables us to reset the narrative that undervalues the skills and capabilities of over half of the workforce. Our organization, Opportunity@Work, launched a public awareness campaign in partnership with the Ad Council in the Fall. The campaign's market research shows that the term "STARS" with its asset-based premise has been a powerful antidote to the deficit-based workforce terminology so often used to describe this talented group of workers. This important campaign has brought together more than 50 national partners, and calls on employers to Tear the Paper Ceiling for STARS: Remove degree requirements, rethink our perceptions of who is skilled, and see STARS as solutions to the next generation of American workforce challenges. You can learn more at [teartheperceiling.org](http://teartheperceiling.org).

### **Policymakers can make investments in data infrastructure, WIOA and pathways such as apprenticeships to shift the trajectory for STARS**

While employers are an important actor in shifting the tide for STARS, policymakers are critical. Our policy actions can reshape opportunities for this population for the coming generation in significant and impactful ways. I focus on three areas of impact:

First, we need a 21st century federal workforce data infrastructure. For labor market policies to be sustainable, they must be based on hard evidence to allow effective and targeted interventions that enable the labor market to operate more efficiently and equitably. All labor market participants need trustworthy, granular, timely, and accurate data on occupations, vacancies, unemployment, wages and skill needs longitudinally, and across geographies.

Our current official labor market data are trustworthy but have long lags and/or provide insufficient skill, occupational and geographic detail to guide many decisions well. We could

do much better by enhancing, combining, and analyzing data currently collected by the states for administering the Unemployment Insurance (UI) program. The Bureau of Labor Statistics (BLS) already collects employer-level UI data for the Quarterly Census of Employment and Wages. BLS and over 20 states have an effort underway to expand this capacity for processing worker-level records under the [Wage Records Program initiative](#). BLS and the states need funding to speed up this effort and allow all states to participate. With these data collected and curated on an ongoing basis, BLS can provide more detailed and granular statistics and evaluators can produce better and faster studies of program impacts. Then workers and employers will have better data to guide their decisions, program officials will have better input for allocating their efforts, and policymakers will have better evidence about policy effectiveness and gaps that need to be addressed.

Only with 21st century data can the country ensure that its institutions, policies, and programs efficiently support a dynamic and equitable labor market in the 21st century.

Second, we must strengthen the Workforce Innovation and Opportunity Act (WIOA). WIOA is the primary funding source offering STARs access to skills training and supportive service programs to ensure that they are learning the skills to obtain in-demand, good jobs with family sustaining wages as well as providing employers with highly skilled workers. WIOA creates a strong alignment between workforce, education, and economic development systems that provides STARs with access to a variety of programs and services to help meet their career goals.

WIOA could further strengthen this alignment by elevating community colleges as the key players that they are in local economies and [encouraging increased investment in them](#) to develop STARs' skills in existing and emerging fields as part of the law's sector partnerships requirement. For decades now, community colleges have been an [engine of economic mobility](#) for STARs because they are flexible, affordable and accessible. The majority of STARs (56%) have some college credit, and nearly 1 out of every 5 STARs has an associates degree. In the next decade, those traits will be direly needed, along with innovative enhancements, to create an adaptable system that more deeply connects workers with education and employment. In addition, stakeholders that are a part of sector partnerships should be encouraged through WIOA to use skills as the unit through which to design skills-based training, reimagine job descriptions, and improve hiring processes. Support to employers and education institutions to make these changes could be delivered through technical assistance through the business services that workforce investment boards already provide to employers.

WIOA also can also benefit from better performance measures. We measure and track what

we care about. STARs have been left behind for a generation of economic prosperity in a systematic way. To begin to shift that, we must think about performance metrics to track outcomes of STARs – including measurement of income shifts, their skills, support services – and more. A decision to measure impacts behavior: for instance, when we have opportunities to allocate state funding under major programs such as WIOA, how might we consider allocating funding toward plans that encourage STAR hiring? Or, imagine the impact that a [Pay for Success](#) model could mean for increased STAR employment in middle-wage roles.

Third, policy makers can support employers as they experiment with new ways to implement skills-based hiring. For example, employers are deploying apprenticeships and other work-based learning programs to create new opportunities for entry into roles that are often off-limits to STARs. Our research shows that since 2010 registered apprenticeships have expanded to more than 100 new roles, and employers have implemented informal apprenticeships in an additional 200 roles. Further, nearly 40% of workers entering new registered apprenticeship programs were going into high-wage roles, including management, healthcare, and information technology – pathways for which employers have traditionally required a bachelor's degree.<sup>9</sup>

This expansion is allowing STARs, especially STARs, and in particular workers of color and women, to enter jobs they traditionally have less access to. Whereas 8% of workers who are Management Analysts are Black in our labor market, 19% of apprentices studying to become Management Analysts are Black; and whereas 19% of software developers in our labor market are women, in 2021, women made up 31% of people entering an apprenticeship for this role.<sup>5</sup> Expanding access and investment in these pathways is a critical lever to improve equity for STARs. A federal investment in technical assistance for apprenticeships and other work-based learning programs could spur innovation and encourage adoption of these practices.

### **Conclusion: STARs are a solution to many workforce challenges we currently face**

In closing, I thank you for your commitment to building a skills-based economy. STARs are a critical part of the workforce – it is time to activate them to meet the needs of American businesses for this next generation.

I am happy to answer any questions you may have. Thank you for your time today.

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<sup>9</sup> Opportunity@Work and Lightcast. [The Changing Face of Apprenticeships](#). 2022.

Chairwoman FOXX. Thank you, Dr. Debroy. Now, I recognize Mr. Healey for 5 minutes.

**STATEMENT OF MR. DAN HEALEY, HEAD OF PEOPLE FOR CUSTOMER SUCCESS, SAP, NEWTON SQUARE, PENNSYLVANIA**

Mr. HEALEY. Chairwoman Foxx, Ranking Member Scott, and honorable members of this Committee, my name is Dan Healey, and I am the head of H.R. for Head of People for Customer Success Organization at SAP. Thank you for the opportunity to participate in this hearing and provide a perspective of a major technology employer and human capital management provider on skills-based hiring, an issue of critical importance to our Nation.

As the world's largest enterprise cloud software company, SAP and our 107,000 global employees, and 25,000 colleagues here in the United States help over 450,000 companies of all sizes, and all industries run at their best. This footprint enables SAP to touch almost all corners of our U.S. economy.

Technology is changing rapidly, with over 10 million open jobs and business needs evolving, companies have had to rethink their approach to hiring, developing, and retaining talent to focus on skills. This approach means urgent business needs, while expanding the opportunity for more workers to enter into in demand career pathways.

SAP has invested heavily and transformed our recruiting process, our approach to employee upskilling and career pathways, and also invested in digital skills in communities nationwide. Skills-based hiring is not just a trend. It is a business imperative. It allows us to tap into expanded pools of quality candidates, reduce time to hire, create opportunities for individuals who are often overlooked.

At SAP we have shifted away from looking at those traditional signals such as degrees and universities attended, and instead we looked at each candidate, and looked at how we can find ways to distill what that person can accomplish. We recognize that individuals can develop the skills needed to work in technology through many education pathways, including community colleges, career technical schools, software boot camps, technical certification programs, high school technical programs, on the job apprenticeships, internships, and our own U.S. military.

Once workers join SAP, we continue to use a skills-based approach to advance our talent. For example, in our labs, our software labs in the United States we run rotational development programs that uses blind screening processes to assess talent for relevant skills. As a result, we have hired a more diverse class that we have ever had, with over 50 percent females, and the largest number of underrepresented minority developers from boot camps and career backgrounds that were often overlooked.

At SAP, we commit toward our employers ongoing success, and part of that recipe for this is again skills-based development. For example, our salespeople and software developers receive skills assessments annually, and personalized coaching, regardless of their background. We can correlate skill development to on-the-job performance and company achievement.



At SAP we believe in building skills not only for our employees, but for communities nationwide. In 2021, we launched Learning as ASAP.com, a free platform to build relevant skills. Last year, we had more than a million people actively engage with SAP's learning content, which offers some of the world's deepest and most robust IT education.

In 2022, we further committed to upskill 2 million people by 2025 through our digital initiative. Here we focused on reaching out to communities previously excluded from some of these programs, specifically women, underrepresented minorities, veterans, unemployed and under employed, along with students.

We have programs for students, including K through 12 STEM education, university career development and adult learners, and especially our NS2 serves program, which supports our Nation's veterans, which is a skills-based hiring program that has led to a 98 percent placement rate among our veteran graduates.

SAP is not alone in taking these actions to build skills in workers. For example, through the Business Roundtable Corporate Initiative, CEOs are collaborating to implement skills-based hiring and advancement practices, develop and scale apprenticeship programs, and advance other initiatives, focused on workforce development such as second chance hiring.

To compete at home and globally we need a public workforce development system that is flexible, and capable of preparing workers with skills for in demand and growing careers, urging the Nation's jobs and skills mismatch will require a major national commitment to lifelong learning, and a robust suite of services to deliver state-of-the-art continual skills.

Thank you for this opportunity to share SAP's own workforce perspective. It is an area ripe for bipartisan action, with measurable opportunities to grow the economy and expand our talent pipeline. I know I speak for many across the business community in saying I hope this Committee and Congress will act on these opportunities.

We are committed to partnering with you to meet employers' workforce needs and deliver opportunity for Americans to strengthen our global competitiveness.

[The Statement of Mr. Healy follows:]



Hearing on

**“Competencies Over Degrees: Transitioning to a Skills-Based Economy”**

**U.S. House Committee on Education and the Workforce**

**June 22, 2023, at 10:15 a.m.  
Rayburn House Office Building  
Room 2175  
Washington, DC**

**Testimony of Dan Healey  
Head of People for Customer Success  
Global HR Management Team  
SAP America, Inc.**

**Written Testimony of Dan Healey**

**Head of People for Customer Success  
Global HR Management Team  
SAP America, Inc.**

Chairwoman Foxx, Ranking Member Scott, and honorable members of this Committee, my name is Dan Healey, and I am the Head of People for Customer Success at SAP. Thank you for the opportunity to participate in this hearing and to provide the perspective of a major technology employer and leading human capital management provider on skills-based hiring, an issue of critical importance to our nation.

As the world's largest enterprise software company, SAP and our 107,000 global employees help over 450,000 companies of all sizes and in all industries run at their best. Our machine learning, Internet of Things (IoT), and advanced analytics technologies turn businesses into intelligent, sustainable enterprises and SAP applications and services enable business and public customers globally to operate profitably and adapt continuously. Over \$4.7 trillion in digital commerce runs through our business networks annually providing SAP with a unique understanding of the digital economy and where it is going. Here in the U.S., our 25,000 employees across 35 offices support SAP's 197,000 customers which represent 98 percent of the world's most valuable brands across 25 industry sectors have chosen to partner with SAP.

In addition, SAP SuccessFactors, our employee experience software, is a leader in cloud-based human capital and talent management. This line of business includes modules for recruiting, learning and development, and performance and compensation management. It tracks recruitment strategies to assess resources that bring in the most talented applicants. Our customers use SuccessFactors to on-board new hires and collaborate on recruitment using social business tools. Our software helps businesses formulate better skilling strategies, increase efficiency by workforce monitoring, and run reports for business insights.

Through these many potential touchpoints, we're hearing that business leaders across the U.S. economy are working together to make progress at scale on some of the most challenging workforce issues facing corporations today in a few key ways. For example, through Business Roundtable Corporate Initiatives, CEOs are collaborating to implement skills-based hiring and advancement practices, develop and scale apprenticeship programs, and advance other initiatives focused on workforce development such as second-chance hiring.<sup>1</sup> CEOs and Business Roundtable are also focused on ways public policy can ensure our workforce has skills for high demand jobs.<sup>2</sup> Together, these efforts are designed to help employers meeting their workforce needs, deliver greater opportunity to more Americans, and strengthen our economy and competitiveness.

In a knowledge-based global economy, human talent is the indispensable factor – the engine of innovation, productivity, and, ultimately, national prosperity. Sustaining the finest workforce preparedness system in the world will empower America to sell the world's finest products and services

<sup>1</sup> Business Roundtable, *Corporate Initiatives*, <https://www.businessroundtable.org/about-us/corporate-initiatives>.

<sup>2</sup> Business Roundtable, *Workforce Development*, <https://www.businessroundtable.org/workforcepolicy>.

to growing international markets—to attract investment, create jobs, and keep America strong. To remain competitive, and ultimately succeed, we must ensure that we future proof our education system, modernize our work-based learning programs and enact public policies that enhance the mobility and agility of the workforce.

#### Why skills-based hiring is on the rise

With over 10 million open jobs and business needs rapidly evolving, companies have had to rethink their hiring practices, resulting in a shift to skills-based hiring. In recent years, employers have broadened pools of applicants to include those traditionally overlooked because they lack a degree or minimum years of experience. It's evident that the shift is accelerating, given that a growing number of professionals don't need a degree to perform their jobs. Companies are struggling to attract and retain highly skilled workers. Most forward-thinking employers are now embracing cutting-edge talent practices and skills-based hiring for the following reasons:

- **Expanded talent pool of better quality candidates:** The IT industry alone faces professional shortages measured in the millions. Meanwhile, we have millions of either unemployed or under-employed sitting on the sidelines in this historic economy. We were pleased to see in March 2023, that the Commonwealth of Pennsylvania abolished the four-year-degree requirements for the vast majority of state government jobs. Our traditional path of a university education cannot fill this gap today by itself, let alone in the future I alluded to. This is why skills-based hiring is so critical. Skill based hiring, simply put, is the recognition that people who can do the job should be given the opportunity – regardless of how they acquired those skills
- **Accelerated time to hire:** Time to hire—the time that elapses between a candidate entering a company's talent pool and getting a job offer—is an essential metric for recruiters. Skills-based hiring results in a more speedy, efficient hiring process. By assessing candidates early on, HR teams can quickly rank applicants based on their quantifiable skills.
- **Reduced hiring costs:** When recruiting based on skills, you fill vacancies faster. That means the total cost of advertising and marketing the position is reduced. Also, candidates hired in this manner require little to no preparation, which saves time and money during the onboarding process.
- **Improved retention rates:** A benefit of skills-based recruiting is that it helps strengthen retention. Employees without college degrees tend to stay in their roles longer than those with degrees. At a time when staff turnover rates are on the rise, hiring based on skills can be a huge advantage.
- **More diverse workforce:** The cost of a college education<sup>3</sup> has increased an astounding 25% over the last 10 years. As a result, career paths that require a four-year degree remain inaccessible for millions of Americans who cannot afford it. Skills-based hiring furthers workplace diversity and inclusion by opening doors for people historically excluded from jobs based on education. It also allows candidates to be considered assuming they can perform the duties required.

#### Our views on skills-based hiring

Companies that flourish in an age of technology entrust business performance to SAP. Our company is an industry leader in the area of human experience management, with our HXM solutions in use by more than 30,000 customers and more than 220 million users across the globe. This gives us the opportunity to drive a lot of change beyond our own company. The HR function at SAP sees itself as kind of a Formula One test driver for HXM. Of course, we are a showcase for SAP, but we also test the

<sup>3</sup> Education pays : U.S. Bureau of Labor Statistics ([bls.gov](https://www.bls.gov))

beta versions to provide real-world feedback. And this helps us excel at assisting our customers get the best solutions possible. We have found that “skills-based hiring” shouldn’t be limited to only those skills a candidate possesses to perform a specific role right now.

Organizations should also consider both a) whether someone’s current skills could be used to perform other roles the organization might need in the future, and b) whether someone has the potential to acquire new critical skills for the future. This approach would require organizations to reconsider their philosophies around what potential “is,” as well as the methods they use to assess it.

Organizations have also long struggled with skills management due to outdated skills frameworks and difficulty objectively assessing and validating skills, among other issues. We have seen significant advancements as far as efforts and technology developed to address these challenges from both from start-ups and large human resources information system (HRIS) vendors in recent years. Whether these improvements will mature to make skills-based hiring at scale a reality, however, is yet to be seen. As the Committee considers how to improve the future of skills-based hiring, we urge Congress to take under consideration our below observations to better understand current challenges:

- 1. The prevailing macroeconomic conditions facing the world have shifted dramatically in the last few decades.** Technology is changing rapidly. The architecture that underpinned SAP’s R/3, our flagship ERP product, deployed around the globe over a period of more than 20-years. The corresponding shift for our cloud-based solutions will be less than half of that. If you consider the far-reaching impact of technologies like Generative AI, it seems that the cycles are only getting faster. Simultaneously, our careers are lengthening. Half of all children born today will live until they are 100. Their careers will therefore span multiple arcs and various technology cycles. Put simply, in such a world of rapid change and longer workforce participation, the educational paradigm that we relied on before simply will not suffice.
- 2. Beyond even the changing nature of our IT industry.**  
For SAP, in an effort to recruit more aggressively, we’ve shifted away from looking at bundles of signals – the degree that represents everything from your privilege, the job title that may be looked down upon but built critical understanding, the brand of your last employer – it’s looking at each candidate to find ways to distill what that person can actually accomplish. Where skills require refining, offer certification, assessment, or internships and career technical programs. If we can upskill and reskill employees across their careers, if we can help young members of the workforce find their way into areas of the economy that are growing without concern for their educational pedigree, if we can offer people the bootstraps, they need to pick themselves up with, we can build an environment that is far less biased in its outcomes.
- 3. We can see the proof in action at SAP.** At SAP Labs in the United States, we run a rotational development program. In the first years, to tackle an issue of suspected bias in our screening process for software developers, designers, and data scientists, we implemented a blind screening process to assess talent based on job relevant skills. The year the process was instituted, we hired a more diverse class than ever before – with more than 50% women, an unfortunately uncommon statistic in the software industry, and a number of non-traditional developers from bootcamps and career backgrounds that never would have been considered.

Our career technical education program leverages the same skill screening process ahead of job interviews to narrow down applicant pools – putting skills ahead of human assessments. It’s not

only about hiring for new joiners, but skills is also about extending peoples' success with an employer. At SAP, we maintain some of the deepest relationships with our employees. While other tech companies suffer from rapid employee attrition, we commit towards our employees' ongoing success. Part of the recipe for this is again skill-based development. Every one of our salespeople receives skill assessment annually and personalized coaching. Regardless of background, we can correlate skill development to on-the-job performance and company achievement.

Similarly, every one of our developers receives the same assessment and is offered feedback. This makes navigating global opportunity so much more straightforward for individuals who are trying to create opportunity. We also offer one of the world's most established experiential development programs, with thousands of employees annually testing out new career opportunities across our organization and building new skills. The result is a workforce with remarkable experience, tenure, and mobility. Because it's not about the credential they join with – it's about the skills they build with SAP.

- 4. Skills, however, are universal. And this is where employers – especially technology companies can play an even larger role.** In October of 2021, we launched [learning.sap.com](https://learning.sap.com) – our free platform to build SAP relevant skills. Why, there was a skill shortage and we understood that the knowledge we previously offered in our skilling centers could be a useful tool in helping the economy to activate professionals to tackle the shared problem. Last year, we had more than 1 million people actively engage with SAP's learning content – which offers some of the world's deepest, richest, IT education. Already, thousands of hours of programming can be accessed on learning.sap.com – including 28 courses that prepare students for full SAP Certifications.

In October of 2022, SAP further committed to upskill 2 million people by 2025 through our digital skill initiative. Here we focused on augmenting our learning content with programs and investments to help SAP not only reach out to its existing communities, but to support the skilling of communities previously excluded from some of these programs. Specifically, women, minorities, veterans, the unemployed or underemployed, and students. As part of this commitment, we doubled down on the need to build basic professional skills and partnered with Coursera to create an introductory course. The demand has been phenomenal with more than 22,000 students starting their careers with SAP Professional fundamentals. As we build out this program, we have a distinct U.S. focus. We are actively working with partners in the Non-Governmental Organizations (NGOs) and Historically Black Colleges and Universities (HBCU) communities to help identify candidates for upskilling and offer them opportunities to propel their careers forward.

- 5. One of the most critical learnings we have had in skill based professional skilling and hiring is that each community requires different skill focus to support their development.** This is the crux of the challenge. Too often, we think software or eLearning alone will solve our societal problems. But the reality is that staring at a YouTube window, with no support network or mentor to engage with can be a remarkably intimidating way to learn your way into the workforce. And that's where government and corporations can play the biggest role.

At SAP, this insight inspired us to build specific programs that take our content and deliver it in ways that support our communities where they are now, based on how they want to learn. We have programs for students including K-12 Stem Education ([SAP Young Thinkers](#)); University Education ([University Alliances](#)); and Vocational career development ([STAR Program](#)) as well as for Adult Learners including those in transition ([People to Work](#)) (note: With more than 400K people reskilled

in Europe as part of this program, this is a wonderful example of how public private partnership can support workforce development and hiring) and Veterans in the United States([NS2 Serves](#)) which is a skill based program and hiring has led to a more than 98% placement rate for graduates.

Each of these programs requires the support of the institutions in our communities to work. We need partners to help us identify candidates for skilling, we need to understand the skills most relevant to round out individuals for hiring – meaning we need to work across industries in an open format to identify these skills and make them known to skilling institutions, and we need different models for funding education (as there are few career switchers that have the time and resources to spend on extensive mid-career reskilling programs. Rent and nutrition are simply more important.

Given our extensive experience working on skilling initiatives across the globe, we’ve seen many of the models that work. We’d value the opportunity to work with Members of Congress to help you better understand lessons learned on what’s been effective and what issues regulators should avoid.

### **Organizations are moving toward a new skills-based strategy approach**

We’re experiencing a once-in-a-generation change in how we work, train, and learn. This transition is not only about how companies are hiring, but actually applying a skills-based approach to how organizations work and train their employees. Companies are increasingly placing skills, rather than jobs, at the center of the way work gets done. Employers are applying skills-based models to meet the demand for evolving business priorities and fast paced innovations. By decoupling some work from the job – either by atomizing it into projects or tasks or broadening it so it is focused on problems to be solved, outcomes to be achieved, or value to created – people can be freed from being defined by their jobs to being seen as whole individuals with skills and capabilities that can be fluidly deployed to work matching their interests and evolving business priorities. And by basing people decisions on skills more than jobs, organizations can still have a scalable, manageable way of operating. This new operating model for work and the workforce is called “the skills-based organization.”

Employers are beginning to see how skills-based practices can expand their access to great talent—but the benefits aren’t only for employers. As employers adopt these practices across their talent journeys, workers are more equipped to find better jobs based on their skills rather than their degrees, educational background, or years of experience in a specific role. In the face of ongoing macroeconomic challenges, now is the time for all stakeholders in workforce development to commit resources and support to accelerating adoption of these practices and build stronger communities.

Businesses will need help with the transition to skills-based hiring. They face a growing challenge when it comes to managing the gap between their workforce’s current skills and those they’ll need in the future. SAP believes that closing this gap means employers must optimize the processes companies use to recruit and hire new workers. For example, each time employers create a new position, they have to, in essence, reinvent the wheel, updating skills requirements, ensuring job descriptions are market-competitive and developing interview questions that can identify each candidate’s potential.

Employers and workers themselves can do only so much to make skills-based transitions possible. The workforce development ecosystem—employers, worker-serving organizations, employer intermediaries, and elected officials—must be incentivized to work together in community to support skills-based job transitions.

Leaders in communities across the country can convene key stakeholders to support skills-based hiring and discuss how stakeholders can cooperate to ensure that workers are able to transition into higher-wage, in-demand roles in their respective local communities. Actions can include prioritizing skilling programs focused on the skills most frequently needed to prepare workers for in-demand jobs at local employers; sharing résumés from workers in the community who are a match for open jobs at local employers; and prioritizing investments in digital-literacy upskilling and broadband infrastructure improvements for lower-income workers.

### **Multiple pathways: hiring for skills to win the race for talent**

With today's changing environment, it's never been more urgent for employers to understand the skills, capabilities, and potential of the talent which an organization is fighting to keep, while simultaneously being able to identify, plan and hire for the workforce skills and capabilities it lacks. As entire industries shift delivery models and business strategies remain fluid, the talent function's ability to stay agile, diversify hiring, and speed up recruiting processes is a business imperative. Technology roles have been notoriously difficult to fill for a decade or two but are now coming into glaring focus as companies undertake key digital transformation initiatives. IT leaders see the shortage of talent as the biggest barrier to adoption of two-thirds of the emerging technologies that power digital transformation, according to a Gartner report<sup>4</sup>. Clearly, human capital organizations need to act fast.

Now, a few years after the concept first appeared, HR and human capital organizations are getting real about making the transition to hiring people without four-year college degrees as a way to quickly onboard people with essential digital skills. These "multiple pathway" workers develop the skills needed to work in technology jobs through nontraditional education paths – community colleges, vocational schools, software boot camps, technical certification programs, high school technical programs, and on-the-job apprenticeships and internships.

Through the *Multiple Pathways Initiative*, Business Roundtable member companies are reforming their hiring and talent management practices to emphasize the value of skills rather than degrees alone.<sup>5</sup> This effort is helping companies meeting their hiring needs and unlock new employment advancement opportunities for workers including those with diverse backgrounds.

### **Data transparency: the critical role of innovation in skills-based hiring**

Policymakers and private sector stakeholders need to consider ways to increase data transparency in order to better match American workers with American jobs. High-quality, transparent, and timely data can significantly improve the ability of employers, students, job seekers, education providers, and policymakers to make informed choices about education and employment—especially for matching education and skilling programs with in demand jobs and the skills needed to fill them.

As organizations continue to face economic uncertainty, supply chain challenges, and rising inflation, hiring will continue to slow in several industries – pushing organizations to look at their current workforce to fill gaps and meet growing business demands. We'll start to see accelerated adoption of machine learning and AI specifically in addressing their talent needs. In the skills space, SAP anticipates

<sup>4</sup> [Gartner Survey Reveals Talent Shortages as Biggest Barrier to Emerging Technologies Adoption](#)

<sup>5</sup> Business Roundtable, *Multiple Pathways Initiative*, <https://www.businessroundtable.org/workforceskills>.



that we will encounter a groundswell of organizations focused on creating a skills catalog so they can better understand the capabilities that exist in their workforce, where they are lacking, and how they can deploy people into different roles to stay on top of changing business needs. SAP solutions bring together data, machine learning, and AI to help organizations better understand the capabilities and skills within their workforce and provides the talent intelligence to align their people with the needs of the organization. This is helping organizations build workforces that are more skilled and agile.

With organizations continuing to face talent shortages in 2023, they'll be forced to redefine what a "qualified" candidate looks like and take a critical look at how their AI and machine learning algorithms are defined in their recruiting practices. Eliminating hiring biases that give preference to applicants from certain schools or move those without degrees to the bottom of the digital pile, will be critical to tap into often overlooked talent pools and eliminate the paper ceiling. In some places, this will be a requirement to meet the transparency dictated by emerging regulations.

The nature of employment is transforming rapidly. As technologies advance and employment models change, it is critical that we find new ways to ensure that both American workers and businesses are empowered to match potential talent with commercial need. Data transparency and accessibility is integral to this process. Data transparency, accessibility, and security provide the ability to map skills needs to job titles, and give Americans control of finding ways to build careers that are agile enough for the digital economy. Today, this data landscape does not exist. Innovators across the HR, education, skilling and recruiting spaces need to be equipped with the tools to develop novel techniques to address these gaps. To achieve this landscape, we urge policymakers to consider focusing on:

- **Developing a trusted system for sharing workforce data.** Currently siloed data assets need to be leveraged across the ecosystem by both the public and private as well as at the individual level between governmental agencies and jurisdictions to enable personalized citizen services and create effective resource allocation.
- **Supporting the development of a flexible skills-based ontology.** We need structured, living taxonomies, to create an adaptable common data foundation on which to build.
- **Recognize the acquisition of new skills** acquired through employers or providers such as community colleges, as individuals seek new career opportunities (e.g., lateral or advancement).

**Building a future ready workforce: A flexible, mobile education and skilling system will be necessary in order to meet the constant reskilling and upskilling needs of U.S. workers**

Organizations today are under constant pressure to keep up with the pace of change. The only way they can adapt to industry-wide disruption and changing work models is to implement people sustainability strategies that support an agile, skilled, and healthy workforce.

Bridging the nation's jobs and skills mismatch will require a major national commitment to lifelong learning and a robust suite of services that deliver state-of-the-art continual skills development relevant to the workplace. This requires a "whole-of-society" approach that leverages our limited resources for maximum effect. Not only must a modern, competitive workforce be highly skilled and affordable, but it must also be mobile and flexible, able to respond agilely to rapid alterations in labor market demand and opportunity. Changes in the world economy are occurring at an ever-increasing rate. Sectors, industries, and enterprises rise and fall swiftly with continuous shifts in consumer demand, unceasing technological advancement, constantly evolving competitive forces, and swings in comparative advantage among nations, industry segments, and enterprises.



Today, the average American can expect to hold nine jobs between age 18 and 34. Our leaders must be attuned to the needs of the modern workforce and must use public policy to foster agility and mobility. Yet many of our workforce and workplace rules, programs, and initiatives are geared for another epoch, diserving workers, and hamstringing the economy.

### **U.S. competitiveness and the global race for skilled talent**

Skilled labor in an increasingly competitive world is essential. Highly skilled people are an indispensable driver of economic growth, competitiveness, and innovation. Developing countries in Asia are rapidly building up their professional labor pools. Meanwhile, the U.S. and Western European countries, which have dominated economic advancements since the mid-1800s, are paying more attention to preserving and growing their skilled labor workforce.

America's ability to attract global talent is a unique competitive advantage that has historically been crucial to innovation and entrepreneurship. By 2025 the global tech industry will see 97 million new roles, according to the World Economic Forum<sup>6</sup>, highlighting the competitive need for skills-based hiring. The Future of Jobs Survey 2023<sup>7</sup> which brings together the perspective of 803 companies – collectively employing more than 11.3 million workers – across 27 industry clusters and 45 economies from all world regions included the following key findings:

- Employers estimate that 44% of workers' skills will be disrupted in the next five years.
- Six in 10 workers will require skills development before 2027, but only half of workers are seen to have access to adequate skilling opportunities today.
- The skills that companies' report to be increasing in importance the fastest are not always reflected in corporate upskilling strategies

America's comparative advantage must be in the technical expertise of our workforce, but projections based on current trends are unpromising. The U.S. Department of Education estimates that 60 percent of the new jobs that will open in the 21st century will require skills possessed by only 20 percent of the current workforce. Some experts predict that within a decade, 123 million high-skills, high-paying jobs will exist, but just 50 million Americans will be qualified to take them.

### **Improving skills-based hiring: Our public policy recommendations**

SAP believes that people sustainability is a business imperative. We need to support people and human potential to create a more sustainable future and drive resilience and agility. SAP defines "people sustainability" to mean treating people – across organizations, supply chains, and communities – ethically and fairly. In fact, 86% of organizations worldwide believe that investing in people sustainability can drive positive environmental and economic sustainability, according to a global study by SAP SuccessFactors conducted in partnership with IDC.

The future is people-led and it's critical that public policy support the skills-based movement and help scale these efforts across all businesses – small, medium, and large. Currently, our nation's public

<sup>6</sup> World Economic Forum, *The Future of Jobs Report 2020*, October 20, 2020, [The Future of Jobs Report 2020 | World Economic Forum \(weforum.org\)](https://www.weforum.org/publications/the-future-of-jobs-report-2020/)

<sup>7</sup> World Economic Forum, *The Future of Jobs Report 2023*, May 3, 2023, [WEF Future of Jobs 2023.pdf \(weforum.org\)](https://www.weforum.org/publications/the-future-of-jobs-report-2023/)

workforce development system is not delivering in a way that meets the needs of workers, employers, and the economy – much less in a way that supports the recent shift to skills-based practices.

To compete at home and globally, we need a public workforce development system that is capable of preparing workers with skills for in-demand and growing careers. In examining ways policy can emphasize the value of skills, we recommend the Committee consider the following:

- **Align the Workforce Innovation and Opportunity Act (WIOA) and the public workforce development system with skills-based practices** that are being led by the business community. Critically, WIOA skilling services must be directed toward high-quality, employer-driven skills development. This includes:
  - **Promoting high-quality employer-based skilling opportunities**, such as apprenticeships and other forms of work-based learning, which are shown to be the most effective models for skills development.
  - **Promoting high-quality industry-recognized credentials** and facilitating transparent data on which credentials lead to employment and earnings increases. Industry-recognized credentials are portable across labor markets, recognized by employers in the hiring process, and are stackable – meaning that workers can obtain multiple credentials representing a growing portfolio of skills attainment. Industry-recognized credentials align to skills-based practices and are growing in importance as a means of skills validation.
- **Expand Pell Grant eligibility** to high-quality short-term education programs – so-called “Workforce Pell” – to give workers more freedom and flexibility to get the skills development they need for fulfilling careers. Expanding Pell eligibility can create more pathways to a recognized post-secondary certificate and high-quality careers, as well as be a steppingstone for students seeking a two- or four-year degree.
- **Support policies that will spur the development of a flexible skills-based ontology**, and structured, living taxonomies, to create an adaptable common data foundation on which to build.
- **Recognize the acquisition of new skills** acquired through employers or providers such as community colleges, as individuals seek new career opportunities (e.g., lateral or advancement).
- **Develop a trusted system for sharing workforce data:** (1) in aggregate such that currently siloed data assets can be leveraged across the ecosystem by both the public and private (2) and at the individual level between governmental agencies and jurisdictions to enable personalized citizen services and create effective resource allocation.

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We appreciate the opportunity to share SAP’s own workforce perspective and how, as a member of the Business Roundtable, we are working to advance innovative and collaborative solutions to meet our nation’s most pressing challenges. This is an area ripe for bipartisan action, with measurable opportunities to grow the economy and expand the talent pipeline. I know that I speak for many across the business community in saying that I hope this Committee and Congress will act on these opportunities. We welcome the opportunity to work in partnership with Congress to enact necessary policy changes that support a transition to a more skills-based economy. Thank you.

Chairwoman FOXX. Thank you, Mr. Healey. Under Committee Rule 9, we will now question witnesses under the 5-minute rule. The Ranking Member and I will go first on asking questions, and then we are going to disappear, but we are not disappearing, we are going over to the floor because they do not schedule the floor around our Committee unfortunately, so we both have to go to the floor to handle a bill, so I want the witnesses to understand we are not just leaving Willy Nilly.

Thank you very much. I now recognize myself for 5 minutes. Mr. Healey, you made a very strong business case for skills base hiring. Despite all the clear upsides you mentioned, it appears most employers are still relying on credential criteria like bachelor's degrees and previous job titles.

What do you think prevents employers from making the shift to skills-based hiring, and what is the most important thing we can do as policymakers to break down these barriers?

Mr. HEALEY. Chairwoman Foxx, thank you for your question. Because skills-based hiring requires different processes and different thinking, there is a change management issue I believe at heart. Organizations have long struggled with skills management due to outdated skills frameworks, and the difficulty to objectively assess skills and validate those skills.

Skills-based hiring requires more time. It requires more planning. Often the way headcount is deployed based on budget process, it is a land grab, and you fill open headcount quickly, which puts lots of pressure on talent attraction organizations, and on H.R. to onboard.

We have seen some great examples in my home State of Pennsylvania. For example, we have removed the 4-year degree requirement. I believe that policymakers can support by creating multiple pathways for improving transparency in data systems, and creating flexibility for workers, and ensuring data privacy also to acquire new skills.

We also see the Pell grants to pursue new skills in creating industry opportunities as well.

Chairwoman FOXX. Thank you very much. Dr. Kimbrough, in your testimony you discussed how certain skills overlap across occupations and industries. In the case of a worker seeking a degree change, or a worker displaced by economic destruction, how can better identification of their existing skills and awareness of occupations with similar skills accelerate their advancement in the workforce?

Ms. KIMBROUGH. Thank you, Dr. Foxx. We think it is really time to rethink how we hire and grow talent. At LinkedIn, we see talent everywhere, but we do not see access to opportunity everywhere. When we think about a skills first approach, what we see, and I say this as an economist looking at our data, it benefits workers, it benefits businesses, employers, it benefits the economy.

Some of the main conclusions which I referenced earlier were the 20 percent increase in the potential talent pool in the U.S. just by taking this approach alone. What I did not mention as well, was the fact that Democratizing access to opportunity benefits, in particular people without a college degree, but also women, and frankly, all generations.

We see that it provides an increased resilience for workers who are navigating uncertainty and economic shocks when they are relying on their skills, as opposed to trying to find a similar job title. We also see that the data, our own data, actually suggests that when workers add skills, and the more skills that they do add the quicker they find a role, and the fewer jobs they need to apply to. Thank you.

Chairwoman FOXX. Thank you very much. Dr. Smith, I am concerned that small and midsize employers may look at all the requirements for creating a valid skill's based assessment. I think it is too complex to pursue. Can you briefly walk us through how an employer can "transfer" the validity of an off the shelf assessment development by a third-party, and do you think additional clarity and technical assistance from the EEOC on transporting validity would be valuable to employers seeking to switch to a skills-based approach to hiring?

Mr. SMITH. Thank you for the question, Dr. Foxx. I am happy to talk about validity transportability. The basic premise there is if you have a job in one organization where you have validated a test, in order to transport that validity to a different location, you have to demonstrate that the job in the new location is functionally the same job.

There are a couple of different ways to do that. One of the ways is through a job analysis questionnaire, where you can match the duties and the requirements of the job that has validity evidence to this new job. There is not a lot of good, specific guidance, and I think that is what we in the hiring community would need, good, specific evidence on what it takes to demonstrate proper validity for transportability.

Chairwoman FOXX. Thank you very much. I yield back the balance of my time and recognize the Ranking Member for the purpose of questioning the witnesses.

Mr. SCOTT. Thank you. Dr. Smith, just following up on that, I think that your question and the answers reflect the idea that some tests may not be effective in evaluating potential applicants, and also may show bias without showing any relationship to the ability to do the job.

Who would actually validate? How do you validate the test, and how do you avoid inadvertent bias?

Mr. SMITH. Thanks for the question, Representative Scott. As long as the test is job relevant, that equals valid, and so you need to go through the process to show job relevance, and.

Mr. SCOTT. Well, you could show job relevance with a discriminatory impact.

Mr. SMITH. Right. First of all, the tests need to be standard and used in a standard way, so everybody is treated the same, the test is scored the same way. Some of the times even when you go through that the test does show differential outcomes for different groups.

That does not necessarily mean that the test is biased, as long as the test is job relevant, and everybody is treated the same way, then the disparate impact that may occur.

Mr. SCOTT. Okay. There have been tests in the past that have shown job relevance valid, but better workers do better on the test,

and poor workers do worse, with a notorious racial bias. Dr. Debroy, can you speak about how you deal with the racial bias in some of these standardized tests?

Ms. DEBROY. Thank you for the question, Mr. Scott. When we approach hiring with pedigree-based screening mechanisms, we automatically screen out a huge portion of workers in the United States. Almost 80 percent of Hispanic workers are screened out, 75 percent of Black workers are screened out. We also screen out veterans. We screen out rural workers in disproportionate volumes.

When we approach the skills-based hiring method, there are a lot of different mechanisms that employers have available to them to actually think about how to assess the skill of a candidate. The first recommendation that we make is actually to consider the skills that the worker is gaining on the job in their past job, because that is how actually most of us make transitions in the US labor force.

We make transitions to jobs that require very similar skill. The deployment of methods then to actually evaluate the skills of the candidate will vary a lot across different occupations in the US labor market. Picking the right skills assessment to actually ensure that you are not being biased, is a critically important point.

Mr. SCOTT. You acknowledge that some tests may be good in terms of general validation, but have a significant racial bias?

Ms. DEBROY. Yes, that is correct. There is a lot of variation in the types of assessments that employers use, and some of them are not neutral. That is correct.

Mr. SCOTT. OK. Thank you. Dr. Kimbrough, on LinkedIn, a lot of people look at the resume. Can you say a word about how a resume would look much better if it had a registered apprenticeship. Registered apprenticeships have national recognition and high standards. and how would that help somebody's resume?

Ms. KIMBROUGH. Thank you, Ranking Member Scott. When people are able to on LinkedIn members essentially upload their resume, and we call it their profile, data they choose to share publicly. They can put not only prior experience, what they have done, where they have worked, which would include apprenticeships, but also skills that they have gained in the process of doing any particular job.

The benefit to answer your question of having an apprenticeship would allow a member on LinkedIn, or any worker or job seeker to have more exposure to skills, to have more opportunity to showcase and demonstrate their skills on their profile, and therefore be perhaps a stronger match for a wider range of roles

Mr. SCOTT. Let me get in another question. Do you also have skills certificates that you can get at a community college? How would a short-term Pell help you get those certificates on your resume?

Ms. KIMBROUGH. Thank you for that question. I should say we are supportive of short-term Pell programs in general, and you have asked the question how would they help someone secure a role? To the extent that any member can enhance their education and skills by attending a community college, that is clearly another one of those powerful channels for accessing opportunity for enhancing someone's human potential.

We would be very supportive of that. The more skills that a member has, as I have said before, the more opportunities they have to be recognized by recruiters and hirers and actually secure a job faster. I will say that we find that people who are sub-baccalaureate actually benefit disproportionately more by adding the skills to their profile.

Mr. SCOTT. Thank you, Madam Chair.

Chairwoman FOXX. I now recognize Mr. Thompson for 5 minutes.

Mr. THOMPSON. Thank you, Madam Chair. Thank you to all of our witnesses for being here today. As co-chair of the congressional Career and Technical Education Caucus, this hearing is timely given the challenges employers currently face in finding skilled workers in nearly every industry and every sector across the country.

CTE schools often educate students with these skills in mind at a low cost, and quite frankly, in a short period of time. I am glad we are finally recognizing as a society the value of careers and education outside of traditional 4-year universities. As I travel throughout my district, I am incredibly pleased to see many career and technical education schools that now have waiting lists because of increased interest and demand.

These investments in our future will help the next generation climb the ladder of opportunity. I always like to say it is not so important where you start in life, it is where you end up, and having been able to reach that next rung in the ladder of opportunity is what we work hard to provide. Mr. Healey, as you noted in your testimony, in a company as large as SAP, you implement a wide variety of hiring practices to recruit and retain a talented workforce.

While I am sure there are some jobs that your company may require a bachelor's or an advanced degree, you noted how many do not. Even though a perspective employee may not have all the necessary skills for the job on day one, that does not mean that the employer cannot fill in the gaps. Mr. Healey, how do you think we can place a greater emphasis on employer driven upscaling, such as apprenticeships, or other work based learned?

Mr. HEALEY. Congressman, thank you for your question. Employers will provide and serve an important role in helping newly onboard candidates develop ongoing learning and skills to succeed in their job, and to also be prepared for jobs that do not quite exist or have not been budgeted yet in a company.

Companies like SAP, place a great emphasis on learning, on skills development, along with rotation programs, internship programs, but collectively we believe in on-the-job learning, which is every talent has an opportunity to learn about 70 percent of what they need to be successful, and for career growth on the job.

Another 20 percent is in mentoring and coaching, and ongoing support. Finally, the 10 percent part is in the actual hardcore skills learning, so it's a combination, but it is certainly fostered on the job.

Mr. THOMPSON. Similarly, your testimony touched on the idea that skills-based hiring means that companies should consider a job applicant's current skills, in addition to a candidate's ability to

acquire new skills for the future. What are some of the ways employers can gauge an individual's potential to build relevant skills?

Mr. HEALEY. Thank you for the question. I think that as was referenced earlier, certainly standardized and objective measures to assess a candidate's skills, the applicability of those skills for roles within for example, SAP, will allow more employers like SAP, and this is something that we're trying to do consistently to make more informed and better decisions, but it does come down to that standardization and objective measurement of the skills, the skills that are in demand for roles.

That removes again the focus away from the degree, and perhaps the institution where they studied to the actual skills.

Mr. THOMPSON. Very good. Along those lines, graduates from CTE schools are often well equipped with the technical skills and knowledge that employers are looking for. I have been proud to see so many partnerships between the private sector and these schools in recent years. In many instances, local employers are coming to CTE schools with a set of skills or knowledge that they need to fill vacant positions, and these schools have been able to collaborate with them on a curriculum that meets these needs.

Do you think that there are ways companies like SAP can partner more closely with CTE schools so they are involved in the student's education, and can ensure that their skills meet the needs of today? Quite frankly, tomorrow's workforce?

Mr. HEALEY. Congressman, yes. I do agree, and I believe that there is a massive opportunity for companies like SAP to partner with institutions like this. Just as an example, now this is our university alliance program, but we are extending that approach. For 25 years SAP has worked with universities and community colleges around this country where we engaged between 125,000 and 150,000 students to learn very specific SAP skills that can apply to not only our customers. We have 197,000 customers in the United States, but also our partner community, and certainly SAP alone.

These programs incorporated into course work, CTE programs, et cetera, provide very relevant, timely skills which will stand out by the way on a LinkedIn profile, which will stand out when we are running skills-based searches on LinkedIn to identify candidates.

I think that there is more of an opportunity to move that focus and engagement from the university level to other schools as well.

Mr. THOMPSON. Thank you, Mr. Healey. My time has expired. Thank you.

Mr. OWENS. Thank you. I now recognize for 5 minutes Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman, and thank you to the witnesses for being here today. As was said earlier, the topic of this hearing could not be more timely. The labor market continues to outperform all the predictions of economic experts on both the right and the left. On June 2d, when the latest Bureau of Labor Statistics report came out the economy again, defied all the predictions, and created 339,000 new jobs.

At the same time, as Dr. Kimbrough said, the number of job openings increased. Trying to sort of solve this problem for both employers, but also for perspective workers is all about trying to

change the metrics in terms of how a person connects to a job opportunity.

In Southern New England, we are seeing this phenomenon on steroids. Right now, with the Electric Boat Shipyard, who is doing again, a huge increase of work for the Navy in terms of submarine production. Last year, they hired just under 4,000 people in Rhode Island and Connecticut, and that hiring target for this year is 5,750.

When you are dealing with an issue of that magnitude, skills-based hiring just by sheer volume, is driving change in terms of how people are approaching. The good news is that WIOA pre-apprenticeship training programs really have just shown at this moment, in terms of setting up accelerated programs for welding, electricians, metal trades in general, that over a period of 8 to 10 weeks, you can actually get in the door of the shipyard, and then go from there on a daisy chain on a full apprenticeship training, and then even to advanced degrees because there is a lot of work for engineers, both in cyber and design work that is happening right now.

The biggest issue that we are hearing from our workforce board in terms of how we can fix this, and again, a lot of the reforms that you have discussed here today I think would be a really good help for rewriting WIOA, but trying to get people, particularly from communities that really have not traditionally sort of been part of this sector to sort of take the leap in terms of moving forward, is dealing with just basic issues of how do you afford to take care of your kids, you know, get transportation, pay the rent during that time period.

There is a limit to how much the stipends under WIOA can really afford to you know, to make it feasible for people to move that. Obviously Pell grants, short-term Pell grants would help the cause, but you know last year's WIOA actually addressed this issue by just sort of recognizing these realities, in terms of trying to help people really transform their lives.

Again, Dr. Kimbrough, maybe you could comment in terms of just how that can really help solve this skills gap problem.

Ms. KIMBROUGH. Yes, thank you so much Congressman. Absolutely. We have seen it in our own data, which spans over 200 million members in the U.S., the impact of the shocks to the labor market, both from the pandemic and then the recovery, which was on its own since became a positive shock.

As a result, we see that it is really important for workers to have all their needs met in order to be able to explore careers, because careers are not prescribed anymore. They are very opaque. It is not a lateral where you know you go one step, next step. You acquire skills, and then you look around to see where could this skill possibly be applied. Where can I maximize my income?

Absolutely. It is important and imperative that we find ways to expand all the pathways for people to access skills, and then to be able to demonstrate them, have them validated, so they can have career progression and receive really better wages.

Mr. COURTNEY. Again, that is why we have to really focus on sort of just basic, you know, realities for people in terms of trying to make that change. It is not that easy, as much as we know it



works. Another example of earn while you learn is apprenticeships, which goes back to the 1930's, the Fitzgerald Act.

Congressman Fitzgerald had my congressional seat at the time when President Roosevelt signed that into law. We know it works, but unfortunately, it has been too narrow a segment of the population that has been served by it. The reauthorization that got through the house last year would extend the scope to other sectors like healthcare that have not traditionally been apprenticeship.

Again, Dr. Debroy, in a few seconds, maybe you could just sort of talk about how that model, which again allows people to deal with how you pay the bills can really change people's lives.

Ms. DEBROY. Absolutely. Apprenticeships as you say, they are a time-tested way for actually offering employers a very reliable pipeline to scale talent, and while they have traditionally been concentrated in the trades, we did some work last year that actually showed that in the last 10 years, apprenticeships have expanded to 100 new roles in our labor market, and employers have actually been implementing informal apprenticeships in an additional 200 roles. They are absolutely a method that employers should be thinking about considering in more scale in the coming years. Thank you for the question.

Mr. OWENS. Thank you. I will now recognize for 5 minutes Mr. Walberg.

Mr. WALBERG. I thank the Chairman, and I thank my friend from Connecticut too for highlighting that because it is expanding because it works, and we need to keep doing that. Thanks for the panel for being here. Dr. Kimbrough, you have seen I am sure as I have, over and over again the shortage of skilled workers with employers just crying out for needed workforce.

Could you explain more fully finding—LinkedIn's finding that shifting to a skills first approach can increase the number of qualified eligible workers by nearly 20 times, and I am sure you have illustrations from the small business community on that.

Ms. KIMBROUGH. Thank you. Thank you so much, Congressman Walberg. Let me just say that we do indeed hear from many, many employers who are looking for talent across our range of industries from healthcare to construction, even manufacturing and retail, so it really is happening at this moment.

Our findings that we could potentially expand the talent pool of qualified, eligible workers by up to 20 times in the U.S. is calibrated on the idea that if you look at just the skills that people have, and you do not try to first filter for a degree, you start off already with a much broader pool of people. If I started with a constraint of just a degree, I am already restricting myself to only 37 percent of working Americans, and then I need to find the skills that I want.

If I do away with that constraint, I am starting with a much larger pool, and that is how we get in very quick terms, how we get to a 20 times number. It ranges from industry to industry. Some industries do not see as much of that expansion, but all industries do see some expansion of talent pool when we use a skills first approach.

On the small business point, absolutely, we see we have about 80 percent of our employers are small businesses on our platform, so they are definitely adopters of this approach.

Mr. WALBERG. Yes. Well, that is my approach to fishing. I look for the largest schools and go for that. Dr. Kimbrough, you discussed also how LinkedIn found that matching job seeker skills to job postings, specifically led to higher success rates and required fewer applications.

The workforce system under WIOA is tasked with getting employed and underemployed workers into job opportunities. Can you explain LinkedIn's approach to matching skills with opportunities, and are there ways the workforce system could better utilize skills information to achieve that mission?

Ms. KIMBROUGH. Yes. At LinkedIn we have a platform that essentially enables job seekers to come and find employment. They can look privately, or they can signal that they are open to work, and we have employers who are seeking talent. What we find in our data is that as I said before, there is an increasing need to find talent and a lot of industries are still struggling.

I will add that we are starting to see job seekers come back with a little bit more interest in the past couple of months, so maybe the labor market is rebalancing. What we see in our data is better matching. When we use a skills first approach you get a more precise match, a better match, and what that means I will put my economist hat on, is that we just have a more efficient market.

It is more dynamic, it is more efficient because people are moving around and navigating their career choices according to the skills they have, and not because they need to find a job with a similar job title. It is kind of a win, win, and I do believe last, as I said before, that it does provide a lot more access opportunity for many more underserved groups, rural Americans, veterans, women. Thank you.

Mr. WALBERG. Yes. That is what we want to see, everybody participating yes.

Ms. KIMBROUGH. Absolutely.

Mr. WALBERG. Dr. Smith, you indicated that 79 percent of H.R. professionals find scores on pre-employment skills assessments just as important, or more important than traditional criteria like degrees or years of experience. How can directly assessing the skills of candidates through assessments lead to more effective hiring, and then relying on a bachelor's degree or a proxy for ability?

Mr. SMITH. Thank you for the question, Representative Walberg. I think it is time that we stop making the assumption that the only place to get key skills and abilities are through colleges and getting college degrees.

Mr. WALBERG. Parents, are you listening. Go on.

Mr. SMITH. There are skills assessments to more directly assess these things, and I think that organizations should use them more, and worry more about the skills, and less about where they came from.

Mr. WALBERG. Yes. Well, I appreciate that, and I think it is going to be proven. I yield back, thank you.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes, Dr. Adams.

Ms. ADAMS. Thank you, Mr. Chairman, and thank you to our witnesses for joining us this morning. In North Carolina, Governor Cooper, recently issued an executive order emphasizing the importance of skills-based hiring. In turn, this would encourage more North Carolinians to apply for government jobs, and to help recruit additional skilled workers without having attained a 4-year degree.

In your testimony, Dr. Debroy, you identified 13 State governments that have removed degree requirements for their job classifications. As you correctly pointed out, these actions send a message to other employers in the State that, if a worker has the skills to perform a job, they should have access to it, and the potential career advancement that it offers. Would you elaborate just a bit more, on how State governments are currently benefiting from the adoption of skills-based hiring practices?

Ms. DEBROY. Thank you so much for the question. You are exactly right. In the last year, as of this week, 14 states have removed unnecessary degree requirements for hard to fill roles. 10 Governors followed Maryland's lead last summer in passing executive orders, and 4 states have passed legislation focused on skills-based hiring.

This is a bipartisan movement, and it speaks to the critical need, as you say, to rethink our standard hiring practices in a labor market that is not allowing many workers to reach their full potential. These actions are really low-cost ways to actually open hiring processes to more applicants and improve economic mobility in regions for qualified workers.

In the example of Maryland where we worked closely with the Governor, they were motivated to address the needs of the workers, and what they actually were able to do by shifting their hiring practices in this State alone, was enable access to 1.3 million additional workers.

Ms. ADAMS. Let me ask you because I have got a few more questions. Were there any barriers that you could mention that you have seen?

Ms. DEBROY. Barriers to removing degree requirements?

Ms. ADAMS. Yes.

Ms. DEBROY. Yes. Good question. In the context of the public sector, I think one of the things that has actually been proven now by these 14 states is that when the decision is made, action can follow quite quickly, and I think that is actually a really important signal for all of us to be latching onto at this moment.

Ms. ADAMS. Dr. Kimbrough, you mentioned briefly in your testimony that nondegree holders lose a vital path for upward mobility, when employers use degrees as a proxy for skills. Can you talk a little bit about how skill-based learning impacts the ability of workers without degrees to earn promotions, and do you think that this practice, whatever it may be, would minimize any possible biases when promoting workers?

Ms. KIMBROUGH. Thank you for the question, Congresswoman. We believe that talent is equally distributed. Opportunity is not, and skills are everywhere. Everyone possesses a variety of skills, a constellation of skills that will allow them to perform tasks and hold jobs.

To the extent that workers are able to embrace learning, and we see this in our own platform with more and more people choosing to invest in themselves through online learning courses, or from taking classes at community college, and adding those skills to their profile, we think about almost like skills are a currency or a building block for your career, and the ability to acquire the skills is what will allow people to enrich and empower themselves, so I absolutely think that this is how people can progress in their career, by having greater experiences, and a bigger breadth of experiences, and fundamentally expanding the avenues.

Ms. ADAMS. Yes, yes ma'am. Well, thank you. In the LinkedIn report it is mentioned that traditional skills, such as years of experience are flawed predictors of somebody's ability. Can you discuss briefly how to prepare workers who are already in the workforce for skills-based hiring?

Ms. KIMBROUGH. I am so sorry. Could you repeat just the last part of the question?

Ms. ADAMS. Okay. For workers who are already in the workforce, how should they be prepared for skills-based hiring?

Ms. KIMBROUGH. For workers—very briefly, for workers who are already in the workforce preparing for skill based hiring really means being able to acquire skills, showcase your skills, demonstrate them in a way that can be valid, and remember that all skills matter. So many skills are changing over time. It is imperative for people to kind of continuously learn.

Ms. ADAMS. Well, thank you very much as a 40-year college professor at a 4-year institution, I certainly appreciate all that you've offered today. Thank you very much, and I yield back.

Mr. OWENS. Thank you. I recognize for 5 minutes Mr. Grothman.

Mr. GROTHMAN. Yes, first of all Ms. Kimbrough, you said something during your testimony that bothered me a little bit. You advocated more use of Pell grants. My concern with Pell grants is always there is a significant marriage penalty associated with them, and a significant work requirement, because they are based on a percent of poverty.

I can think of three examples, since I have had this job of people giving the examples of people who didn't get married because they have a "free college course". It is not entirely free, but it helped you along those lines. Could you comment on that? That is my big problem with Pell grants. How do you respond to people who would say they expect the person who is grabbing the Pell grant when they have a full-time job, or grabbing the Pell grant when they are married, in both of those cases they do not get it because they are not in poverty, and therefore the programs discourage work and discourage marriage.

Ms. KIMBROUGH. Thank you for that question, Congressman. At LinkedIn we support broadening the pathways for people to have access to opportunity, so to the extent that a Pell grant is yet another option, in a variety of options. We do not support, or we have not taken a position on any particular piece of legislation. We are just very supportive of the opportunity to work with this Committee to find numerous solutions for all Americans.

Mr. GROTHMAN. No. You understand what I am saying though? Right? A Pell grant is based on percent of poverty, so if you are

saying going to school in addition to working full-time, you cannot get the Pell grant. If you marry somebody who has a full-time job, you cannot get the Pell grant. There are people who do not have jobs, or do not get married because they are eligible for these sort of programs. Does that bother you?

Ms. KIMBROUGH. Apologies. I have not investigated this issue very deeply. It is a little outside of my domain as a macro economist, but I would say it would seem prudent to have as many options as possible, so that we do not let people who can fall outside and garner solutions.

Mr. GROTHMAN. Okay. Well, next question for Mr. Healey. I think doing court cases, which are now 50 years old, makes it difficult to give people some tests that maybe you can take, maybe even in lieu of a college degree. How do you think we can deal with it because on the one hand you want to be able to hire people based on skills, or ability to do something.

On the other hand, we have court cases kind of saying that you cannot give certain tests. Can you explain to me how we can kind of square that circle?

Mr. HEALEY. Thank you, Congressman, for the question. I would like to illustrate an example, an investment that SAP has made. I hope it directly answers your question. Years ago, SAP created our NS2 Serves program. It is a program designed to support our veterans.

There are 19 million American who are veterans, and to address a growing need, now this is very specific around the skills piece that I want to touch on. SAP launched NS2, and it is a subsidiary of our company. The program is in high demand, and we essentially offer free training in supporting veterans in their transition to civilian life.

It has an eight-to-12-week intensive program, and students at all technical levels, and I think this is I hope, addressing to your question at all technical levels, yet worldclass software training and education and learning.

Mr. GROTHMAN. No. You are not answering my question, so I have got to maybe clarify it more. If you were going to give somebody a job, and you are not going to say you have to go to college, you have to find another way to measure this applicant versus another applicant. There was a time in this country where you could do that by giving them a test, okay?

Court decisions struck down the idea of just giving somebody a test. On the other hand, I think we have all sorts of people who could do a job without going to college, you know, but they cannot get that job. How does a company identify that person? The obvious way to do it is to give them a test.

Mr. OWENS. Brief question, you can answer.

Mr. HEALEY. Very shortly. I would say it is again back to the skills assessment piece. What are the required skills for a role independent of their credentials, and what are the skills which we can assess our candidates and we can match those skills.

Mr. OWENS. Thank you. Thank you so much. I would like to recognize for 5 minutes Ms. McBath.

Mrs. MCBATH. Thank you. Thank you so much, Chairwoman Foxx, Ranking Member Scott, and to our witnesses for making this

hearing possible today. A college degree or credential is still the surest path to economic security, but it is clear that relying so heavily just on a higher education system that remains pay to play is not what is best for our students, or for our country.

For too long, it has been emphasized that the only way to be successful is to possibly take out a loan and go to a 4-year institution. While we have some amazing universities in our country, and in my State of Georgia, and they truly do kind of remain the surest path for Americans to create a good life for themselves and for their families, there are other options out there that we need to be doing more to promote as well.

Every student in high school should have the chance to be encouraged to learn more about the trades and other opportunities to get ahead like registered apprenticeships. I am highly in favor of those. While I firmly believe that every student should be able to go to college if they want to, the fact of the matter is that some families are just not able to afford to send their children to college because of the cost, a direct result of decreased public investment in higher education, and I can say that having had millions of dollars taken out of our public school institutions and universities in Georgia.

There are over 122,000 adults in my district alone, Georgia 7th, that qualify for some form of student debt forgiveness under the President's plan, and I believe that this number would not be nearly as high if we did more in Congress, my colleagues and I, to lower the cost of college, while also making sure that students are made aware of, and able to consistently follow other opportunities that are out there in order for them to become successful.

Programs offered by IBEW Local 613 at the Atlanta JATC Electrical Training Center, in my district, provide students with the opportunity to do a lot of on-the-job training, learning and getting paid a good wage at the same time. First year inside wiremen and construction electrician apprentices, get paid about \$14.00 or \$15.00 an hour, and they can expect to earn over \$34.00 an hour after graduating from this program.

We should be doing more to expand these opportunities by reauthorizing the National Apprenticeship Act, and taking real steps to ensure that every American knows that these are viable paths of success for them.

Dr. Debroy, I have two questions for you today. Most registered apprenticeship programs utilize a skills-based assessment when onboarding an apprentice with some competency-based training as a means of education. In your testimony, which I have read, you mentioned that nearly 40 percent of the workers entering new registered apprenticeship programs are going into high wage jobs that historically require a bachelor's degree, and that is an incredible statistic.

Would you agree that registered apprenticeships are considered a skills-based hiring approach?

Ms. DEBROY. Thank you so much for the question. Yes. Absolutely apprenticeships are a critical lever available to employers to bring—a skills-based approach to their hiring.

Mrs. MCBATH. Thank you. How can employers utilize registered apprenticeship programs when adopting skills-based hiring prac-

tices? If you really expound upon that because I am a huge proponent of what we are talking about today. I have a district in Georgia that is a lot of first—and second-generation immigrants.

A large number of my constituents were born outside of the United States, so this is really important for my constituents, so that they too are able to really be able to be economically successful.

Ms. DEBROY. Absolutely. Apprenticeships are really a time-tested way of offering employers a reliable pipeline of talent that is skilled. To your point, we have seen in the data since 2010 that registered apprenticeships have expanded in terms of what types of jobs they are preparing workers for. We have seen them expand to 100 new roles in the US labor market, and further, we see that they are actually implementing informal apprenticeships as well to an additional 200 roles on top of that.

I think what is also important to understand in the data is that by opening up these new roles to apprenticeship opportunities, they are actually attracting a much more diverse workforce as well. We are seeing increased opportunities for workers of color, as well as women, into a number of these positions that have historically not been available to workers who have not gone to college.

These positions include jobs in healthcare, in tech, in advanced manufacturing and other sectors as well.

Mrs. MCBATH. Thank you so much. I appreciate it, and I yield back the balance of my time.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes, Mr. Allen.

Mr. ALLEN. Thank you, Mr. Chairman, and thank you for being with us today. This is some good information that we need to pass on to the entire country. I had the privilege to grow up on a small farm and as most young Georgians did prior to 1970, I learned many skills growing up on that farm like operating equipment, masonry, concrete welding, and carpentry.

I did that starting at a very young age. I was able to pay my way through college by working as a welder in a large fabricating plant, and of course I attended a very fine architecture and engineering college. My folks first ownership opportunity in the construction industry was with a second generation general contractor, founded by my mentor for many, many years who had a sixth grade education, and was one of the most successful. He was an icon in the community, a very successful business person.

He, like most young people that grew up in the great depression. He had to go to work and help support his family. Dr. Smith, as employers in Georgia, and across the country are struggling to find workers, it is time to acknowledge that a college degree is not always a good measure for what a worker can bring to the table.

In fact, I will add this, the majority of my—in the construction business, my subcontractors grew up through the trades, and they became entrepreneurs and formed their own businesses, and they employed hundreds of people. They were able to learn quickly their passion.

We need to support employers who want to find qualified job candidates through skills-based hiring. In fact, nearly two-thirds of Americans aged 25 and older do not possess a bachelor's degree,

yet society has perpetrated this idea that a college degree is the only pathway to the middle class, and a good paying job.

Can you explain how to use the preemployment skills assessments can help employers remove degree barriers and give all workers a fair chance to compete, and the respect they deserve?

Mr. SMITH. Thank you for the question, Representative Allen. I think for every job there are a set of skills that somebody needs, and they can get those skills from multiple different places. You can get them from colleges. You can get them from vocational schools.

There are some schools you can get from watching videos on YouTube. As long as they have the right skills for the job, and they can pass a reasonable assessment of them, I think that makes them a good candidate, and they should at least be considered for the job regardless of educational background.

Mr. ALLEN. In your testimony you said 78 percent of H.R. professionals believe the quality of their hires has improved due to use of preemployment skills assessments. However, you also mentioned that many employers are not taking advantage of them, one reason being a fear of lawsuits or penalties from the Equal Employment Opportunity Commission.

Would you like to expand on that should EEOC provide more technical assistance to employers to help them shift to skills-based hiring through the use of assessments?

Mr. SMITH. Yes. We would like the EEOC to provide some assistance on the front end, so organizations are vetted, getting the thumbs up from the EEOC if they have done the validation of their tests properly.

Mr. ALLEN. Employers would be interested in receiving this help?

Mr. SMITH. Yes. The employers that we have talked to, they would be interested in receiving this help, and I think it would help many organizations get over the fear of using the preemployment assessment.

Mr. ALLEN. Mr. Healey, last Congress I joined my colleagues, Elise Stefanik, Michelle Steel, Julia Letlow in introducing the Validate Prior Learning to Accelerate Employment Act. The initial legislation is to accelerate job seekers. Do you agree that this would be a good update to the law?

Mr. HEALEY. Congressman, I do agree. I think any opportunity again where we can focus subjectively on skills and remove barriers creates standards around that so that companies can match demand with existing talent that's out there. We know, and my fellow experts here have confirmed that there is an inordinate number of amazing talents out there that are seeking opportunities, so I do agree.

Mr. ALLEN. Thank you. I am out of time, but I do have additional questions about WIOA and some of the things they need to be doing to assess skills, and I will submit those in writing. Mr. Chairman, I yield back.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes, Ms. Hayes.

Mrs. HAYES. Thank you. We actually agree on this topic that there is more than one way to be successful. I think Democrats have been saying that all along. We think that we need to have



multiple pathways for opportunity, and that there are multiple avenues for success. I would be the first to say that. I was a high school teacher for 15 years, actually National Teacher of the Year, and I know that college is not for everyone, so there is no dividing line here.

Democrats support the idea of apprenticeships, of workforce training opportunities, and we have been completely on board with this issue from the very beginning, but I welcome this conversation today. It is very important to encourage students to pursue whatever pathway will present the most amount of success for them, whether it be higher education or workforce opportunities, and expose them to those opportunities, and the realities of the job market.

The trades and skilled labor offer career assistance directly out of high school, as well as the opportunity to learn as you go through apprenticeship programs, which would be lifesavers for many of the students that once sat in front of me.

In Connecticut, 4,400 advanced manufacturing companies employ more than 161,000 workers. My district is home to one-fifth of that workforce, so I am definitely supportive of these initiatives. More and more out of State companies are also moving to Connecticut because of the existing workforce in the aerospace and defense industries, and the potential to grow.

This spring, two manufacturers in the housing sector announced new facilities in Connecticut, citing the talent pool available in the State. Additionally, this year Connecticut introduced the state's manufacturing strategic plan, with the vision of increasing manufacturing employment to 235,000 by 2033. Last Congress, the House passed the Workforce Innovation and Opportunity Act, which would have reauthorized Federal programs to support workforce development efforts and transition to skills-based hiring.

Unfortunately, the Senate did not take up our legislation, but we will continue to work on this, and I think we all agree.—I also think that these programs have to be accompanied with both funding and transparency to make sure that we are doing them correctly.

Dr. Debroy, through Opportunity at Work, we have helped businesses implement skills-based hiring in their employment processes. You have acknowledged that removing formal education requirements is a first step to facilitating hiring through skills obtained through alternate routes. In your experience, what is the most common obstacle employers face when trying to adopt skills-based learning, and what can the Federal Government do to remove those barriers?

Ms. DEBROY. Thank you so much for your question, and for your remarks. There are a number of ways that we could think about actually supporting businesses to do this work because it is a different method from what many of them are accustomed to. I actually want to start by talking about our small and medium-sized businesses.

They employ 60 percent of STARs today. In fact, 43 percent of STARs are actually employed by a business with fewer than 100 employees. For many of them, shifting these methods is actually quite difficult. Through WIOA, we actually have an opportunity to

increase services to businesses that could support them in making these shifts within their own organizations.

Mrs. HAYES. Thank you. Dr. Kimbrough, you mentioned the utilization of a LinkedIn skills assessment. Could you elaborate further on what skills are being assessed through those evaluations, and how they may be used for different occupations?

Ms. KIMBROUGH. Yes. Thank you for the question, Congresswoman Hayes. We have at LinkedIn the ability for members to put up to 50 skills on their profile, and they can then be—we encourage them to take skill assessments of some of the top skills that they rank on their profile.

If they choose, they can post the results of that skill assessment. Now the benefit of the skill assessment is that we are actually in an economy where frankly skills are changing. I can look back 5 years and see what the skills were required for certain occupations and see what they require now based on job postings, or based on what people who are in that job actually say that they can do, and it is changing.

Digital skills are evolving. As a result, what we see is that it is critical to kind of continually acquire these skills because we do not know what the future roles will be.

Mrs. HAYES. Thank you. One of the things I used to say to my students is, tell me what you are good at, and we will figure out the job that is best for you, so I welcome this conversation, and I encourage anything that we can do to make sure that my kids have jobs of the future. I yield back, thank you.

Mr. OWENS. Thank you. I now recognize for 5 minutes, Mr. Banks.

Mr. BANKS. Thank you, Mr. Chairman. Dr. Smith, in July 2020, President Trump issued an executive order overhauling the Federal Government's hiring practices to prioritize skills over college degrees. From a private sector perspective, can you describe what was meaningful about that executive order, maybe even talk about some of the lessons learned?

Mr. SMITH. Thank you for the question, Representative Banks. I do not know that I can speak to the specific results of the change in the legislation from President Trump. We have seen a shift over time from less organizations demanding college degrees. I do not know that I have a good answer for the——

Mr. BANKS. It would appear from your perspective did it appear to make a difference? If it was July 2020, I suppose there was not that much time that it was in effect, although it appears that the Biden administration has kept the executive order in place from my perspective. I do not know if the rest of you would agree with that, but it appears that that was a pivotal point, and a change that—one thing that this administration kept into effect from the last is that anybody else?

Ms. KIMBROUGH. If I may, I would just add ancillary point that we are indeed seeing an increasing number of roles on our platform that do not require a college degree, and it was roughly 8 percent of roles did not require a college degree before the pandemic, and now it is about 20 percent, so it is increasing.

Mr. BANKS. Anybody else?

Mr. HEALEY. I would offer an insight as a technology employer. Skills-based hiring, and of course removing those requirements that you mentioned, I think ultimately it just allows insurers more talents to apply for perspective roles and enter the workforce. That is very important. This means that we of course can grow talents, employees, colleagues when they join SAP.

We also look at it not simply for identifying talents that we would not necessarily look for, but also career growth opportunities, because the talent and the skills are universal. The question is what are the skills that are necessary to bring someone into an organization like SAP, No. 1.

Then No. 2, what are the skills that are necessary to take future jobs that may not exist? It is skills about, you know, transferable skills I would say, and also this learning mindset and curiosity, which in and of itself is an important skillset.

Mr. BANKS. I mean the reason I ask is because often times the private sector follows public sector, in decisions like these, and this appears to be a very significant change from the last administration. This administration has kept in effect that the private sector is following. I think that is what you are describing, what you are agreeing with.

Dr. Kimbrough, does LinkedIn have a public sector division within the company that talks about hiring practices, and?

Ms. KIMBROUGH. Thank you. Congressman Banks, I know that we have employees at LinkedIn that are focused on the public sector, but I would have to get back to you to give you an accurate answer.

Mr. BANKS. I did not expect that you might be able to answer this question, but any idea does the administration have any dialog at all? This administration, former administrations with LinkedIn on practices and strategies where you have an avenue to give them feedback?

Ms. KIMBROUGH. I think I would have to followup with you on that, or have our team followup with you on that.

Mr. BANKS. Yes. That is fair. That is all I have. Very important conversation, we appreciate all of you being here today. I yield back.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes, Ms. Manning. Norcross. Mr. Wilson. Okay. Mr. Norcross, all right.

Mr. NORCROSS. Thank you, Chairman. I have to agree with my colleagues, this is probably one of the most cooperative conversations we have had in here, and I am really glad to see it because I think we all can understand that the idea of having a job, a career is extremely important to people for literally their life.

One of the narratives that you have talked about today, and quite frankly we hear is in order to make it in America you have to go to a 4-year school. That is great. Certainly, I would want to make sure my doctor, medical doctor has gone there, but the idea of getting ready for employment, and only going to college leaves out, what you talked about, so many people.

I myself, went to the other 4-year school. I did an apprenticeship. I speak from a little bit of history here, and the reason being is that, quite frankly, parents are the first line of trying to encourage their kids to pursue a career or a job. What I have heard so often

is the idea of a child who is not pursuing college, they go to a vocational school because they could not do it. They are not quite as smart.

That narrative is out there, and quite frankly, parents have to give their children permission to pursue an area of their career that they want to go, always striving to do better. The idea of doing better is only through college, I think is something that I am continuing to hear here.

That permission to pursue a career that works for the individual that he can take care of his family is extremely important, and this is why skills. You have hit the nail on the head. This is where I want to ask a couple of questions. You brought up transferable. We used to call it portability, but skill is just a word. What particular skills we are talking about, and whether it is a registered apprenticeship, and registered equals an assessment that there are standards.

If you have an unregistered program, that is great. The difference between those two is when you are trying to describe, you get your first job and it is an apprenticeship program, but if it follows another standard, what does that mean to your next employer if they do not know what it is?

This is the question I want to pursue is, whether it is an apprenticeship or skills, how do we set those standards? Dr. Kimbrough, if you could touch base on that, and how do you fit that into your assessments?

Ms. KIMBROUGH. Yes. Thank you so much for the question, Congressman Norcross. What I would say is we have right now at LinkedIn roughly 40,000 skills, a sort of a taxonomy of skills. We can see over time how skills are changing as I mentioned before, which is quite interesting.

We also think about skills in different categories, so there are soft skills that to use your word portability, or transferability, that go with you through your whole life as you develop them and refine them, so think of communication management, leadership, these are all skills that are highly sought after in job descriptions.

Then there are of course, business skills and Microsoft Word or PowerPoint kind of skill, and then there are the digital skills, which are evolving relatively quickly depending on the coding, or if you are an online marketing expert. We see different buckets of skills.

To answer your question, I would say all of these different buckets are evolving at different paces, but all of them are extremely important to seeing anyone survive—or, I should say survive, succeed, excuse me, in their career.

Mr. NORCROSS. Yes, and I guess that is one of the challenges is once we describe what the skillset is A, did you really do it? People like to embellish, and that is always going to be an issue, especially you are an employer. You are assuming, rightfully or wrong, that what you are telling us is truthful.

How do we go through that because if you graduate from a registered program, there is a certificate.

Ms. KIMBROUGH. Yes. I understand your question now. Well, there are a couple of ways on LinkedIn that people can sort of, I would say verify or validate their skills. One is through endorse-

ments, which has long been a feature on the platform, which allows someone who is like your first connection, who truly knows you, to say I worked with this person. I observed them for 7 years performing this skill.

Generally, because your reputation is on the line you are going to be truthful about the accuracy and the proficiency. The other way is there are skill assessments on LinkedIn. Those do exist, and people can take them. There is a range of skill assessments, not for all 40,000 skills, but there is a range of them.

Mr. NORCROSS. No, but the idea of heading this way, the other side of the coin is the employer when they are looking for it. We have been trained that it is your college, it is better than a skillset. The term bias is not where I am going, but an inclination that you want to hire somebody who has a 4-year degree versus somebody who has outstanding skills.

How do we address that? I mean you talked about it in a couple different ways, but how do we get employers to say, it is what job you can do well, not necessarily what piece of paper you carry with you.

Mr. HEALEY. Thank you for the question, Congressman Norcross. I think it is a very important one, and I will illustrate one example that we have used in our labs out in California. We have labs in Pennsylvania, and in the Midwest as well. We implemented a blind screening process focused specifically on the skills.

The skill, the knowledge skill requirements of the role, but also the skills of the candidates. In parallel with a rotation—

Mr. NORCROSS. I am sorry, I would love to followup with you offline here, my time is ending, so thank you for indulging me.

Mr. HEALEY. Okay. Sure.

Mr. OWENS. I appreciate that. I recognize for 5 minutes Mr. Burlison.

Mr. BURLISON. Thank you, Mr. Chairman. Dr. Debroy, I want to kind of go in a different direction. I think it is clear that employers, and it is good to see that employers are re-thinking the way they hire people, and that they are re-thinking the value of college degrees.

My question is, is there any research done to evaluate the impacts, the economic impact on individuals when states pass occupational licensing laws that require a college degree? For example in Missouri, we had to fight for years to get African hair braiding separated from the cosmetology license. Ironically, students were being forced to pay a lot of money and go to school for 18 months or more to get a degree that did not even teach them how to braid hair, and yet the State was requiring that.

There are numerous examples across the country. I will stop ranting and just kind of ask that question. What is the impact of all these occupational licensing laws that require some education that may not be important?

Ms. DEBROY. Thank you so much for the question. On the occupational licensing landscape, that is outside the domain of my expertise. I will say though that there are a range of different credentials in the United States. There are more than a million of them, in fact. The impact that they have in signaling to employers that a worker has skills varies so much.

I think one of the important pieces of the conversation that is getting picked up right now is, how do we actually measure skill as opposed to a credential? A lot of the conversation today, I would say, is focused on how do we think about the skills of an individual, and matching the skills of an individual to the skills required of the job? Thank you.

Mr. BURLISON. Right. Yes. Thank you for answering that. As the policy of the United States, at the Federal Government and the State level is to subsidize universities, which I think has created the dynamic that we have today where we have too few people in the trades, and skills based, and we have a lot of people with philosophy degrees, myself included, right?

We got to this point because we funded it. We subsidized the universities, and then we do it directly, and then we fund the scholarships, and we fund the grants and the loans and everything like that, right? Then we create laws that say if you want to be an interior designer and pick the color of the paint on the wall, you better go to college.

Well, at the end of the day it causes economic harm to consumers because now I have got to pay just for somebody to help me pick color pallets, I have got to pay for their college degree. I think things are moving in an interesting direction. Coming from the IT sector there was a lot of value that companies like Cerner Oracle that I worked for, that they saw in paying for on demand training.

Online training, things like pleural site became available, tools like LinkedIn Learning was an option as an employee, and it opens up employees to a vast opportunity to not only learn how to do their job but learn how to do the job they want to transition to. With that in mind, I want to ask a question of Dr. Kimbrough. Should we really rethink where we are sending money? Should we rethink that perhaps maybe we could grant tax incentives for individuals that want to pay for online learning tools that may not be at a university level?

Ms. KIMBROUGH. Yes. Thank you, Congressman Burlison. I would say first off what we see in our own data is that more and more workers are embracing the idea of investing in themselves and learning, whether it is in an online format, or they are looking for opportunities, consume information, education themselves and skill themselves in any form they can.

I would actually say that I think it is beyond the scope of my expertise to say what Congress should determine it should fund, but we definitely would support the idea of broadening the pathways, the plurality of pathways for access, and not creating barriers.

As an economist, I would tell you it is incredibly inefficient to have barriers, you know, unnecessary barriers.

Mr. BURLISON. Right. For example, are education savings accounts, are they eligible to spend money on some of these, you know, trainings?

Ms. KIMBROUGH. I do not know that. I would have to get back to you.

Mr. BURLISON. Okay. Thank you. My time has expired. Thank you.

Mr. OWENS. Thank you. I would like to recognize myself for 5 minutes. I am sorry. I would like to recognize for 5 minutes Ms. Bonamici.

Ms. BONAMICI. Thank you, Mr. Chairman. I am grateful for this discussion, thank you for your testimony, everyone. I hope this hearing will shed some light on how we can incorporate quality, opportunity, and transparency for workers and employers into workforce development.

Listening to my former colleague, my colleague on the other side of the aisle who just spoke, reminds me of the importance of really cracking down on these for-profit institutions that promise skills and then do not deliver. I frequently talk about the importance of having a path for everyone, and as a member of this committee, as a member of my community, as a policymaker, I understand that not everyone is on the same path.

I do want to emphasize that the committee's focus on credentials and competencies and skills should not come at the expense of discussions about college affordability. That needs to be part of the conversation as well. Colleagues on both sides of the aisle with college degrees can attest to the value of their education, and our Nation's students and workers thrive when they actually have a real choice between getting an affordable, debt free 4-year degree, or entering a workforce training program.

This should be a choice, not a decision made because college is not affordable. Dr. Kimbrough, our economy is evolving rapidly. New jobs are becoming available daily for workers in existing in emerging industries, and we are in a pretty exciting time, and an opportunity rich moment for job seekers and employers.

I am interested in learning more about how this changing job market will affect skills-based hiring. Do you anticipate that the credentials available to workers today will change as job opportunities change? If so, how?

How can Federal policies such as the Workforce Innovation and Opportunity Act be updated? We need to improve credential transparency, provide some sort of baseline quality metric for credentials, transferability for example, of credentials is important to keep up with the pace of technology. Collecting data about the utility of micro credentials.

Ms. KIMBROUGH. Thank you, Congresswoman, for the question. To the first part of your question, I would say as we look over time, we just see how quickly roles are changing. There are roles now on our platform that did not exist a decade ago. The skills that are required for these roles are also kind of sprouting up anew.

It really is a moment of incredible change, which makes skills all the more important to kind of match people. There are employers who are creating roles where they are not quite even sure of what the skills are that they require because things are changing so rapidly. I see some nodding heads from my fellow panelists.

I would say we absolutely need to focus on the idea that skills are evolving over time, and we need to provide people changes to update and grow those skills in a continuous fashion. We see in our own platform that we have some 40,000 skills, and people at any given time are updating those skills in real time.

To answer your other question about you now, more from a policy perspective, I would say at LinkedIn we support WIOA, and feel that promoting a skills first approach should be a central tenet of any reauthorization of WIOA, and I do think that including awareness, including encouragement of public and private sector employers to use skills first approaches would be vastly appreciated.

Ms. BONAMICI. I appreciate that. Thank you. A few years ago, a very large tech company in this country did a survey of the skills that they are looking for in employees. The technical skills were actually at the bottom of the list, and at the top of the list were things like communication, collaboration, empathy, the ability to work on a team.

I just want to emphasize that those soft skills are really critical as well. We cannot lose sight of that. The bipartisan National Apprenticeship Act is a blueprint for how employers can use skills-based assessments to determine the readiness of apprentices for jobs for which they are hired, and last year, I helped secure funding for a registered apprenticeship and a pre-apprenticeship program in northwest Oregon called United We Heal Training Trust.

It provides workers with personal and professional development opportunities, allows employees to recruit and retain skilled talent, but also improves the quality of training for workers. Dr. Debroy, how can registered apprenticeship and pre-apprenticeship programs like United We Heal leverage skills-based hiring practices in recruiting and hiring workers, particularly workers from underserved communities?

Ms. DEBROY. Thank you so much for the question. Apprenticeships are a really important way that employees can actually implement skills-based hiring practices. I think what is really interesting to look at in the data is what this lever has been able to accomplish for a lot of employers who are deploying it.

What we see is much more diverse pipelines of candidates entering these apprenticeship programs than we have traditionally found in those occupations. It is actually bearing out what we thought could happen with apprenticeships to actually diversify a lot of occupations that have not traditionally seen workers who are women, workers who are people of color, at the same rates as other workers. Thank you.

Ms. BONAMICI. I appreciate that. My time has expired. I yield back. Thank you, Mr. Chairman.

Mr. OWENS. Thank you, Ms. Bonamici, thank you so much. I would like to recognize myself for 5 minutes. First of all, I would like to disagree with the Ranking Member. This is a very exciting moment, really that we have such bipartisanship on this. The fact that we are now talking to innovators in terms of how to really disrupt this whole process of getting our workforce going, very timely.

I think the fact that the American way is all about not having caps, and we have talked about the glass ceiling cap, we have seen the boardroom. Paper cap, it is the first time I have heard this one, but it is now time decades later finally get to it and I appreciate that in a big way. I want to thank you guys again.

Mr. Healey, I believe the skills-based hiring will disrupt traditional higher education, allowing new learning providers to compete as alternative pathways for the same types of jobs. How do



you think higher education should adapt to a more competitive landscape, and greater focus on job relevant skills?

Mr. HEALEY. Thank you for the question, Congressman Owens. Higher Ed, colleges and universities all need to evolve their curriculum. All need to evolve their approach and incorporate practical-based training into the academic coursework. It is not just academic course work, but it is going to be practical based skills training as well.

You know I referenced earlier our university alliance program as one such example where we partner with partner institutions, and literally hand our technology training and incorporate that into classes. Consumers who are going to colleges and universities, and junior colleges, are expecting that the product continue to evolve.

I think that in concert obviously with public private, this will ensure that more university-based hires are going to be prepared with practical skills. This would just be a few thoughts.

Mr. OWENS. Okay. Thank you. Dr. Kimbrough, I thought of something that you said earlier, I think kind of highlights what we're talking about, skills are everywhere and they all matter, and that is such a powerful statement, and I am glad literally we are finally acknowledging that across the board.

To you, Dr. Kimbrough, I am encouraged by what you shared with us about the rise of skill-based learning and hiring. Last December, Utah moved to drop the bachelor degree requirements from 98 percent of the State government jobs. From your testimony it indicates that roughly four in five job postings still require degrees.

What would it take for more companies to look beyond the college degree as the only way for workers to gain in demand skills, and what motivated LinkedIn interest toward shifting toward a skill-based approach?

Ms. KIMBROUGH. Thank you so much for that question. You are absolutely correct. There are right now about one in five jobs on our platform at LinkedIn that do not require a college degree, but it is an encouraging trend. There was a point just before the pandemic when it was less than 10 percent of the jobs required—did not require a college degree.

We have seen an encouraging trend, a positive momentum. We also see now currently that about 45 percent of hirers on our platform are using skills as a way to source and identify potential candidates for roles. This is also up significantly from the prior year.

We see this very positive momentum of adoption, but I think it is going to take time. It is a major collective mind shift that we have to undergo, and a behavioral change that we have to go through in order to actually see this take root fully and broadly across our economy, but I am absolutely convinced that it is something that will benefit workers and businesses, and the broader economy.

If I may quickly answer your last question, what made LinkedIn do this? Well, LinkedIn has a vision of creating economic opportunity for every member of the global workforce, and the emphasis being on every means that we want to be a platform for every member regardless of skill.

Mr. OWENS. Thank you. I am running out of time. I guess I will just say this. We definitely have seen a paradigm shift, and I think

it is exciting for us on this side wanting to be innovative legislators to talk to innovators to how to make sure this paradigm shift fits in a way that we can bring so many more millions of Americans into building a dream, so thank you so much for that. I am going to recognize for 5 minutes Mrs. Stevens, thank you.

Ms. STEVENS. Thank you, Mr. Chair, and thank you to witnesses for this hearing on the Competencies Over Degrees: Transitioning to a Skills-Based Economy. We are all about skills in Michigan, and I certainly hear from businesses, small businesses, on the regular who are trying to hire a diverse, inclusive and skilled workforce about a dog fight for talent.

We are in a race, given the incredible job growth that the Biden administration has overseen, and as we continue to achieve these record setting recovery milestones, it is vital that we ensure such growth is equitable, and includes a path to economic prosperity for as many hardworking Americans as possible.

This certainly can be achieved by passing Ranking Member Bobby Scott's National Apprenticeship Act of 2023, a bipartisan bill that invests more than 3.85 billion over 5 years to increase access to registered apprenticeships, youth apprenticeships, and pre-apprenticeships.

We are excited about apprenticeships, and the registered apprenticeship program is the best tool in our toolbox for skills development. It will get students away from this debt culture, earn as you learn, it is very exciting stuff.

Now, this word came up about taxonomy, okay, and I have a confession because I worked with apprenticeship programs, but I also worked for Obama's National Network for Manufacturing Innovation, and we did this great thing in this lab I was in overseeing, workforce development to do the taxonomy for digital manufacturing jobs.

I got Healey here, Mr. Healey with SAP, all this incredible innovation going on, and software and this and that. I do not know how long you have been with the company sir, but you have probably seen them through a lot, the company has.

I mean how were you, when the digital revolution hit, how was SAP taking your existing workforce, getting them access to skills, and then how were you communicating these new jobs on these platforms that exist, and then with the community colleges and the schools, and all this and that so we could make sure we have these workers in IoT.

Mr. HEALEY. Thank you, Congresswoman Stevens. It is an incredible pertinent point. SAP is going through one of the largest skills transformations in our 50-year existence.

Ms. STEVENS. Now you have got AI.

Mr. HEALEY. Now I have got AI, so you are absolutely right. To make the journey from on prime software to cloud, the disruption that cloud has had on customers, the expectations for consumers. When you talk about generative AI as well, so we are embarking on a workforce transmission plan not only across 107,000 colleagues, but within the United States, and it is back to skills.

Ms. STEVENS. You have got to look at these apprenticeships too. I mean look, this is a topic I have engaged on for a long time, and no one is here to finger point. I mean we have got to succeed be-

cause we have got the trained workforce of the future today. It is continual learning.

Now we have got Dr. Debroy here, and I want to bring you into this because can you talk about this relationship between the registered apprenticeship program and skills-based hiring?

Ms. DEBROY. Absolutely. Registered apprenticeships are a critical lever available to employers to actually deploy skills-based hiring and hire workers based on skill. I want to go back to a point you made earlier because I think one of the moments that is in front of us is actually an opportunity to actually rethink how we collect data about our workforce in this country.

We actually need a 21st century Federal workforce data infrastructure to meet the needs of how fast skills are changing in the US labor market.

Ms. STEVENS. I mean you are right, though. I mean we do, and it needs to evolve, and it has got to be alive, and inputted into, and it is not just that you get your skill and you are done. That is the beauty of these apprenticeships, and that is the beauty of, we have got digital, but we have got analogue too.

We are not ever going to get rid of the hard skills. The painter is still going to paint. The road paver is still going to pave. I do not care what kind of robot you have, what kind of AI you have, come to Michigan and see my building trades in action. It is real. All right, thank you. I am over time. I yield back.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes Mr. DeSaulnier.

Mr. DESAULNIER. Thank you, Mr. Chairman. Thank you, Congresswoman for your passion and background on this. She is being understated today. Dr. Debroy, first of all, I want to acknowledge your resume. You went to the two best public universities in the country, the world, Go Bears, Go Blue.

I represent a part of the San Francisco Bay area that has tech in the East Bay but is also heavily industrialized. We have had real challenges in the industrial sector with five refineries, chemical plants, manufacturing, although that is trying to rebound. In California, I led a task force in the legislature, bipartisan, because we had eliminated a lot of our career tech infrastructure.

It was interesting going around the State and seeing how regionally we had gone away from that. We had heavily bought on the Bay Area that knowledge-based economy. Everybody was going to get a bachelor's degree, and the world had changed.

We have made really good progress on a bipartisan level in California, building back partnerships, career tech, and now with community college districts. The State California Building and Construction Trades has changed dramatically. 80 percent of their members are minority and women. I was recently with them in a very disadvantaged community, you will remember this, Richmond, where we have got apprenticeship programs where kids from poverty are getting really good jobs in the industrial sector right out of college.

125, \$150,000.00 a year, they are deliberately looking for kids in need opportunities. I spent a lot of time with the Labor Institute at Berkeley and Michigan to talk to your folks. This is a real partnership, but employers are the ones who are pushing the hardest

because they need the skilled workforce, and they need it generationally at a time when the demographics are a challenge.

The needs on energy transition, and since there are not a lot of deep-water ports on the west coast, it means Puget Sound, Long Beach and LA and San Francisco. Trying to do that is very important for the global and the national economy.

It is sort of a missing part of our discussion here on how do we rebuild these skills knowing that we are going to have energy transition for two or three generations of the workforce, and we are going to have retrain those folks. We had to train them in the first place, but we have to retrain them as well.

You want to train those IBW and boilermakers, but you have got to get ready for they're going to be doing different work over this transition. Can you just speak about that and your experience?

Ms. DEBROY. Absolutely. I will actually reference economic history in responding to your question because we are at a moment of transformation, and if we were to look to the past to kind of understand what might be coming in the future, I think we are sitting at a moment where there will be a proliferation of jobs in the next decade, two decades, that we do not yet know much about.

These are going to be new world occupations that we will have to figure out how to train a workforce for. I think what is exciting in looking at the data is that there are 70 million workers who are skilled through alternative roots who are building skills in their jobs today who could, you know, transfer a lot of those skills into the newer jobs that are coming online.

I think how we now start to think about training programs to support them to make those transitions effectively and efficiently, is a really important question for communities. To your point, what is really interesting to study across the United States is regionally how many of these communities are performing for workers varies.

How we actually help communities recognize and understand where are their pockets in their workforce who are prepared to make these transitions immediately if they were given access to them, is a really important question. Another really important question is how do we take the workforce we currently have and upskill them in the specific skills they need for these new jobs that are entering our regions.

Mr. DESAULNIER. That is really important, and Dr. Kimbrough, if we have any time, so succinctly, and a very big question. The cultural problem, and I love this hearing, there is a place for bachelor's degrees, master's degrees, doctorate degrees, but as people who work for a living have told me, both union and nonunion, it is about RESPECT. How do you get kids to choose the right career, have their choices, and have that competency?

The cultural problem is a big thing. We want to value higher education, but it is not for everybody, and people who work with their hands deserve the same infrastructure and respect. Can you speak to that briefly?

Ms. DEBROY. Sure. I think it is actually why it is really important to understand the biases that we bring to our language. A lot of our language about the American workforce is deficit based. We think it is important to bring a different narrative to workers who are gaining skills through many different pathways. It is why we

have termed workers who have not gone to 4-year degree programs, STARs. They are workers who are skilled, but through alternative roots.

Mr. DESAULNIER. Thank you, Mr. Chairman. A lot of good conversation, but I really appreciate this today.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes Mr. Good.

Mr. GOOD. Thank you, Mr. Chairman. Thank you to our witnesses for being here. Dr. Kimbrough, in your testimony you eluded to how COVID-19 changed the workforce landscape. Can you elaborate a little bit on that?

Ms. KIMBROUGH. Yes, thank you so much, Congressman Good. COVID-19 changed the workforce landscape in a number of ways. There were some short-term impacts and long-term impacts, but really briefly, the short-term impacts were obviously a very quick rise in unemployment that over time, you know, came back down.

We saw many more Americans actually back at work, and we are now back at pre-pandemic levels. The long-term impacts were about where we work and how we work, and why we work, and we saw—

Mr. GOOD. Just to clarify, I am sorry, you said we are back at pre-pandemic levels.

Ms. KIMBROUGH. In our data, and actually also in BLS data, we see that labor force participation rates amongst Americans, prime aged Americans, aged 25 to 54, is back at about pre-pandemic levels. We also see in our own data the rates at which people are being hired is about at pre-pandemic levels.

Mr. GOOD. Do you see—what impacts do you still see though with the other health emergency finally, declared over. What challenges do you see, or impacts do you see on the economy that are beyond just the labor participation, which reports I have seen is that we have the lowest participation rate. We have got two or three million less Americans working than were working before the pandemic.

Perhaps you could address that, but then also, what other impacts do you continue to see with the emergency declaration over?

Ms. KIMBROUGH. Yes, thank you. The labor force participation rate that I was referring to limits it to just the age of what we call prime age working Americans, so age 25 to 54, but there is a broader measure that includes people who are older than 54, young than 25, and that is probably what you have looked at, and so since we are both correct.

You asked the question about—

Mr. GOOD. Are there additional impacts?

Ms. KIMBROUGH. Yes. Yes. Absolutely. Other additional impacts that we are seeing is just that the pace of change is accelerating since COVID. People have transitioned to lots of online work. There are online marketing specialists, that is a role that has sort of always been around but is now one of our top roles. It is on the platform.

We saw a lot more trucking roles for example because there is so much more online shopping happening that people need these warehouses and storage centers, and have the goods delivered to

their home. There are a lot of roles that are changing as a result of COVID. It is changing the job market in small and large ways.

Mr. GOOD. Are you seeing an unwillingness to go back to in person work after folks have gotten used to working remotely?

Ms. KIMBROUGH. I would say that people really have enjoyed the flexibility they get from remote and flexible work options, but—

Mr. GOOD. Including if I may Federal employees who 80 percent are working 1 day a week by the way in person.

Ms. KIMBROUGH. We actually have quite, I would say, quite extensive data on remote and hybrid, and what we see is that employers are encouraging people to come back to the office. More and more job postings are for hybrid or full-time onsite, few are for remote.

The remote opportunities are declining, but applicants are still overwhelmingly preferring to apply for remote roles.

Mr. GOOD. Can you share any thoughts you have on what the impact of vaccine mandate—I was talking to a group of high school students yesterday who showed up at the capitol steps to meet with me, talked to them about how we fired—I use the term we loosely.

We fired their parents because they did not get a vaccine. Can you talk about what you have seen the impact of vaccine mandate had on businesses?

Ms. KIMBROUGH. I do not have a lot of data on that in our dataset. We did actually try to look at that back a few years ago, and we just did not have a lot of data. We were attempting to try to understand the degree to which, for example, job postings or employers were requiring mandates, but we did not have enough information.

Mr. GOOD. How about the impact on the relaxed work requirements, verification requirements, the expanded subsidies available if you will to able bodied workers. How has the current welfare situation, the Federal subsistence situation, or even for that matter State supported statistics impacted employment today?

Ms. KIMBROUGH. What the economic data, and this is again, this is not LinkedIn data now. This would just be the economic data that I look at as an economist, seems to suggest is that there was a point at which Americans largely had a lot of excess savings, and that allowed them to consume more, shop more, it put pressure on the supply chains that were at the same time being constrained.

I think most economists would say that excess savings is slowly being wound down.

Mr. GOOD. Yes. If I may, you have got the 20 percent loss in retirement accounts, the depleted savings because of folks not working, combined with the massive 40 year high inflation, and then interest rates which are quickly crushing American's ability to buy homes, grocery prices, utility prices, gas prices, housing prices, crushing American people all related to the policies of this administration, and I yield back, Mr. Chairman.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes Ms. Wilson.

Ms. WILSON. Thank you so much. Thank you for having this hearing today. I would like to try something new, so I am going to ask all of the witnesses if you will—I want to put this in the

record, but I am going to ask you if you will answer me in writing to these questions, but it will be on the record.

What are your own organizations? What leaders and innovators and credentialing and work-based learning doing to address the gap that exists in soft skills acquisition, such as team building, communication, collaboration, which are also in high demand by employers. That is No. 1.

How can we begin, even before college, to foster collaboration between formal curriculum tracks and competencies credentialing in organizations like yours? My own experience with my 5,000 role model boys has shown that we cannot wait until students reach higher education.

How would you propose collaborating with leaders in higher education, particularly at large, urban, public minority servicing institutions, and HBCUs so that they can benefit from your proposed models?

Dr. Debroy, you highlighted that the current emphasis on formal education strips historically disadvantaged communities from job opportunities, 80 percent of Hispanic workers, 70 percent of Blacks, and 75 percent of the rural workforce, as well as 70 percent of veterans. Would you share with us additional ways in which skills-based hiring could further improve the job prospects of historically disadvantaged groups?

Ms. DEBROY. Absolutely. There is quite a bit of racial segregation in our labor force today. In fact, if you look at the Black STAR population, workers who are black, have a high school diploma, do not have a 4-year college degree. What you will see is that they are actually concentrated in a really small subset of jobs.

In fact, there are 25 jobs that account for 50 percent of Black STARs in this country. What I think skills-based hiring allows employers to do is actually think about how workers in a number of occupations that are lower or middle wage, are actually building skills that are transferable to higher wage occupations.

Our study of 130 million transitions in the US labor market in the last 10 years actually suggests all of us make these transitions with our skills. Workers with a college degree, workers without a college degree. What we see though is that Black workers and Hispanic workers are not given access to skills-based transitions the same way as white workers.

When they do get access to those jobs, they earn less than their white counterparts. We also see that for women when they do achieve that transition, they are also earning less. Skills-based hiring is a really critical and important lever for employers to actually surface and find a lot of talent they seek today.

I think it is imperative on us to actually think about this method to diversify our workforce across the labor market. Thank you for the question.

Ms. WILSON. Mr. Healey, in your testimony you touted how the implementation of a blind screening resulted in the hiring of a more diverse class of developers, and your experience can help reduce potential biases across other industries. What other insights did you gain from the implementation of blind screening?

Mr. HEALEY. Thank you for your question, Congresswoman Wilson. I do agree that blind screening as a process is a way to iden-

tify hidden talent, emerging talent, and is very effective. We ran such a process in our labs, SAP labs in California and used blind screening as a way, not only to identify talents that are often overlooked, but also as a way to rotate talent within our organization as well.

Which became a part of our development program. This was very effective. We found that in our incoming class by unit using blind screening process, 50 percent of our talents were female, and the largest number of unrepresented minority talent as well into technology jobs that are traditionally overlooked.

We are an advocate for that, and not only that—for identifying talent, but also for rotating the growing talent within our organization.

Ms. WILSON. Thank you. I yield back. On record the question, thank you.

Mr. OWENS. Okay. Thank you. I would like to recognize for 5 minutes Mr. Takano.

Mr. TAKANO. Thank you, Mr. Chairman, and thank you to our witnesses for being here today. I welcome the opportunity this hearing presents to discuss competencies and skills-based hiring, as a concept. We have seen how governments and businesses alike are looking at innovative ways to promote skills-based hiring at both the Federal and local level.

Often, businesses and employers look at a bachelor's degree as a guarantor of a certain level of literacy and numeracy. I have heard the word proxy, that a bachelor's degree is a proxy for a certain level of a set of competencies, but the reality is that not every profession or every occupation requires a bachelor's degree, and we have to find other ways.

We have to look at ways to get past the idea of a bachelor's degree being a proxy in all cases. Now to be clear, I am not interested in bashing 4-year degrees. We still know that one of the surest ways to achieve economic mobility is by achieving a high-quality bachelor's degree. Not all bachelor's degrees are equal.

Often, too often here in this committee room, in the name of trying to appear as if one is a populist, or somehow closer with the ordinary person, or whatever that might mean, people end up bashing higher education.

That should not be our message either. I was a former high school teacher, and I would still recommend to students that they have a 4-year degree in their mind, but you do not have to achieve it all at once. It can be achieved in stackable credentials.

I was a community college trustee as I said at Riverside Community College, and one of the programs that I supported being implemented, or being established, was the physician assistants program at the community college level. We were the only community college west of the Mississippi River to actually have a physician assistant's program.

During the 90's and most of the aughts, in fact all the way through the aughts, you could get a physician's assistants degree, or a certificate, or license with a 2-year community college program. There are some initial requirements to get into the program, which mainly was about 5 years of experience in a medical career



prior to being a program, you know, maybe a corpsman or maybe a medic, or maybe an EMT.

You could satisfy it in a number of different ways. The interest in the program was substantial. It drew a number of students to the community college, and you could earn very, very good wage or not even a wage, a good salary after completing this program.

To my surprise when I came to Congress in 2013, I learned that the independent accrediting body phased out the community college program and said that you have to get a master's degree. This adds substantial more time, and both getting your bachelor's degree and your master's degree. It left me furious as a community college trustee.

From what I knew, our students were scoring just as well on the board scores, kind of an indication of competency. I would like for anyone to, I only have about a minute left to respond to the story I just presented to you which comes from my own experience. Does anyone have anything to add quickly before my time runs out?

Ms. DEBROY. I will add a note on the importance of community colleges as a pathway for the majority of our workforce because community colleges have proven to be engines of economic mobility for workers who are skilled through alternative routes. The majority of STARs actually have some college credit, and almost one of five STARs has an associate's degree.

This is actually a really critical pathway that we continue to invest in in this country, and ensure that workers are able to translate the learnings they get in community college to earnings in the labor market.

Mr. TAKANO. Thank you. Mr. Chairman, you know it is unfair because you are not unfair, but unfair that I asked that question to my panel because looking at their backgrounds they really didn't have a background to sort of answer my question. I would love it if the committee could look into this issue of credential creep, but also how is it that we see these programs eliminated?

People could have achieved in 2 years, is it really necessary to get a master's degree in order to be a physician's assistant? I mean could that be done? I know people getting training in the military as corpsmen and as medics. I wonder how much more education do they need to come out and be like a physician's assistant, or a nursing, or you know, an advanced practice nurse.

Mr. OWENS. I would love to. I love it that we are having these kinds of conversations about innovation, and what really does count, and what impacts as soon as possible now in our society.

Mr. TAKANO. Well, I would love it if we could work together to get a panel, no disrespect to this panel, but a panel that could engage this about you know, about these independent accrediting bodies. I do not want to muck that up, but I still think there is something wrong when you go from a 2-year community college program to a master's program. What is up with that?

Mr. OWENS. Well, we will have Dr. Foxx look into this for sure. Thank you so much. Appreciate that. Thank you. I would like to yield 5 minutes to Ms. Chavez-DeRemer.

Mrs. CHAVEZ-DEREMÉR. Thank you, Mr. Chair. Thank you for holding this important meeting. There have been a lot of exchanges

today, and our workforce consistently prioritizes skills over degrees.

No other country can compete with us. Apprenticeships play a huge role in maintaining that economic edge. Oregon has created the right environment for maintaining an incredible apprenticeship system, one which other states frankly should copy.

If you go to the Oregon Apprenticeship and Training Divisions website you will find easily accessible program equipping Oregonians to become bricklayers, educators, fire fighters, aircraft mechanics, iron workers, and so many more jobs that without, our State couldn't function, quite frankly.

Dr. Debroy, in your written testimony you discussed the need to have updated and accessible data bases, so that apprenticeship programs are meeting the labor's market needs. Can you tell me what are the barriers preventing these kinds of data bases?

Ms. DEBROY. Thank you so much for the question, and it is such an important one. I want to grab my notes on this. There is the need that we have right now as a community in workforce to actually better understand the workers. Workers, their trajectories, their occupations, their skills, their employment opportunities.

I think one of the most critical things we note in the Federal data infrastructure right now is there is a lag in when we get access to that data, and how accurate it is in State and regional contexts. I think investing in the opportunity to actually better understand the American workforce is going to better serve all actors within the workforce ecosystem.

Mrs. CHAVES-DEREMER. You are saying the data input is what is the barrier to—is it the lag of information is what is the barrier? That is the only barrier for the—

Ms. DEBROY. It is a significant barrier to that.

Mrs. CHAVES-DEREMER. Okay. What are the targeted solutions we on the Committee should focus on?

Ms. DEBROY. Yes. It is a great question. I think investments in data infrastructure are actually really critical, and I think through WIOA, we have an opportunity to also start to think about better investments in serving business services as well, to actually better serve small-and medium-sized businesses, as well as large enterprise and regions.

Mrs. CHAVES-DEREMER. Thank you. Now for the programs themselves. In terms of how we prepare workers. In Oregon, workers overwhelmingly prefer registered apprenticeships because those programs have clear, and uniform standards centered around what is best for the worker.

Can you speak to why workers have such a strong preference for registered apprenticeship programs over industry recognized programs?

Ms. DEBROY. Good question. I do not know as much about the variation of apprenticeships. What I will say from the data is that we have seen a proliferation of registered apprenticeships into new occupations in the US labor market. You named a number of occupations. We have also seen registered apprenticeships in healthcare, in technology, and in advanced manufacturing that didn't exist 10 years ago. That is a really promising trend for the American workforce.

I think beyond that though, what we do see is a lot of innovation in employers actually deploying informal apprenticeship models to an additional 200 roles in the US labor market. That is also really important, because that is the kind of first step in figuring out how can we build those pathways for workers to actually enter a lot of newer occupations that they have not historically had access to.

Mrs. CHAVEZ-DEREMER. Thank you. I would add that it is important to remember that nobody, I hope, wants to get rid of industry recognized programs, but I think we have to call it like it is. If you want the Federal Government to financially support your apprenticeship program, you have got to meet the standards, which make registered apprenticeships so appealing to the workers.

Really one last question that I have for you, Dr. Debroy. Aside from the things you have already mentioned, what are the best ways Congress can make apprenticeships more successful for workers, and please feel free to take really what's left of 56 seconds to answer the question.

Ms. DEBROY. I do think it starts with a better data infrastructure for the American workforce. Then beyond that, I do think that there is—apprenticeships still account for a really small portion of how workers get access to jobs. We need to scale that in a significant way.

There are ways that we can actually incentivize employers to move toward skills-based hiring practices, and apprenticeships are just one method, right. There are other methods like helping them see that internships are a pathway into work, that contract to hire opportunities are also another way to bring workers who have not historically had access to a number of opportunities into their jobs as well. Thank you.

Mrs. CHAVEZ-DEREMER. Thank you, Dr. Debroy. Mr. Chair, I yield back.

Mr. OWENS. I would like to recognize Ms. Manning.

Ms. MANNING. Thank you, Mr. Chairman. I represent North Carolina's 6th congressional District, a place where we have a history of great manufacturing. Many of those jobs went overseas in the late 1990's, resulting in huge and devastating job loss.

Thanks to very hard work, and thanks to huge investments in the American worker, in American businesses by the last Congress and the Biden administration, we are now enjoying the growth of advanced manufacturing once again in our district.

Many of our businesses are now having trouble finding qualified workers to fill the open jobs. Simply put, we need more skilled workers. Dr. Debroy, registered apprenticeship is viewed as one of the best tools in the toolbox for skilling up workers, and we know that 93 percent of people who complete a registered apprenticeship program are employed upon completion, earning an average wage starting above \$77,000.00 annually.

Is registered apprenticeship a model that can be used for a skills-based hiring approach, and if so, can you tell us how?

Ms. DEBROY. Yes. Absolutely, apprenticeships are a critical lever available to employers. One thing I will note though is that 70 percent of apprenticeships offer entry into jobs that make up just 8 percent of the labor force today. There is something now about

thinking about this moment, and expanding the number of pathways that apprenticeships can offer opportunities into.

Ms. MANNING. Wonderful. You mentioned in your testimony that the adoption of skills-based hiring can expand employers pool of applicants, improve candidate assessments, which in turn can lead to increased quality of new hires, as well as improvements in productivity, employee engagement and retention.

Can you talk a little bit more about—I know you talked in your testimony, but if you can elaborate a little bit more on what skills-based hiring can do for employers, and perhaps talk about hurdles that employers may face in using a skills-based hiring approach.

Ms. DEBROY. Thank you so much for the question. You are absolutely right. The return on investment in skills-based hiring certainly shows up in the hiring process, but it extends beyond that for employers. With larger and more diverse pools of applicants, and more effective candidate assessments, employers can actually expect to see an increase in the quality of new hires with skills-based hiring.

They can expect to see improvements in productivity and employee engagement as well as retention. That is what early data is actually showing about the value of skills-based hiring for employers.

Ms. MANNING. You noted in your opening statement that workers skilled through alternative roots, your STARs Program, are willing and able to take many of the quality high paying jobs, that remain unfilled across many industries. What steps can Congress take to incentivize employers to adopt these practices?

Ms. DEBROY. I think that there are number of steps that the Federal Government can make. I think the first one is actually a really critical one, which is that the public sector is one of the largest employers in all regions of the country. Deploying these methods themselves as an employer is the first critical step.

I think beyond that the moment in front of us to actually make investments in WIOA and amplify them as a really critical investment that we can make to actually ensure that STARs are getting access to training and services they need to be placed into a lot of the higher wage occupations that are available in their region's labor market.

Ms. MANNING. I asked, but I do not know if you answered. Are there hurdles that employers face in using the skills-based hiring approach? Are there skills that are not easily tested that can actually affect whether an employee can succeed in a particular job?

Ms. DEBROY. Sorry, I missed that one.

Ms. MANNING. That is Okay.

Ms. DEBROY. It is a really important question because skills-based hiring is actually a quite different method to be deploying to surface talent than what employers have historically used, which is more of a pedigree-based approach. In deploying this method there are genuine shifts that need to occur within an organization.

It actually starts with a mindset shift. What we see is that the majority of managers in this country have a bachelor's degree. Managers with a degree are less likely to consider a worker without a degree for a similar job, and they are also less likely to make

investments in workers without a degree within their own workforce.

Combatting that is the first step right, is how can we in some respects help employers understand that STARs are a vast, overlooked, skilled and diverse part of our labor market, who should be valued for the many skills they are bringing to the job.

Ms. MANNING. Great. Thank you so much. My time has expired, and I yield back.

Mr. OWENS. Thank you. I would like to recognize for 5 minutes Mr. Williams.

Mr. WILLIAMS. Thank you, Mr. Chairman. I just beg for your patience for a few minutes. I would like to describe my district to you, and then maybe ask for your advice, and what we can do. We are blessed in New York's 22d District with an abundance of resources.

We have three excellent private colleges. In fact, many of the—three of the best in the country, Syracuse University, Colgate University and Hamilton College. We also have excellent community colleges, and I mean truly excellent. Mohawk Valley Community College, as well as the Onondaga County Community College.

We are also blessed with a historic opportunity of Micron Technology in making a historically large investment in manufacturing in this Nation, and quite fortunately in our district as well. That sets up a competition for available workers that are in our district.

I hear this from other manufacturers, and companies that are already there that there is this dynamic of competition, and there is also this dynamic of mismatch of skills, many of which you have addressed today in your questions, in your testimony. You know, when I hear about apprenticeships, skills-based training, certificate-based training, I would say all the above are relevant to what we are doing.

I see a lot of different models, for example. Onondaga Community College is moving toward a certificate-based learning program specifically to meet the most immediate needs in healthcare, technology, manufacturing, and other areas where we happen to be growing. It is actually very exciting.

Even the trade unions actually are doing an excellent job of developing workers for construction. You see we have all of the blessings and all of the challenges; we simply do not have enough workers. Could any of you address anything related to partnerships among all these different organizations, whether it is private or public?

How we can get new workers into the workforce. We are truly handicapped that we cannot afford to leave anybody behind in my district, quite literally, we need everyone to work. I also know from my own experience doing jobs training for homeless men, that there is a significant gap to get on that first ladder of the workforce.

I really do open it up in a sincere way. Is there any advice or counsel you would have to help make me effective marshalling these resources to help people get on the workforce ladder because we need them? Please. Thanks for being brave and going first.

Mr. SMITH. I think I could. Thanks for the question and opening it up to everybody. At SHRM we started an H.R. apprentice program, and so we talked a fair bit about apprenticeship programs

here, but they are typically more on the blue-collar side of thing, and at SHRM we decided it would be a good idea to open that up past blue collar and into what has traditionally been more of a white collar job of human resources.

The really good thing about the apprenticeship programs is the on-the-job learning, but also you are getting paid while you do this, and I think there is more opportunities for this type of training beyond traditional blue collar.

Mr. WILLIAMS. May I ask what prerequisites you are looking for, for people to get on that kind of program?

Mr. SMITH. Mainly, it is the interest in it.

Mr. WILLIAMS. Is it high school education? Is it any college? Is it you know?

Mr. SMITH. I do not remember offhand. It is certainly not the bachelor's degree.

Mr. WILLIAMS. Okay.

Mr. SMITH. I don't remember if—

Mr. WILLIAMS. Can I open it up to anybody else?

Ms. DEBROY. I agree you have described a very robust workforce ecosystem. If I were to name from our research what we've learned is one of the most critical parts of ensuring that connection happens between and across a workforce ecosystem, it is getting the demand signal right.

It is ensuring that workers know what jobs are in demand, what skills are required of those jobs, and they need that data in a timely way. To get that right for us now in this next phase, we actually need to update our data infrastructure for this century.

Mr. WILLIAMS. A lot of times I come across, and I know I am out of time. I come across manufacturers that are offering amazing packages for people, education, all kinds of things, and they find no takers. Any last thoughts in our remaining seconds? Thank you. Thanks for your time. I yield back, sir.

Mr. OWENS. Thank you. I would like to recognize for the last 5 minutes Mr. Bowman.

Mr. BOWMAN. Thank you so much, Mr. Chairman, and thank you to the witnesses for being here. This is an incredibly awesome and exciting conversation. I am so happy that we are having it. I want to start by giving a huge shoutout to Chairwoman Virginia Foxx, she was just sitting there, but I wanted to acknowledge her publicly, and the Republican party for putting this hearing together.

If someone can get Chairwoman Foxx back in here, I want her to hear me say this is great, and I want to give her a huge shoutout. I am thinking about so many things, right? Obviously, I support higher education, but it is not a pathway for everyone.

For so long, for decades, so many young people who have graduated from high school have been left out of higher-earning jobs and careers because they did not have access to higher education, so this is the exact conversation we need to have. A conversation about multiple pathways to work, dignity, self-determination, self respect in a thriving economy that works for everyone and helps humanity.

To me this is about equity. That is what we are talking about. We are talking about equity. I have got a couple of questions. One, what should high schools be doing? I also think that kids should

be graduating high school ready to enter the workforce. What should high schools be doing, and then try to answer quickly because I have got one more question. I am going to start with Dr. Debroy, and then we will go to Healey, and then boom, boom, boom, quickly, and I have got one more question. Please. What should high schools be doing?

Ms. DEBROY. I think there is a basic set of skills that all students coming out of high school should be getting that employers recognize and understand are valuable skills for all jobs in the labor market.

Mr. BOWMAN. Awesome.

Mr. HEALEY. I mean I would concur. I would say that high schools need to understand the requirements, and the technical requirements for many roles, particularly for employers within their district, and teach those skillsets.

Mr. BOWMAN. Awesome.

Ms. KIMBROUGH. Expose them to the range of great jobs that are out there, not just college pathway jobs, but all the other trades jobs that are out there.

Mr. BOWMAN. Yep.

Mr. SMITH. I think they should also focus beyond the technical skills on what we would refer to as behavioral competencies. Teamwork and communication, these are sometimes called soft skills, but these skills that are very common across all sorts of jobs that are often, I think, underdeveloped in high school.

Mr. BOWMAN. Yes. In many ways our K to 12 system is like the same that it is been for like 100 years, and that needs to evolve in many ways, and that is why I ask about high schools, but my background is education. I know what needs to happen at the K to 12 level as well.

I think this is a moonshot moment for our humanity and economy, and we need to rethink, reimagine, redesign, and restructure the economy in a way that aligns to everything we're talking about here today. I think part of that is going to require us investing in getting employers, educators, higher ed, and everyone who cares about humanity and the economy in a room to consistently like work together to reimagine and redevelop the economy in a way that deals with the issue of equity.

We measure the strength of our economy right now through GDP. We talk about how powerful and great we are, but we have not even scratched the surface of our capacity because we continue to leave tens of millions of people behind because of persistent inequality within our economic system.

You are all nodding, so I guess you agree with that. Can you just comment on that Healey quickly, and then down the line please.

Mr. HEALEY. SAP believes unequivocally that people sustainability. You have just been touching on people sustainability is a business imperative, and we support human potential to create more sustainable futures. We define, by the way, we have a definition of people sustainability, and it means treating people across organizations, supply chains, and communities ethically and fairly.

We can do that through obviously the identification of skills, and matching skills to open needs, open roles.

Mr. BOWMAN. Yep. Thank you.

Ms. DEBROY. I concur that this is a moonshot moment, and there are 70 million workers, 30 million of which who have skills to move into significantly higher wage work today if they were given access and opportunity to do so. It is time that we leverage them and give them that opportunity.

Mr. BOWMAN. That is right.

Mr. SMITH. At SHRM, we strongly support skilled hiring no matter where the skills come from. If it comes from education great, if they get good business relevance skills from other places also great.

Mr. BOWMAN. Awesome.

Ms. KIMBROUGH. There is a meaningful number of Americans who are only marginally attached to the economy. There is at least five million Americans out there who want a job and are not even looking. There is a huge amount of untapped talent still beyond the STARS.

Mr. BOWMAN. There are multiple intelligences. Skills are always evolving. This is about life-long learning and upskilling consistently. This is very exciting. Thank you all so much, and I am sorry Virginia Foxx did not come back. Sorry, Chair Foxx, another shoutout to you. I yield back.

Mr. OWENS. Thank you. Thank you, Mr. Bowman. I appreciate it. If you do not mind just standing around for a minute as I close out. Mr. Bowman, just hold tight. I would like to recognize for her closing statement Ms. Hayes.

Mrs. HAYES. I just want to thank the witnesses for your time here today. This is a very important hearing, and as you hear, there is bipartisan support for this initiative, because it really is just that basic. We have to prepare our workforce for the future of, you know, the next generation of jobs.

There are so many young people, people changing careers, people who have life experiences that can be transferred into the workplace. College is not for everyone, for a variety of different reasons, whether it be the costs, the location, transportation, childcare, there are lots of different barriers, but it does not mean that people cannot still find success.

I think that it is very important that we look to ways that we can get more people into the workforce, not less. The Biden administration has talked a lot about made in America, bringing jobs back home, getting people back to work, and this is one of those initiatives, and ways that we can do that.

I would just finally like to close by saying we have to, I guess, I echo the comments of Ranking Member Scott when he emphasized that it is past time that this committee passes a fully funded reauthorization of WIOA that relies on evidence-based practices, and better engages employers in our workforce development system.

I think we are all asking for the same thing. We just have to work really hard to make sure that we are reaching the people who are never touched by these programs, digging deep into the most vulnerable and marginalized communities. Making sure that employers are working cooperatively with the recommendations, the system if they are going to access any type of Federal funding.



The way we get to that I think can be achieved through hearings just like this, so again, I thank you for your time and your participation, and with that I yield back.

Mr. OWENS. Thank you so much. I guess a couple things. I, too, wish Dr. Foxx was here, but I wanted to share this moment's enthusiasm and excitement about where we are at this point. Dr. Debroy, you mentioned—I was going to say an inflection point. You said it best, moonshot moment. Very good. All right.

Another reason for you to stay around, thanks so much. I appreciate it. Now that is exactly, when you think about where we are today, we have industries, we have legislation, we have American parents, all focused on one thing, not only preparing our kids, but listening to them, and giving them options to go out and do what we have to do.

This, I think, you can tell by national security, you cannot say something more important than first of all, educating our children, and giving them a change to go out and build the American dream, and that's where we are right now. It was something Thomas Jefferson said, ignorant and free can never be.

Our freedom comes from the ability to dream big, go out there and pursue what we want to do in life, feel like this means something, and then giving back. I am going to say the biggest asset we have as a committee—we are at a point now where we truly do need to hear from innovators.

We want to be innovative in terms of how we legislate, and that is why we had the questions we had today. We want to think outside of the box. How can we get all these millions of young people, and old, to be in a position where they can pursue what they really believe is important, and really fall in love again with the opportunities that we think we have in this country.

My big ask would be please let us know what it is that we can do try to give you a runway, so we can go out and actually build something, and legislate something that gives you the freedom to make that happen. I want to thank you again. This has been a remarkable hearing, and again we all share the same concepts, we just want to make sure at the end it is a good negotiation.

Thank you for that. I would again like to thank the witnesses for taking the time to testify before the Committee today. Without objection, there being no further business, the Committee stands adjourned.



June 26, 2023

The Honorable Virginia Foxx  
Chair  
Committee on Education  
and the Workforce  
U.S. House of Representatives  
Washington DC 20515

The Honorable Bobby Scott  
Ranking Member  
Committee on Education  
and the Workforce  
U.S. House of Representatives  
Washington DC 20515

Dear Dr. Foxx, Ranking Member Scott, and Members of the Committee on Education and the Workforce:

On behalf of Associated Builders and Contractors, a national trade association with 68 chapters representing more than 22,000 members, we appreciate the committee's focus on the workforce needs of our nation and for holding today's hearing "Competencies Over Degrees: Transitioning to a Skills-Based Economy."

The previous reauthorization of the Workforce Innovation and Opportunity Act (PL 113-128), signed into law on July 22, 2014, created a new statutory definition for "recognized postsecondary credentials" that encompasses the full spectrum of degrees, certifications, and credentials available to students beyond a high school diploma—all currently recognized by the employer community.

Unfortunately, since passage of WIOA in 2014, the federal government has failed to expand opportunities for all recognized postsecondary credentials, despite bipartisan support to do so by Congress. ABC is hopeful that a WIOA reauthorization in the 118th Congress would provide further opportunities for all of America's workers as we face a critical workforce shortage and are determined to provide workforce development solutions for the construction industry.

#### **Modernizing Existing Policy Tools Will Support Workforce Development**

ABC supports bipartisan efforts to expand Pell Grants and 529 education savings plans, as doing so would provide critical tools for delivering workforce development opportunities for all Americans. A bipartisan and bicameral group of lawmakers, led by Sen. Amy Klobuchar, D-Minn., Sen. Mike Braun, R-Ind., Rep. Abigail Spanberger, D-Va., and Rep. Rob Wittman, R-Va., introduced the Freedom to Invest in Tomorrow's Workforce Act (H.R. 1477/S. 722) to expand 529 plans for all recognized postsecondary credentials as defined by the Workforce Innovation and Opportunity Act. Additionally, Rep. Bill Johnson, R-Ohio, and Sen. Tim Kaine D-Va., introduced the Jumpstarting Our Businesses by Supporting Students Act, which would expand Pell Grant eligibility to cover high-quality and rigorous short-term job training programs. Both bills would provide additional resources for workers seeking a career in construction and help fund their education and/or apprenticeship opportunities.

#### **The Construction Industry Requires an All-of-the-Above Workforce Development Strategy**

ABC believes the federal government should commit to supporting and defending an all-of-the-above approach for skill development where construction workers and employers have the freedom to select workforce development strategies that maximize innovation and achieve world-class safety and productivity gains. These training methodologies include just-in-time task training, competency-based learning, e-learning, work-based learning and industry-recognized and government-registered apprenticeships that will allow for expanded access to industry credentials, work-based learning opportunities, career exploration and post-secondary skills training. These are approaches to educating construction craft professionals that can address the industry's labor shortage and skills gap, but these solutions are difficult to achieve when government limits competition to firms that train their workforce using a specific program or methodology.

An [ABC analysis of BLS data](#) shows that construction companies will need to hire 546,000 to meet demand in 2023. The analysis also revealed that every \$1 billion in extra construction spending generates an average of at least 3,620 construction jobs. With the federal government working to implement the Infrastructure Investment and Jobs Act, CHIPS and Science Act, and Inflation Reduction Act, and the hundreds of billions of dollars in funding for construction provided by these bills, this will only increase worker demand in the industry.

While this should be an opportunity to upskill, educate and grow a productive workforce for construction, we continue to see restrictive labor policies attached to these critical federally funded and federally supported projects. These policies will continue to limit the pipeline of skilled workers eligible to participate in these projects and hinder the construction industry's ability to complete these projects in an effective and efficient timeframe.

#### **Apprenticeship Expansion Requires Meaningful Reforms**

Registered apprenticeships are an important tool for providing our workforce with the skills needed but require true modernization to bring them in line with today's industry. ABC members continue to face numerous impediments to the government-registered apprenticeship system that have impaired the ability of our workers to successfully pursue workforce development opportunities that meet the practical needs of the construction industry and discourage the widespread adoption of government-registered apprenticeship programs across the construction industry. While in his opening statement Ranking Member Scott touted his recently introduced National Apprenticeship Act of 2023, ABC remains concerned that the bill fails to truly modernize the registered apprenticeship system and further entrenches its rigid structure into law.

In 2017, ABC member Michael Bennett testified before the House Education and the Workforce Committee to highlight some of these key issues. These recommendations remain just as relevant six years later, and ABC would urge the committee to consider these vital concerns:

- Current apprenticeship programs are state-licensing-driven and not necessarily business and industry-need driven, which often results in valuable time used to provide workers with skills that may not be valuable or even relevant to their jobs and current employers.
- Government-registered apprenticeship program time requirements are rigid and often do not allow for individuals to excel and progress if they are exemplary students. It is vital that

programs be competency-based, rather than time-based, allowing those who quickly master a skill set to develop quicker than those who may require more time.

- Requirements for on-the-job hours and artificial ratios of journey level to apprentice workers do not always align with the scope of work on a project and often do not represent the best practices based on the safety and health of the workforce. Restrictive apprenticeship ratios discourage small-business participation in government-registered apprenticeship programs and serve as a barrier to getting more apprentices experience on a jobsite as they build their career in construction.
- Enrollment numbers are limited due to high costs and excessive administrative burdens on employers.
- Multiple states have registered apprenticeships programs for the same job that teach a variety of different tasks within each program and provide no consistency. In today's mobile environment, it is very common for craft workers to work in multiple states in a single year, but that flexibility can often be restricted due to these inconsistencies. Reciprocity among all states could expand opportunities for craft professionals and reduce red tape burdens on business and government.
- Some states have limited the ability of merit shop contractors or associations to get approval for a registered apprenticeship program. For example, in California and Washington, government entities overseeing the approval of apprenticeship programs rely on a senseless "needs test" which allows them to deny the approval of a new registered apprenticeship program if a similar program is already offered in the marketplace. This protectionism is contributing to the industry's skilled workforce shortage, especially where existing programs are at capacity.

Further, recent analysis of DOL data by ABC found that it would take 12 years for all federal and state construction industry government-registered apprenticeship programs to educate the more than half a million workers the construction industry needs to hire in 2023. ABC estimates that the construction industry's federal and state registered apprenticeship system yielded just 45,000 completers of four-to-five-year programs, and just 250,000 apprentices were enrolled in all construction industry registered apprenticeship programs in 2022.

To deliver on the historic public investment in infrastructure and clean energy projects across America and provide the workforce needed for these critical projects, Congress should be doing all it can to make government-registered apprenticeship programs easy for the industry to utilize and inclusive of all future craft professionals.

#### **ABC Leads in Construction Craft, Safety and Leadership Education**

ABC chapters and members use industry-tested and -recognized craft training programs and registered apprenticeship models to deliver construction education through 800 ABC education programs. These include innovative, flexible, earn-while-you-learn models and industry-recognized apprenticeships in more than 50 professions—plus more than 300 U.S. Department of Labor-registered apprenticeship programs across 20 different occupations. In 2021, ABC and its members invested \$1.6 billion to educate and upskill approximately 1.3 million course attendees in craft, leadership and safety education to advance their careers in commercial and industrial construction.

Ensuring the qualifications, health, and safety of the construction workforce in the workplace will continue to be a top priority as ABC members build America's hospitals, schools, manufacturing facilities, roads, bridges and power plants, but more must be done to help educate tomorrow's construction craft professionals.

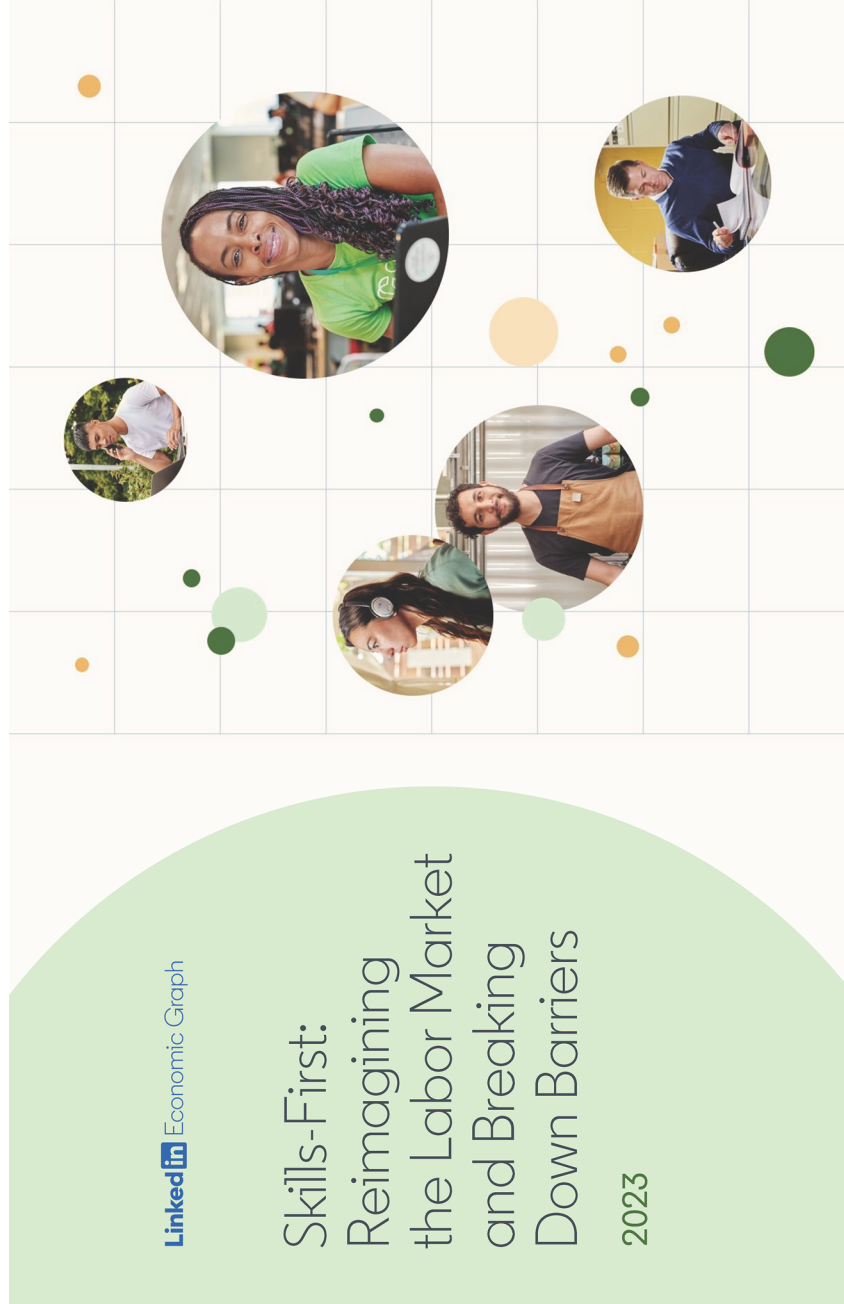
A national workforce development plan is a generational opportunity to change the paradigm of how our nation builds the construction workforce and promotes construction as a rewarding career path in our schools and communities.

ABC appreciates the opportunity to provide feedback on the important policies behind workforce development programs in the construction industry and looks forward to continuing to work with the committee on these efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Kristen Swearingen".

Kristen Swearingen  
Vice President, Legislative & Political Affairs



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## Foreword

# Around the world, we have entered a period of uncertainty where persistent change is the norm.

We experienced a pandemic that brought the unemployment rate to new highs and normalized remote work. A year later, we entered a period marked by a collective reevaluation of work, prompting the workforce to switch jobs at unprecedentedly high rates. We then saw a disconnect between employee demand for remote work and employers offering fewer remote opportunities.

In late 2022, we started to see the global economy cool and rebalance. We also saw gradual declines in the LinkedIn hiring rate<sup>1</sup> — especially in the US and Europe — and anxiety around inflation, the labor market, and the economy remains at the forefront. The number of LinkedIn members changing jobs has stagnated in some countries and has fallen to pre-pandemic levels in others.

<sup>1</sup> The LinkedIn hiring rate is a measure of hires divided by LinkedIn membership.

Change in the global employment landscape has accelerated in recent years due to declining populations, technological shifts, and shifting goals of the workforce.

**The current labor market is full of missed opportunities where incredible candidates are not getting matched to positions that could positively impact companies, the economy, and society.**

**We must minimize these missed opportunities and focus on building a deep understanding of people's potential. We collectively need to shift our mindset so that we hire based on skills and learning, and not solely on degree or job title.**

One thing that hasn't changed is the fact that talented candidates are everywhere. Our new report illustrates the possibilities that await the labor market if we shift to a model that optimizes for having the right people with the right skills in the right roles. New LinkedIn data shows that a skills-first approach to hiring provides opportunities for policymakers and governments to expand educational programs and prioritize initiatives that create a more resilient workforce. A skills-first

approach also gives businesses access to wider talent pools to meet their skills needs, and it generates more opportunities for more workers by leveling the playing field.

We have the chance to reimagine the labor market and break down barriers, and to build a world where everyone has access to opportunity not because of where they were born or whom they know or where they went to school — but because of their skills and abilities.



**Sue Duke**  
Global Public Policy, LinkedIn



## Introduction

Against a backdrop of global economic turbulence and rising inequality, there is an urgent need to rethink how we prepare the workforce for the jobs of the future and more efficiently and equitably match talent to opportunity.

The global labor market has long been opaque, inefficient, and unequal, but these structural challenges are becoming more problematic than ever as the nature of work and the demands of businesses are rapidly changing. On the one hand, demographic changes are causing a decline in the working

population in many countries. At the same time, technological advances mean there is an increase in the demand for highly skilled labor, and there are significant changes in the qualifications and skills needed in today's economies. Recent LinkedIn data shows that the skills that employees need for a given position have shifted by around 25% since 2015; by 2027, this number is expected to double.<sup>2</sup>

Governments and businesses today are tasked with navigating a dynamic talent market that poses many challenges to staffing critical industries and filling open jobs. But current methods of finding talent often exclude large swaths of the population; workers who may have the capabilities businesses are looking for but don't have traditionally accepted experience or credentials. A recent survey confirmed that 88% of hirers agree that they are filtering out highly skilled candidates just because they lack traditional credentials such as past job title or degree.<sup>3</sup> Meanwhile, many job seekers struggle to find and stand out for jobs they are interested in, or rule themselves out for jobs that they could be a strong fit for. These

practices disproportionately exclude women, workers without degrees, and older workers, which leads to a less diverse workforce.

Skills are the building blocks of the labor market — the essential elements of occupations and career paths. If we really understand this value and adopt skills-based hiring, we can reimagine the workforce and empower workers to realize their full potential.

**It comes down to this: How can we all, collectively across government, business, and the workforce, take a fundamentally new approach to human capital?**

We know that great talent is everywhere — but opportunity is not. The future labor market will be about analyzing, accessing, and mobilizing people's potential and skills in new ways. This starts with taking a skills-first approach to talent; putting skills at the forefront of talent strategies by recognizing an individual for their capabilities and breaking down roles into the capabilities required to do them well. We have to expand the hiring process beyond titles and companies, degrees and schools, and focus

<sup>2</sup> LinkedIn (2022), "A Skills-First Blueprint for Better Job Outcomes"  
<sup>3</sup> Harvard Business School (2021), "Hidden Workers: Untapped Talent"

## Introduction

instead on skills **and the many different ways those skills can be acquired**. With online learning, certificate programs, apprenticeships, and other training opportunities, employers do not need to rely entirely on prior job titles and degrees to assess a candidate's abilities. Employers should also consider skills acquired through partial college completion and look for the many transferable skills gained during military service.<sup>4</sup> Businesses can and should remain adaptable and competitive by leveraging skills data to inform smarter talent strategies.

The good news is this shift is already underway. Employers are showing signs of embracing this new way of thinking about talent.

In the last year, more than 45% of hirers on LinkedIn explicitly used skills data to fill their roles, up 12% year over year. Roughly one in five job postings (19%) in the US no longer requires degrees, up from 15% in 2021.

The value of learning and skills development is becoming increasingly clear to our members as well.

<sup>4</sup> LinkedIn (2019), "[Veteran Opportunity Report](#)"

In the past year, members added 380 million skills to their profiles; up over 40% year over year. We're also seeing LinkedIn members add certifications to their profiles at an accelerated rate, up 16% in 2022 compared to 2021.

In this report, we'll explore the implications of adopting a skills-first approach to the labor market for both government and businesses and how it can:

- **Expand the talent pool**
- **Democratize access to jobs**
- **Make the labor market and workforce more resilient**

Taking a fundamentally different approach to analyzing, managing, and allocating human capital will not be without challenges, but we are committed to mobilizing our platform, insights, and community to accelerate this transition. When we increase access to training and encourage workers to expand their skills, we nurture a more engaged workforce, a more productive economy, and a more equitable society.

New LinkedIn findings in this report show that a skills-first approach to hiring can:

20x

Add up to 20x more eligible workers to employer talent pools

+9%

Globally, on average, increase the talent pool of workers without bachelor's degrees by 9% more than for workers with degrees

+24%

Increase the proportion of women in the talent pool 24% more than it would for men in jobs where women are underrepresented

8.5x

Increase the talent pool for Gen X workers by 8.5x, 9x for Millennial workers, and 10.3x for Gen Z workers

## Chapter 1

# Expanding opportunities with a skills-first approach





For decades, employers have largely relied on employment history and traditional education achievements to identify, select, and filter out candidates.

While this approach has always been flawed, the cracks in this model are becoming more apparent by the day. Research suggests that traditional signals such as years of experience are flawed predictors of someone's ability to

do a job well.<sup>5</sup> Additionally, many workers continue to lack access to higher education opportunities. In the US, for example, nearly 70% of jobs require a bachelor's degree<sup>6</sup> but only 37% of the workforce have one.<sup>7</sup> In particular this locks out overlooked populations, including 72% of Black workers, 79% of Hispanic workers<sup>6</sup> and 79% of rural workers who currently don't hold a four-year degree.<sup>8</sup>

With significant shifts in the global economy now and to come, reimagining the way we approach the labor market has taken on a new sense of urgency. Changing demographics around the world continue to make it challenging for employers to fill certain roles. Labor supply in many countries continues to be constrained due to declining worker populations, lower-than-expected population growth, early retirements, and decreases in immigration.

At the same time, the rate of change for jobs poses new challenges for businesses and governments in training and developing the workforce of tomorrow. It is time to rethink the way we hire and grow talent.

<sup>5</sup> Chad H. Van Iddekinge, John D. Arnold, Rachel E. Friedler, and Philia L. Roth, "A meta-analysis of the criterion-related validity of pre-hire work experience," *Personnel Psychology* 72, no. 4 (2019): 571-598.

<sup>6</sup> Opportunity@Work, "The Paper Ceiling."

<sup>7</sup> US Census Bureau, "Educational Attainment in the United States: 2021."

For businesses, prioritizing a skills-first approach instead of the traditional reliance on prior job title and degree means businesses can have a larger and much more diverse talent pool to choose from. Potential employees may possess relevant skills, but may not have bachelor's degrees or comparable job titles. A skills-first model means employers can gain access to a broad and qualified group of candidates with skills that transfer across industries, jobs, and geographies, regardless of educational background, age, or gender.

The benefits of a skills-first approach to businesses extend well beyond the hiring phase and have notable impacts throughout the employment cycle. For example, LinkedIn data finds that investing in employees' learning and growth is key to retention:

**Workers who have made an internal move at their organization at the two-year mark have a 75% chance of remaining there, compared to 56% for those who haven't.<sup>9</sup>**

<sup>8</sup> USDA Economic Research Service, "Rural Education."

<sup>9</sup> LinkedIn (2022), "New Global Talent Trends: Even as Hiring Cools, People Want More out of Work."

## Chapter 1: Expanding opportunities with a skills-first approach

Likewise, companies that excel at internal mobility are able to retain employees for an average of 5.4 years. That's nearly 2x as long as companies that struggle with it, where the average retention span is 2.9 years.<sup>10</sup>

Employees have long been asking for work that complements what they can do and provides opportunities to learn and grow. In a skills-first labor market, people can find or stay in jobs that match their skills and skill-building potential, ultimately leading to a more engaged workforce.

We see similar benefits for job seekers. When LinkedIn started highlighting to job seekers that their skills matched job postings, we found that people who applied to jobs that matched their skills had higher success landing a job with fewer applications. Additionally, skill qualification transparency encouraged more women, who typically set a higher self-qualification bar, to apply to jobs. The increase in women applying was 1.8x the increase we observed in men, with a similar impact on hiring outcomes.

We have also found in preliminary research that a LinkedIn member adding 10 or more skills to their profile decreases the median employment gap by about one month. Early findings indicate that these added skills increased the speed at which individuals found new employment, and this was equally true across all education groups.<sup>11</sup>

In this report, we use LinkedIn data to look at two different hiring approaches and the talent pools they would produce. The first approach examines prior job title hiring: searches for candidates who have held the same job title in the past five years. The second adopts a "skills-first hiring" approach: searches for candidates who may not have held the same job title before but work in jobs with relevant and overlapping skills. In this analysis, we considered candidates not accounting for their educational background and other important hiring signals, so we could isolate the impact of using skills as opposed to prior job title.

The purpose of this analysis is to show:

1. The extent to which there are more workers with the relevant skills for a job than just those who have previously held that job title
2. What implications this has for different groups of workers, namely workers of different genders, levels of education, and age



**Skills-first hiring** is the recruitment strategy of focusing on a candidate's skills and abilities to do the job whether or not they meet typical education, prior employer, or job title requirements. Prioritizing skills does not ignore traditional hiring and development systems that already work but enhances them to better match talent with opportunity.

<sup>10</sup> LinkedIn (2020), "Where Internal Mobility Is Most Common Since COVID-19: Top Countries, Industries, and Jobs"

<sup>11</sup> Matthew Baird, Paul Ko, and Nilesh Gohlawat (2022), "Skill Signals in a Digital Job Search Market and Duration in Employment Gaps," LinkedIn Economic Graph.

# Talent pools expand nearly 10x when using a skills-first approach

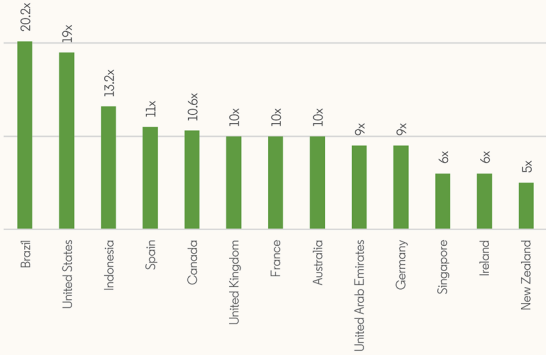
Expanding the talent search to include workers with relevant skills (“skills-first talent pool”) led on average to a 9.4x increase in eligible workers across all jobs.

That’s a near tenfold increase in potential candidates who were previously overlooked. A skills-first approach results in a paradigm shift in hiring — one that helps businesses compete in a tight talent market while expanding opportunities for workers. Expanding the talent pool means less competition over the same small pool of candidates with other companies in the industry. It also means more focused hiring as businesses are able to directly match the skills needed for that specific job posting, as opposed to looking for people who have held similar titles but may not actually have the right capabilities for the role. Further, it allows companies’ hiring practices to keep pace with the changing nature of work; as the skills required for jobs change, companies can

continue to target their recruitment at candidates based on new and dynamic skills requirements rather than static job titles.

There is significant variation in the impact of skills-first hiring on the size of talent pools in different countries. The United States and Brazil would experience the biggest increases in eligible candidates — a staggering 19x and 20.2x, respectively — if employers adopted a skills-first approach to searching for talent. The smallest uplift observed was an increase of 2.8x, which demonstrates how transformational a skills-first approach could be in all countries. Other countries, such as France and the UK, would experience a lower but nonetheless transformational increase of around 10x. Employers in Ireland, New Zealand, and Singapore, on the other hand, would see a smaller, but still meaningful, increase in their talent pools of 5x or 6x. The countries with larger pool increases may have more workers who share many of the same skills despite having different job titles (Chart 1).

Chart 1: Skills-First Talent Pool Increase by Country<sup>12</sup>



<sup>12</sup> Taking a Skills-First Approach to Finding Talent

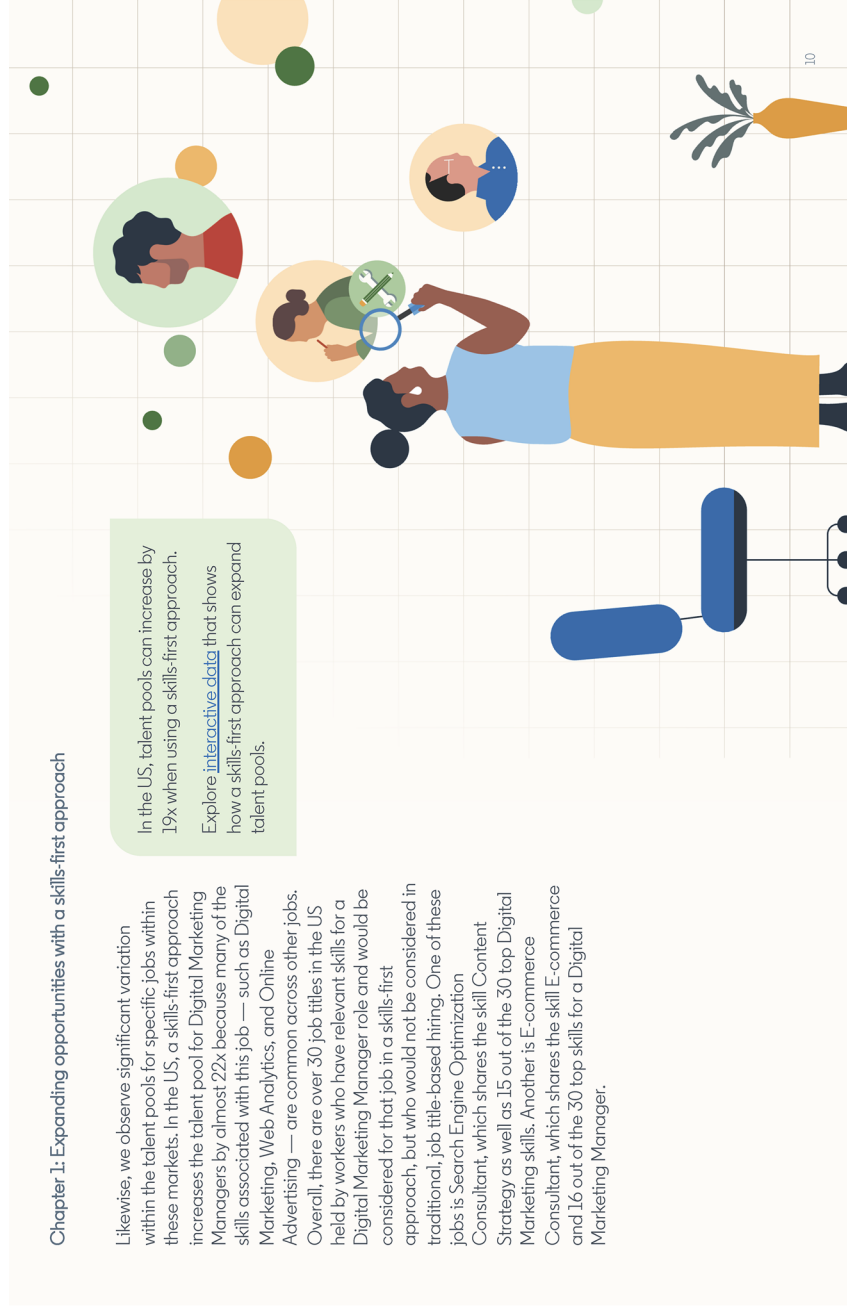


## Chapter 1: Expanding opportunities with a skills-first approach

Likewise, we observe significant variation within the talent pools for specific jobs within these markets. In the US, a skills-first approach increases the talent pool for Digital Marketing Managers by almost 22x because many of the skills associated with this job — such as Digital Marketing, Web Analytics, and Online Advertising — are common across other jobs. Overall, there are over 30 job titles in the US held by workers who have relevant skills for a Digital Marketing Manager role and would be considered for that job in a skills-first approach, but who would not be considered in traditional, job title-based hiring. One of these jobs is Search Engine Optimization Consultant, which shares the skill Content Strategy as well as 15 out of the 30 top Digital Marketing skills. Another is E-commerce Consultant, which shares the skill E-commerce and 16 out of the 30 top skills for a Digital Marketing Manager.

In the US, talent pools can increase by 19x when using a skills-first approach.

Explore [interactive data](#) that shows how a skills-first approach can expand talent pools.



## Industries struggling to hire could increase their talent pool up to 20x with a skills-first approach.

Despite economic headwinds, the ratio of jobs to applicants remains nearly double the pre-pandemic average in several countries.

Even as economies slow, it's likely that these labor shortages will continue to exist in many countries for the foreseeable future. One sign of ongoing labor shortages is that labor force participation still hasn't recovered to pre-pandemic levels.<sup>13</sup> An uneven opening of the economy after the COVID-19 pandemic, in combination with demographic factors and long-term changes in where people live and work, have contributed to the difficulty employers are experiencing trying to find qualified candidates for open roles.

There is no single solution to these challenges. However, we should start by expanding the talent pool to include all workers who have the necessary skills to fill open roles in these industries and by realizing people's full potential. This may mean hiring people who have never held that job title before or even worked in that industry before. During times of rapid change, we need to help workers transition to jobs that are in demand and that match their capabilities. If employers could easily find and hire workers based on what they can do without excluding qualified candidates based on proxies like prior job title, workers could transition more efficiently and economies could adapt more quickly.

### Note on industry data:

Hiring based on skill data regardless of other qualifications and credentials is not appropriate for every role in every industry. This is particularly true in highly regulated industries like Education and Healthcare that require licensure for many jobs. To ensure our analysis was robust, we only included workers in the skills-first talent pool that have held jobs from which we have observed transitions into the target job. This helps eliminate transitions that may have common skills but are unlikely to occur for a variety of reasons, including licensing or training (e.g., Nurse to Doctor) or large drops in seniority (e.g., Chief Financial Analyst to Financial Analyst).

Moreover, our industry findings include data from jobs across all functions in an industry, not just the ones that are most associated with the industry. In Education, for example, this includes workers at organizations that specialize in, for instance, professional training and coaching, e-learning, and recreation. It also includes support staff such as receptionists, and organizations that build industry tools such as educational technology. In Healthcare, support staff such as office associates, medical billers, and account managers who work at healthcare companies are included, as well as companies that provide goods and services to core healthcare workers, such as medical device companies.

<sup>13</sup> LinkedIn (2023), "Labor markets are holding tight, despite fears of a global recession"



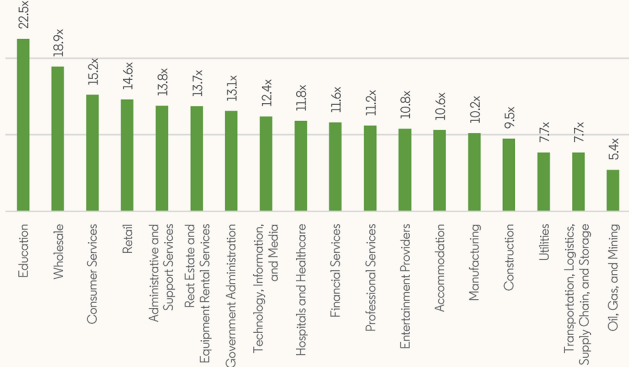
Chapter 1: Expanding opportunities with a skills-first approach

The effect of skills-first hiring on the availability of talent varies considerably by industry (Chart 2). The increase in the number of potential candidates is especially pronounced in industries such as Education, Consumer Services, Retail, and Administrative and Support Services. These industries require skills that may overlap across occupations and industries. This indicates that workers with the necessary job skills are being left out of traditional recruiting efforts because they have not held those jobs or worked in that industry before. For example: in Indonesia, the talent pool for an Accounting Manager in Retail can increase by 26x with a skills-first approach.

When looking at industries that have faced recent difficulties recruiting talent that could immediately increase their potential candidates with a skills-first approach, three immediately stand out: Hospitals and Healthcare (11.8x); Accommodation (10.6x); and Manufacturing (10.2x). In industries where training requirements are legally mandated, with a skills-first approach we see the talent pool expanding for roles within the same discipline or within the same licensing requirements.

While with a skills-first talent search we observe significant increases in the talent pool across all industries, the smallest increases in the number of potential candidates are in Oil, Gas, and Mining (5.4x); Utilities (7.7x); Construction (9.5x); and Manufacturing (10.2x).<sup>14</sup> This may reflect that workers in those industries have more specialized skills, and that there may be a more limited set of pathways to gaining relevant skills for jobs in those industries. For example: in Germany, the pool for Logistic Managers in the Transportation, Logistics, Supply Chain, and Storage industry grows by 2x with a skills-first approach — a smaller increase compared to most other occupations, but nonetheless sizeable — and the additional workers brought into the skills-first pool all come from jobs that have at least half of the top 30 skills in common.

Chart 2: Skills-First Talent Pool Increase by Industry



<sup>14</sup> Osetta Causa, Michael Abendschein, Nhung Luu, Emilia Soldani, and Chiara Soriole (2022). [“The post-COVID-19 rise in labour shortages.”](#) OECD

#### Case Study 1

## Magen's Transition from Hospitality and Retail Worker to Human Resources in the US

After a brief stint in the hospitality industry post-graduation, Magen was let go in 2020 due to the pandemic. She started a retail job working at the retail chain Target, and after a while, began thinking of how she could pivot. She used LinkedIn to network with people who worked in Human Resources, and analyzed the skills they listed on their profiles to see which skills she possessed already that could transfer over. She updated her profile to reflect that and had her skills endorsed by her former employer. It all paid off when a recruiter came across her updated profile and ended up offering Magen her first job in Human Resources at a real estate company.

“I want to give a special thank you to my bosses for not only extending this opportunity to me, but also providing me with the training and resources I need to succeed in my role. I finished my second week yesterday and I couldn't feel more at home!”



## Key takeaways

1

It is time to rethink the way we hire and grow talent.



2

Expanding the talent search to include workers with relevant skills means less competition over the same small pool of candidates, more focused hiring as businesses are able to directly match the skills needed for that specific job posting, and it allows companies' hiring practices to keep pace with the changing nature of work.

3

Labor shortages will continue to exist in many countries for the foreseeable future, however industries struggling to hire could increase their talent pool up to 20x with a skills-first approach.



## Chapter 2

# Skills-first hiring democratizes access to opportunity



We believe great talent is everywhere.  
A skills-first hiring approach is critical  
to creating equitable opportunities  
and career pathways for all talent.

Traditional labor market signals have disproportionately excluded particular groups from opportunities, relying even today on old and limited ways of filling jobs and expanding the workforce. This approach leaves out wide swaths of people who have the capabilities businesses need, in particular people from historically underrepresented groups.

In the US alone, when employers use degrees as a proxy for skills, they miss out on half of the workforce. These are the 70 million workers who are skilled through alternative routes, such as community college, military service, workforce training programs, skills bootcamps, and learning on the job — rather than through a degree.<sup>15</sup>

Our research shows that adopting a skills-first approach would bring workers without degrees, women, and younger workers into talent pools at a relatively higher rate. This would not only expand the workforce by democratizing access to opportunity but also increase the diversity of organizations and the economy overall.

<sup>15</sup> Opportunity at Work and Accenture (2020), "Ready for the STARS: Realizing the Potential of America's Hidden Talent Pool"



# Taking a skills-first hiring approach leads to more workers without bachelor's degrees being considered in the hiring process

A skills-first approach has a varying impact on different segments of the workforce.

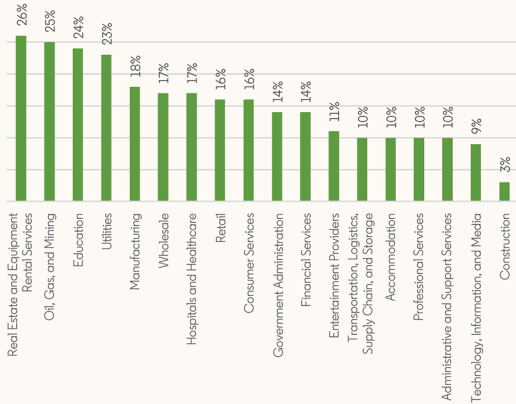
Globally, a skills-first approach to hiring, on average, increases the talent pool of workers without bachelor's degrees by 9% more than for workers with degrees (8.5x compared to 9.3x). This figure rises to as much as 26% for some industries.

The impact of different groups also varies by country. The countries with the greatest differences between the skills-first talent pool increase of workers with and without bachelor's degrees are: Brazil (22%), Peru (18%), Spain (17%), Turkey (15%), Germany (15%), and Portugal (15%). Countries like the Netherlands (14%); US, Sweden, and France (12%); and Argentina and Costa Rica (11%) would experience a more moderate but still significant increase. This indicates that in those countries, there may be a higher proportion of workers

without bachelor's degrees who have not previously held a specific job title, but have the relevant skills to perform that job. Including those workers in the talent pool provides them with new opportunities while also giving employers more candidates to recruit from. And the results could be truly transformational. For context, in Brazil, roughly 77% of the workforce do not have a bachelor's degree.<sup>16</sup> Only in a handful of countries did we observe essentially no increase in the skills-first pool for workers without bachelor's degrees relative to workers with those degrees: Slovakia, Luxembourg, and New Zealand.

Not only does the skills-first talent pool for workers without bachelor's degrees vary by country, but the impact of taking a skills-first approach also trends differently by industry (Chart 3). Real Estate and Equipment Rental Services; Oil, Gas, and Mining; and Education would experience the biggest increase of potential candidates without bachelor's degrees by including skills in their recruiting process. There could be a few

Chart 3: Skills-First Talent Pool Increase for Workers Without a Bachelor's Degree



<sup>16</sup> OECD (2022), "Education at a Glance 2022: OECD Indicators"



## Chapter 2: Skills-first hiring democratizes access to opportunity

reasons for this. It may be that some of these industries have traditionally included degree requirements on their job postings and only considered candidates who have held similar job titles before. They may have therefore excluded workers who have the right skills for the job but did not have the desired degree or direct experience.

Construction (3%) would experience the smallest increase of workers without a bachelor's degree in the talent pool if they looked beyond prior job title. This may mean that most workers who have the top-listed skills for a job in Construction would be considered in the hiring process regardless of whether they have a bachelor's degree. This makes sense, given that as an industry, Construction has not historically required bachelor's degrees for many jobs. For example: if you search for potential candidates using the job title Construction Site Manager and 100 workers come up in the search, 17 of those workers don't have a bachelor's degree. However, that proportion is similar to what you would get when searching for candidates based on a specific skill for that occupation: one of the top Construction Site Manager skills is Industrial Safety, and 25 out of 100 workers who list that

skill have a bachelor's degree. When you expand the search to include skills and not just job title, you will still see an increase in the number of workers in your pool without a degree, but the increase is smaller than it would be for a job search in other industries, such as Education (24%).

The Technology, Information, and Media industry would experience a slightly higher (9%) increase of workers without a bachelor's degree in the talent pool if they looked beyond prior job title. While at the lower end of the spectrum, a nearly 10% uplift for Technology, Information, and Media is nonetheless significant, especially considering the uniquely dynamic nature of the industry. For example: say you search for a Data Scientist in the United States based on job experience and 100 workers come up in the search. On average, fewer than one of them won't have a bachelor's degree. Then if you search for a specific skill for that occupation, like the programming language SQL, now four workers on average show up who don't have a degree. You still see an increase in the number of workers in your pool without a bachelor's degree, but the increase is smaller than it would be for a job search in other industries.



## Case Study 2

### Maira's Pathway to Becoming a Project Manager

Climb Hire trains diverse and determined US talent — most often without bachelor's degrees — to break into high-paying careers including customer experience, Salesforce administration, financial services, and project management.

Maira's story demonstrates that after four months of upskilling in Climb Hire's project management track, she was able to successfully transition to a new job with nearly a 50% salary increase.

“

I was previously working as an enrollment counselor at a university making around \$41K yearly, but I knew I had more to give and I wanted to change careers into something I was more passionate about that would challenge me. After four months of being in the Climb Hire cohort, I felt confident enough to apply for positions.

I applied to about 15 positions on LinkedIn, all in Project Coordinator roles, and received one call back for an interview in mid-June. I was beyond excited and prepared for about a week for the interview. My interview was three hours long, and during the end of the interview, the director said to me as she was holding my resume in her hand,

"I want to be fully transparent, there are other candidates that we are interviewing that are a little more experienced than you, but I really like your confidence and I actually have another position in mind that we are hiring for that would be a better fit for you — it aligns more with a project manager role. I see on your resume that you are doing a program for project management — can you tell me a little more about Climb Hire?"

I did get really nervous inside immediately thinking of the other candidates that might be better qualified, but I already got this far.

I took it as an opportunity to sell myself and share all the skills that I have gained through Climb Hire related to project management and how those skills would help me be successful working for the new company.

I also used it as an opportunity to express how my values aligned with theirs. One week after the interview I emailed the director to follow up on next steps, and one week after that I received a call with an offer to the position! Now I am making \$61K yearly, which is a \$20K difference.”



Climb Hire



## With a skills-first approach, more women are included in talent pools, especially in occupations where women are underrepresented

A skills-first approach increases female representation in talent pools, especially in occupations that currently have low female representation. We define occupations where women are most underrepresented as those occupations that are in the bottom quartile for their country in terms of share of women employed in the last five years. These occupations span industries but are most concentrated in Technology, Construction, and Manufacturing. In most countries, they include titles such as: Engineering Team Lead, Test Engineer, Software Engineer, Solutions Architect, Sales Director, Construction Manager, Supply Chain Supervisor, and Equity Trader.

If companies hire for skills rather than prior job titles, the overall talent pool expands for both men and women at roughly the same rate.

However, in jobs where women are underrepresented, the proportion of women in the talent pool would increase 24% more than it would for men with a skills-first approach.

This would increase female participation in the workforce mainly because the pool of female workers has a lot of transferable skills that are not considered when hiring managers rely on traditional hiring methodologies. The lack of representation in certain jobs may not be due to a shortage of women with relevant skills, but may be caused by the biases propagated by hiring based on direct experience.

For example, in Germany, Engineering Team Lead has 14% female representation in the prior job title pool, but has 35% representation

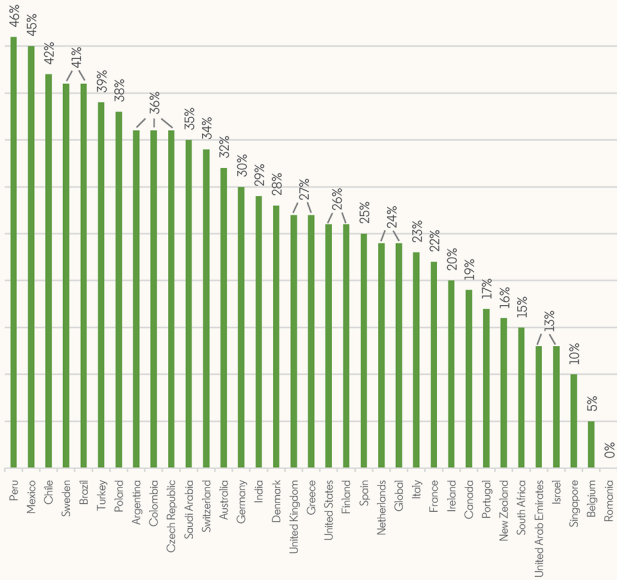
in the skills-first pool. If companies were to hire for this role using a skills-first approach, the overall talent pool of women increases by 10x, compared to a 3x increase for men. Overall, the talent pool of women increases 30% more than men in Germany for jobs where women are underrepresented. The US would experience a similar increase. Overall, the talent pool of women in the US increases 26% more than it does for men in jobs where women are underrepresented. For example, in the US, only 20% of workers with the title Test Engineer are women, but women make up 47% of the talent pool based on relevant skills. When companies look beyond job titles and hire a Test Engineer based on skills, the overall talent pool for women increases by 9x, compared to men which increases by 3x. Explore the talent pool increase by gender for more male-dominated occupations in [Table 1](#).

Chapter 2: Skills-first hiring democratizes access to opportunity

Among male-dominated jobs, Peru (46%), Mexico (45%), Chile (42%), Sweden (41%), and Brazil (41%) would see some of the largest gains in female talent pool representation with a skills-first approach. Of the countries considered, only Romania does not show a significant gender difference in the impact of skills-first hiring. While there are several jobs where skills-first hiring would improve female representation, there are some notable examples where the effect would not be as stark as in other countries. For example, only 24% of women in Romania have the skills needed to fill a Software Engineer role, a job that is male-dominated: 70% of Software Engineers in Romania are men. Even if employers looked at candidates beyond prior job title, they would find few eligible female candidates.

Employers in industries hoping to increase female representation should expand their talent search to include all workers with relevant skills, not just prior job title. Job postings should also clearly list skills in the description, as women are more likely to apply if they see a match between their skills and those on the job posting. Early results from our [Skills Match feature](#) show that more women are encouraged to apply when they realize they have the right skill sets. When job seekers were shown how their skills overlapped with a job posting, the increase in women applying was 1.8x the increase we observed in men, with a similar impact on hiring outcomes.

Chart 4: Skills-First Talent Pool Increase for Women compared to Men in Male-Dominated Occupations



Chapter 2: Skills-first hiring democratizes access to opportunity

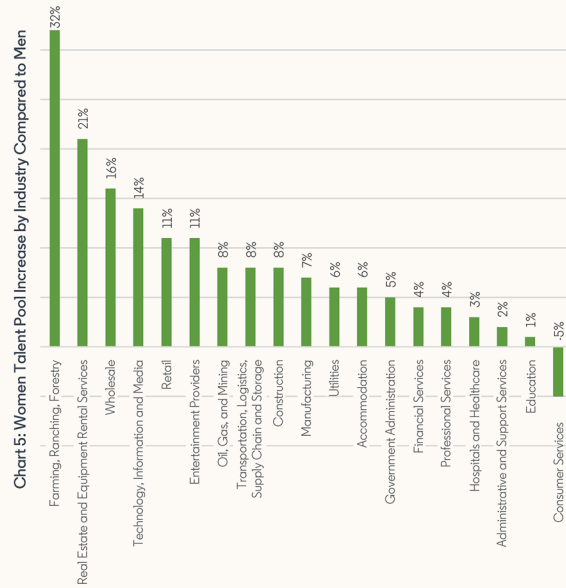
Table 1: Skills-First Talent Pool Increase for Women Compared to Men in Some Sample Male-Dominated Occupations

Country	Occupation	Current Representation in the Occupation	Representation in Skills-First Pipeline	Overall Talent Pool Increase for Women	Overall Talent Pool Increase for Men
Australia	Construction Manager	8%	31%	86x	16x
	Sales Director	25%	39%	45x	25x
	Technical Support Engineer	16%	21%	15x	11x
Brazil	Construction Engineer	20%	25%	93x	56x
	Computer Network Administrator	6%	16%	89x	29x
	Health Coach	20%	38%	48x	21x
Canada	Leasing Consultant	24%	36%	94x	54x
	Construction Manager	13%	30%	66x	20x
	Security Architect	11%	23%	35x	15x
France	DevOps Architect	5%	19%	1719x	332x
	Computer Repair Technician	6%	16%	7x	4x
	Computer Vision Engineer	17%	20%	6x	4x
India	Solutions Architect	15%	21%	15x	10x
	Mechanical Design Engineer	10%	17%	13x	8x
	Equity Trader	13%	30%	4x	2x
Mexico	Food Service Director	17%	50%	66x	25x
	Business Intelligence Developer	18%	31%	19x	11x
	Test Engineer	15%	38%	14x	5x
Singapore	Full Stack Engineer	28%	33%	22x	18x
	Portfolio Manager	31%	40%	6x	5x
	Solutions Architect	20%	31%	6x	4x
United Kingdom	Platform Architect	7%	16%	179x	76x
	Industrial Designer	20%	38%	18x	9x
	Machine Learning Engineer	18%	29%	14x	8x
United States	Videographer	20%	43%	20x	8x
	Logistics Executive	19%	40%	18x	8x
	Solutions Architect	15%	22%	9x	6x

## Chapter 2: Skills-first hiring democratizes access to opportunity

Chart 5 shows how women could experience a very large increase in talent pool representation when compared to men in some industries: Farming, Ranching, and Forestry (+32%); Real Estate and Equipment Rental Services (+21%); and Technology, Information, and Media (+14%). The following chart considers all occupations within a given industry, not just those where women are underrepresented.

If employers in the Technology, Information, and Media industry took a skills-first approach to hiring, the talent pool would expand for both men and women, but it would expand 14% more for women. This finding has important implications for achieving gender parity while filling critical jobs in the industry. While many governments are funding development in the Technology, Information, and Media industry, many roles remain unfilled. In European Union countries, for example, the 9 million Information and Communication Technology specialists employed in 2021 do not meet the tech talent needs of businesses and organizations and also fall short of the EU target to have 20 million ICT specialists by 2030.<sup>17</sup> One reason for this mismatch is the significant gender gap in the industry. While the rate of women working within technology companies is close to parity, the rate of women working within in-demand technical roles, such as developers, is much lower.<sup>18</sup> Despite significant improvements in recent years, the technology sector also has one of the worst track records for hiring more men than women in leadership positions: as of 2022, only 24% of global technology leadership is female.<sup>19</sup> While there is still work to be done to ensure more women acquire the skills they need to enter these roles, hirers can currently expand the talent pool by considering female candidates who already have the right skills even if they haven't had the "right" job title.



<sup>17</sup> European Commission (2022), "The Digital Economy and Society Index (DESI)"

<sup>18</sup> Ibid.

<sup>19</sup> World Economic Forum and LinkedIn (2022), "Global Gender Gap Report"

### Case Study 3

## Salma's Journey from Cairo to Working in Tech in Berlin

ReDI School of Digital Integration is a non-profit technology school in Germany, Denmark, and Sweden providing migrants and marginalized locals free and equitable access to digital education. ReDI offers courses in Cloud Computing, Data Analytics and cybersecurity among other employability and career readiness topics. This is Salma's story, a graduate of the ReDI school:

“My name is Salma. I have moved from Cairo, Egypt to Berlin in 2018 and enrolled in a university in Berlin. As a new student who had no idea what she wants to do for her future career, I joined ReDI for a course in IoT (Internet of Things) to learn more about the tech industry in Germany and diversify my network. My aim was to break into the tech industry by finding an internship and potentially a master thesis topic to work on. Afterwards, I stayed supporting the IoT course as a teaching assistant.”

Recently, Salma joined a smart home company in Germany in a Data Analyst position. Salma says:

“Looking for a job in Germany can be pretty challenging especially if one does not have a defined career path. But as soon as one has a clearer vision of what career they would love to have, getting a job is only a matter of time. I would highly recommend students to network frequently and ask for help, most importantly, not to give up.”



**ReDI School of  
Digital Integration**

#### Case Study 4

### Sierra's Pathway to Becoming an IT Support Technician

Sierra Bentley was interested in technology for as long as she can remember, but even as a little girl, she was told there may not be a place for her. This is still true today, as research reveals that women of color (Black, Latinx, and American Indian women) only make up 5% of the tech industry.

Sierra nevertheless persisted. She enrolled in NPower, a national tech training nonprofit that offers free 23-week tech fundamental courses, creating pathways to economic prosperity by launching digital careers for military veterans and young adults from underserved communities throughout the U.S. NPower offers training for in-demand technology jobs including Information Technology, Cybersecurity, Cloud Computing and more and graduates experience a 316% salary increase on average as a result.

**Through NPower, Sierra earned her CompTIA+ certification, which led her to the vital apprenticeships and opportunities that helped her enter the tech industry.<sup>20</sup>**

After two internships in tech accelerators and education districts, she became a Help Desk Technician in the government software industry in Michigan. Today, Sierra is a certified IT Support Technician and a problem solver all around, whether it's offering tech advice or underscoring the harsh realities of being a black woman in the tech industry on LinkedIn.



**npower**

LAUNCHING TECH CAREERS.  
TRANSFORMING LIVES.

<sup>20</sup> NPower and Ernst Burning Glass (2022). "The Equation for Equality."

## Younger workers are in the best position to take advantage of a skills-first future

While the latest entrants to the workforce have not yet had the time to hold a variety of roles the way that older workers have, younger workers are nonetheless building skills that can be relevant to a range of jobs — especially those jobs of lower seniority.

Shifting to a skills-first approach may allow younger workers more flexibility as they navigate changing labor market conditions through their career, offering opportunities to build resilience against shocks that may force career pivots.

Globally, a skills-first approach to hiring increases the talent pool for Gen X workers by 8.5x, 9x for Millennial workers and 10.3x for Gen Z workers. While there may not be many

Gen Zers who have held relevant job titles for a given role, there are many Gen Zers who have worked in jobs that require similar skills.

On the other hand, a shift to skills-first may also mean that older workers will have to adapt to a world where more fluid career paths and less conventional job transitions are the norm, or else risk getting left behind. Governments and business leaders should develop programs to ensure that older workers not only learn the relevant and rapidly changing skills they need for the future, but that they also learn how to signal those skills to employers who are increasingly adopting a skills-first approach. Companies would benefit from having an engaged workforce of committed, long-term employees with applicable skills. A skills-first approach would help make the workforce more equitable, expanding opportunities for skilled workers without relying on degrees.

### Worker Generation Definitions

- Gen Z: 1997 - 2012
- Millennial: 1981 - 1996
- Gen X: 1965 - 1980

### Case Study 5

## Marina's Life-long Career Opportunities in Education

A teacher and learner by heart, Marina has enjoyed her career as a kindergarten teacher as well as living in different countries with her family. With her adult children settling in Australia, she knew it was an opportunity to begin a new chapter in her life.

She settled down in Sydney and for a while she worked for a daycare as an educator. During the COVID-19 pandemic she understood how important childcare was for families during this turbulent time and remained working even though she was asked to leave her apartment because of fear of becoming contagious.

She was in her 50's and was ready for a career change. She was focused on the transition she wanted, but not quite sure how to get there. The transition would take one year and Marina credits Dress for Success for helping her get there. The mission of Dress for Success is to empower women to achieve economic independence by providing a network of support, professional attire and the development tools to help women thrive in work and in life.

Marina took part in several workshops, a mock interview and qualified for Dress for Success Sydney's coaching program which she says was the 'cherry on the cake'. She learned valuable interviewing techniques, the importance of using LinkedIn to build her presence and for networking, but most importantly, she felt connected with a community of women all rooting for each other.

The process would reaffirm Marina's self-worth and change her approach towards life. Eventually, this support led to multiple interviews, one of which soon became her permanent full-time role which she plans to keep until retirement. She now works for a Learning Management System company, supporting other educators with their transition to the world of online and in-person hybrid education. Marina loves her job and the combination of her passion for learning, teaching, and technology.

“Thanks to Dress for Success I was able to be confident, and have the clarity of what path to take... People at Dress for Success believed in me when I was not believing in me. Their support was paramount for my career change and to achieve and land the role I have now. I am very fortunate and very thankful.”



**DRESS FOR SUCCESS®**  
SYDNEY



## Key takeaways

1

Globally, a skills-first approach to hiring, on average, increases the talent pool of workers without bachelor's degrees by 9% more than for workers with degrees.



2

In jobs where women are underrepresented, the proportion of women in the talent pool would increase 24% more than it would for men.



3

A skills-first approach to hiring increases the talent pool for Gen X workers by 8.5x, 9x for Millennial workers, and 10.3x for Gen Z workers.



## Chapter 3

# Recommendations for accelerating the shift to skills-first hiring



### Chapter 3: Recommendations for accelerating the shift to skills-first hiring

The challenges we face as we struggle to fill roles, weather economic shifts, and create a diverse and resilient workforce will grow unless we change our approach to finding and growing talent.

We're still in the early days of the paradigm shift to skills-first, but the findings in this report suggest a skills-first labor market can benefit both employers and employees in the long run. Even amid today's more uncertain economic conditions, businesses are realizing the competitive advantages of taking a skills-first approach to hiring. By using skills in their talent search, businesses can achieve a more focused hiring strategy and build a more resilient, more diverse, and more engaged workforce.

A skills-first model to pinpoint new talent and grow existing talent is a more equitable and efficient way of doing things. It will not only open more doors for more women, people without bachelor's degrees, and workers of all ages, but it will also help them stay engaged.

We have a unique opportunity today to change the way we hire and make skills count for more. And with the collective effort and support of policymakers, business leaders, and workers across the globe, we believe we can create a talent ecosystem that is more efficient and more equitable.

How can we collectively deepen and accelerate this transition to a skills-first approach to talent? The following section sets out the concrete steps that policymakers, businesses, and workers can take to adopt, foster, benefit from, and advocate for a skills-first approach.



## **Policymakers:** Support skills-first hiring to open up new opportunities for workers while ensuring critical parts of our economy are staffed.

- **Reconsider education and work requirements on government job postings**, including those contracted through third-party vendors. Include provisions in public employee vendor contracts to consider candidates without these traditional credentials to foster skills-first hiring in government.
- **Fund public efforts to provide workers with in-demand skills and match them to growing jobs.** Partner with public education and workforce programs to determine whether they are teaching skills that are in demand by employers, as well as whether recent graduates and job seekers are being placed in growing jobs.
- **Expand funds available for incumbent employee training, particularly for workers most likely to be displaced due to changing skill demands.** These programs must offer flexibility to allow workers to reskill and upskill themselves while being employed.
- **Develop national and local skills-first hiring strategies.** Start by partnering with government public employment services and employers to identify areas of the economy that are facing staffing challenges and would benefit from a larger pool of potential applicants.
- **Be ambassadors for skills-first hiring.** Publicly celebrate companies that are using skills in the hiring process and are creating new opportunities for workers left out of a hiring process based on traditional credentials alone.



## Business Leaders: Expand and diversify your talent pool with a skills-first strategy.

- **Understand the skills your organization has and needs.** Every role at your organization can be broken down into a set of skills, and every person — whether at your organization or as part of an external talent pool — has a set of skills. Only once organizations know what skills are required to do the jobs at their company today and what skills are needed for tomorrow can they create a plan to find and/or develop people with those skills.
  - **Embrace skills-first hiring practices, externally and internally.** Put skills at the center of recruitment and internal hiring, where open roles are defined by the skills needed to do the job and people (including those already at your company) are matched and assessed based on their capabilities. Consider hiring people with transferable in-demand skills, including workers from outside of your industry. Taking this skills-first approach to hiring can lead to more women, people without
- bachelor's degrees, and workers of all ages being considered in the hiring process.
- **Develop employees to grow with your company.** Empower employees to advance in their careers at your organization by providing guidance on internal career paths, and by offering opportunities to build and apply skills that align with their career goals and your business needs to fuel employee engagement and retention.





## Workers: Find and stand out for jobs you are interested in by developing and showcasing your skills.

- **Gain skills for the job you want.** Create a list of open positions you'd like to apply for and the skills needed for those positions.

If you look at jobs on LinkedIn, the [Skills Match feature](#) will display the skills you have that match the job posting's requirements, and the skills you may need to learn to get hired. You can also use LinkedIn's free [Career Explorer tool](#) to help you find possible job transitions, based on insights into skills similarity. Once you have a solid list of skills needed, make a plan to learn these new skills, whether that's through taking online courses or certificate programs, finding opportunities to learn in your current job, or through volunteer opportunities.

- **Build in-demand skills.** To help you stay even more relevant and adaptable with the skills employers are craving, focus on skills that remain in demand year over year.

LinkedIn has created [a list of in-demand skills](#) featured in 78% of global job postings since 2015. This includes soft skills like leadership, communication, and problem-solving and hard skills like digital marketing, financial analysis, and business development. This list also contains top skills by industry so you can focus on learning the right skills in your unique job function.

**Invest in keeping your skills sharp.** Take stock of your skills on a regular basis, and consider learning options that work for you. At [opportunity.linkedin.com](https://opportunity.linkedin.com), you can access learning paths mapped to jobs that are in demand and more than [325 quick, actionable nano tips](#) from LinkedIn Learning instructors.







# Appendix



## Glossary of key terms and data descriptions



### Workforce resilience

The ability to recover and achieve a similar or better labor market outcome with limited losses in worker welfare following an exogenous shock to one's current labor market state (economic slowdown or economic restructuring).



### Career pathways

Steps taken to enter or advance within a specific occupation or industry that typically involve a combination of training, education, and other services.



### Skills-first approach

An approach to hiring or internal mobility based on skills and abilities rather than job titles, companies, degrees, and schools.

## Supported by a set of core data terminologies

Our skills data comes from the skills listed on job postings and the skills LinkedIn members add to their profiles.

We use this data to construct the LinkedIn Skills Genome, which forms the basis for our skills analysis. Our skills data is at the scale of millions of workers, which smooths out the noise associated with self-reported skills. We only associate a job with a skill if a very high number of workers have that skill on their profile when they hold that associated job. On average, 30 “top” skills are associated with a given job.

**Skills Genome:** For any entity (occupation or job, country, sector, etc.), the skills genome is an ordered list (a vector) of the 50 ‘most characteristic skills’ of that entity. These most characteristic skills are identified using a TF-IDF algorithm to identify the most representative skills of the target entity while down-ranking ubiquitous skills that add little information about that specific entity (e.g., Microsoft Word).

**Term frequency-inverse document frequency (TF-IDF):** TF-IDF is a statistical measure that evaluates how representative a word (in this case a skill) is to a selected entity. This is done by multiplying two metrics:

1. The term frequency of a skill in an entity (‘TF’).
2. The logarithmic inverse frequency of the skill across a set of entities (‘IDF’). This indicates how common or rare a word is in the entire entity set.

The closer IDF is to 0, the more common a word is. So, if the skill is very common across LinkedIn entities, and appears in many job or member

descriptions, the IDF will approach 0. If, on the other hand, the skill is unique to specific entities, the IDF will approach 1. More details available at [LinkedIn’s Skills Genome](#) and [LinkedIn x World Bank Methodology Note](#).

**Skills:** Refers to the 39,000+ skills that are sourced from LinkedIn members (skills explicitly listed on member profiles, or inferred from other aspects of members’ profiles, such as job titles, fields of study, etc.) or from job postings. Skills are the main building blocks of the insights in this report.

**Skills similarity:** The degree of overlap between the most representative skills for each job based on [LinkedIn’s Skills Genome](#). The similarity score reflects both the overlap of common skills between two jobs as well as the relative importance of those skills for each job. The similarity score ranges from 0 (no common skills, a difficult transition) to 100 (perfect overlap in skills, easy transition).

Appendix - Methodology

**Talent pool:** The number of potential skilled candidates for a certain job. We consider all active members with valid skill listings, regardless of their job searching status.

**Prior job title talent pool:** The number of potential candidates considered when hiring for an open job looking at workers who have held that target job title in the past five years. Job titles include exact matches (e.g., an employer is searching for a Recruiter and the worker has experience as a Recruiter) as well as equivalent matches (e.g., the worker has experience as a Recruiting Specialist).

**Skills-first talent pool:** The number of potential candidates considered when hiring for an open job looking at workers who have held jobs in the last five years with a large skill overlap with the target job, and meet a threshold of similar worker transitions. For example: a Nurse may have a large skill overlap with a Doctor, but that isn't a common transition due to the high level of retraining, so Nurses wouldn't be included in the skill-based talent pool if the open role is for a Doctor.

**Skills-first talent pool increase:** The ratio of the number of potential candidates for a given occupation identified using a skills-first talent pool approach to the number of eligible workers for a given occupation identified using the direct jobs experience talent pool approach. Country and industry-level aggregates are defined by taking the median talent pool increase across occupations in the given segment.

**Jobs or occupations:** LinkedIn member titles are standardized and grouped into approximately 15,000 occupations. These are not sector or country specific. These occupations are further standardized into approximately 3,600 occupation representatives. Occupation representatives group occupations with a common role and specialty, regardless of seniority.

Geographic coverage

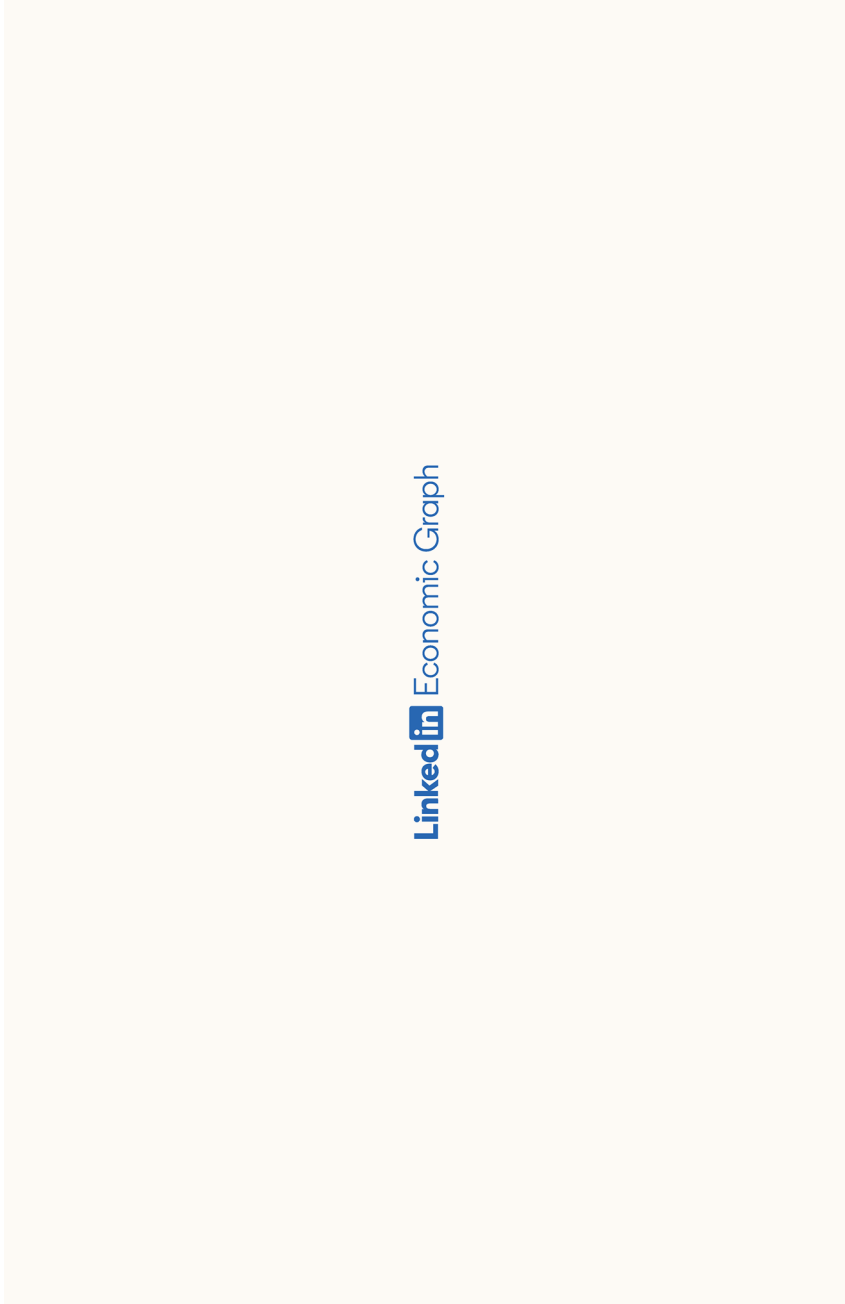
In order to ensure the highest data quality of our analysis, we only included analysis of countries where LinkedIn has the strongest and most representative data. This report is based on insights from 49 countries: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, Peru, Poland, Portugal, Romania, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, United Kingdom, United States. We included the majority of these countries in every analysis, but there were six countries where we were not able to report on gender insights due to lack of representative data: Hungary, Iceland, Indonesia, Slovenia, South Africa, Turkey.

Gender analysis

If not explicitly self-identified, we have inferred the gender of members included in this analysis either by the pronouns used on their LinkedIn profiles, or inferred on the basis of first name. Members whose gender could not be inferred as either man or woman were excluded from this analysis.

Only countries where LinkedIn has gender data for at least 67% of members are included in this analysis. This includes all countries in our list except Hungary, Iceland, Indonesia, Slovenia, and Turkey.

We define ‘occupations where women are most underrepresented’ as those occupations that are in the bottom quartile for their country in terms of share of women employed in the last five years.



**Questions for the Record from  
REPRESENTATIVE RICK ALLEN**

**Committee Hearing:  
“Competencies Over Degrees: Transitioning to a Skills-Based Economy”**

**June 22, 2023  
10:15 a.m.**

**Representative Rick Allen (R-GA)**

1. Mr. Healey, the workforce system under WIOA is required to assess individuals’ skill levels to determine what services they need. However, in some cases, this is being done by simply having workers self-attest to their skill levels.
  - a) From an employer’s perspective, what added value do skill assessments provide in delivering quantifiable and comparable data on individual competencies?

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**Mr. Healey Response:**

Skill assessments should play a role in identifying an individual’s competencies related to employers’ needs that will also ensure the success of an individual in a specific role. Employers could consider engaging with the workforce system to share the knowledge, skills and abilities measured in these assessments.

**Questions for the Record from  
REPRESENTATIVE Frederica S. Wilson**

**Committee on Education and the Workforce  
Full Committee Hearing:  
“Competencies Over Degrees: Transitioning to a Skills-Based Economy”  
Thursday, June 22, 2023  
10:15 a.m.**

**Representative Frederica S. Wilson (D-FL)  
Questions for All Witnesses**

1. What are your own organizations—who are leaders and innovators in credentialing and work-based learning—doing to address the gap that exists in soft skills acquisition, such as team building, communication, collaboration, etc., which are also in high-demand by our employers?
2. How would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?
3. How can we begin, even before college, to foster collaboration between formal curriculum tracks and competencies, credentialing, and organizations like yours?

My own experience with my 5,000 Role Models program has shown that we cannot wait until students reach higher education.



**Questions for the Record from  
REPRESENTATIVE Frederica S. Wilson**

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**Representative Frederica S. Wilson (D-FL)**  
**Questions for All Witnesses**

1. What are your own organizations—who are leaders and innovators in credentialing and work-based learning—doing to address the gap that exists in soft skills acquisition, such as team building, communication, collaboration, etc., which are also in high-demand by our employers?

**Mr. Healey Response:**

Along with building the technical skills of our employees and customers, SAP delivers extensive employee upskilling on critical soft skills such as leadership and ethics. For example, we deliver targeted learning journeys by leadership level that are focused on building high performing teams and communicating and collaborating across SAP. These learning journeys reinforce our defined leadership behaviors: being agile, ethical, accountable, inclusive, and bringing our strategy to life. In addition to offering traditional courses on what we call “professional” skills, we strengthen those skills with on-the-job training and hands-on programs such as coaching, mentoring, and fellowships.

SAP also works with a variety of organizations and industry leaders on skill-based learning and credentialing for both hard skills and soft skills. By aligning this approach across organizations, including our peers and other technology companies, we can increase access to learning for individuals, close the industry-wide skills gap, and collaboratively upskill, hire, and redeploy talent. For instance, we follow a unified skill taxonomy driven by Lightcast's Open Skills Library, which defines competencies around specialized skills (technical skills) as well as common skills (soft skills). This enables us—and others who align to this common skills language—to thoughtfully focus on the right skills for each role, whether those are technical skills or soft skills.

Similarly, when it comes to credentialing, SAP delivers certifications and badges via Credly, an Open Badge platform that closes the gaps between skills and opportunities by making it easier for learners to share verified digital credentials. SAP SuccessFactors is also part of the Velocity Network, a non-profit, vendor-neutral organization formed to reinvent how career records are shared globally via a blockchain-powered solution that uses trusted student, employee, and candidate data to give power to individuals to take

ownership of their career credential and develop a reliable way for organizations to ensure they have the right talent in the right roles.

Finally, we are heavily focused on increasing access to learning for underserved communities through programs that prepare people in transition, veterans, and those underrepresented in technology for jobs through both technical and professional training. For example, our global, publicly funded “People to Work” program equips participants with technical solution training as well as social competence topics and soft skills that are key to helping facilitate reentry to the job market. SAP also works with organizations such as the Discovery Partners Institute (University of Illinois System) which prepares students and workers with a range of skills required to step into high-demand tech jobs, and DiversiBoard, which helps match highly qualified diverse individuals with jobs. We often look to best-practices of other leaders in the space, including Apprenti, an apprenticeship program that connects underrepresented groups with the necessary training to be successful in tech, and Siemens, which has a strong and long-standing vocational training program.

2. How would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?

**Mr. Healey Response:**

I recommend inviting leaders of those institutions to consider partnering with SAP and collaborating with our ecosystem by the exploring the following current SAP initiatives:

The “SAP University Alliances” introduces students and faculty to SAP software by providing networking and educational activities and partnering to build technology skills. This is a program that opens up the world of SAP to more than 3,200 universities in over 111 countries worldwide and aims to develop the critical skills for the digital enterprise among university students and young thinkers. In partnership with SAP’s six University Competence Center (UCC) locations and five Academic Competence Center (ACC) locations around the world, universities gain access to an ever-expanding range of SAP software and curriculum. With SAP University Alliances resources, faculty help students better connect business and IT concepts to practice, and prepare them to be the next generation leaders, designers, developers, data scientists, makers, and entrepreneurs who will drive the digital transformation of business.

“Project Propel Empowered by SAP” is a strategic collaboration program among SAP and the Americas’ SAP Users’ Group supporting Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs) in the U.S. to empower students with knowledge of the latest SAP technologies to enhance their academic and career outcomes. The program aspires to strategically enable young, bright, HBCU and MSI minds to participate and contribute creative ideas via crowdsourcing including industry consortiums, co-innovation projects, and research projects empowered via the SAP HANA Cloud Platform. The goal is to drive unprecedented empowerment of the

HBCU University community on the latest, most innovative topics from SAP including Universities leveraging SAP's Massive Open Online Courses at openSAP and running operations in the SAP Cloud. This is a potential model for Higher Education research.

"SAP Next-Gen" is a global community for students, universities, schools, and educational partners, who are passionate about innovation and technology. Our community is an innovation platform for SAP's more than 440,000 customers around the world. To drive innovation, the initiative leverages more than 3,100 educational institutions in 110 countries, SAP's more than 100 innovation and development centers, and startups in the global SAP ecosystem. SAP Next-Gen Labs at universities foster connections between academic thought leaders, researchers and students, and the SAP ecosystem including SAP customers, startups and accelerators, tech community partners, venture firms, purpose driven partners, and digital innovation experts from SAP and its partners, to drive innovation with purpose.

3. How can we begin, even before college, to foster collaboration between formal curriculum tracks and competencies, credentialing, and organizations like yours?

**Mr. Healey Response:**

SAP and other BRT member companies are beginning to create partnerships so the knowledge, skills, and abilities that our companies look for are built into high school curriculum and also through out of school programs. We agree that more needs to be done by tapping the talent much earlier in the pipeline which will also create greater opportunities for underserved populations.

My own experience with my 5,000 Role Models program has shown that we cannot wait until students reach higher education.

**Questions for the Record from  
REPRESENTATIVE Frederica S. Wilson**

**Committee on Education and the Workforce  
Full Committee Hearing:  
“Competencies Over Degrees: Transitioning to a Skills-Based Economy”  
Thursday, June 22, 2023  
10:15 a.m.**

**Representative Frederica S. Wilson (D-FL)  
Questions for All Witnesses**

1. What are your own organizations—who are leaders and innovators in credentialing and work-based learning—doing to address the gap that exists in soft skills acquisition, such as team building, communication, collaboration, etc., which are also in high-demand by our employers?
2. How would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?
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**The following content was drafted in response to Representative Frederica Wilson’s questions during the House Committee on Education and the Workforce’s full committee hearing titled “Competencies Over Degrees: Transitioning to a Skills-Based Economy.”**

**Rep. Wilson asked about what steps the panelists’ organizations have taken to address the gap in soft-skills acquisition.**

SHRM believes that soft skills are vital “power skills” in the workplace and are valuable contributors to company success. These power skills are best attained through flexible, shorter, more frequent skills development training rather than a singular webinar or panel discussion. In attempting to close the gap in power-skills acquisition through skills training, SHRM recognizes the value of having several training methods available to employers so that such training is as flexible as possible. These training methods can include but are not limited to, online learning, coaching and mentoring, and interactive workshops. For further information on SHRM’s position on power skills, we encourage you to read [this](#) SHRM publication that offers extensive insight into identifying what skills are needed in a workplace, the teachability of skills, and the importance of flexible training methods.

In addition, SHRM has conducted several large-scale practice analyses of the HR profession. Results have shown that behavioral competencies (including such power skills as leadership, relationship management, and communication) are essential for HR professionals. Accordingly, our certification exams (SHRM-CP and SHRM-SCP) include items to measure these behavioral competencies, mainly using situational judgment items. In the fall of 2020, SHRM unveiled the People Manage Qualification (PMQ), designed to help people develop the skills needed to successfully and effectively manage teams. PMQ is teaching people managers how to empower teams, transform the workplace, and cultivate high-performing staff. Approximately 87% of managers who use PMQ say they’re ready to lead confidently. Furthermore, the SHRM Foundation – the 501(c)(3) arm of SHRM – has prioritized educating employers about using skilled credentials in talent acquisition.

The Foundation is widening pathways to work by providing resources and training to employers so that they can effectively assess workers’ competencies, gifts, and skills and their ability to thrive on the job. This presents a holistic “whole human” approach to hiring, retention, and growth. SHRM Foundation has published a white paper on the rise of skilled credentials, a toolkit to help employers and HR professionals adopt skills-based hiring principles and has also established an apprenticeship program. These tools are helping organizations provide customized training and to tap into more diverse job candidate pools. All of SHRM’s courses are developed to prepare HR professionals and others for certifications in HR knowledge areas and behavioral competencies.



**Rep Wilson also asked how would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?**

For 19 years, SHRM has worked as a liaison between business and the academic community to foster the development of strong professionals at the beginning of their careers. Through the SHRM Academic Alignment Program, SHRM provides HR curriculum guidance, free instructional content, and student career development opportunities (i.e., SHRM certification) to colleges and universities that align their HR programs with SHRM's HR curriculum guidelines.

Additionally, we provide support to the SHRM Foundation's Human Resource Registered Apprenticeship Program, providing participants in underserved and or low-income communities an opportunity to work with employers to develop their skills with on-the-job training. The Academic Alignment program also identified all Historically Black Colleges and Universities with undergraduate and graduate degree programs in administration, human resources, and management and conducted an in-depth review of existing course curricula to help HBCU schools address their curriculum gaps. For three to five years, we also actively engaged with Hispanic Serving Institutions and made great progress aligning those programs with SHRM's curriculum guides. At this point, SHRM began focusing primarily on HBCU schools to continue to make progress with those colleges and universities.

As a result of this work, we propose collaborating with leaders in higher education to help them identify employers who need to fill roles within their organization and provide the leaders and educational institutions with the proper tools to assess skill levels to inform their approach to providing adequate resources to the students they serve. While this work is specific to HR, the same approach can be expanded across industries to help institutions work more closely with employers in closing the skills gap.

**Rep. Wilson also asked how policymakers can foster collaboration between formal curriculum tracks and competencies.**

SHRM recognizes the value of coordinating in the context of competency-based education as it complements broader efforts that aim to move towards a skills-based hiring system. Our organization has engaged with more than 800 colleges and universities to create curricula to ensure that departments with HR focuses align with the SHRM knowledge areas and competencies. These programs provide a distinct advantage in that the students are instantaneously eligible for SHRM's flagship credential upon completion of a competency-based curriculum accredited by SHRM. There is value in coordinating not only with programs that lead to degrees, but also programs that lead to interim credentials that signal individuals' specific skills acquisition based on validated assessments of competency. Collaboration between these two formal tracks could improve students' and workers' access to the skills they need to meet employer needs and streamline the process of individuals attaining the in-demand skills necessary to be successful in the workforce.

Investing in apprenticeships, like the SHRM Foundation [Human Resource Registered Apprenticeship Program](#) (HR RAP), provides businesses the opportunity to access, develop, and retain diverse talent. These programs also allow workers opportunities to earn a paycheck while training and developing technical and "soft" skills. Apprenticeships provide career paths into hundreds of industry sectors, are



flexible to fit into any size organization and can be tailored to meet the needs of the employer and apprentice.

Another good example where the associations and private sectors can work with policymakers is the SHRM Foundation *Widening Pathways to Work* pilot program in Arkansas (AR). The Foundation is working in partnership with the AR State Department of Education, the AR State Chamber of Commerce, and ARSHRM on a hyper-localized program model, where local chambers of commerce engage and convene advisory committees with local businesses and community organizations to create interventions that result in widened pathways to economic opportunity.

#### **Additional Resources**

[SHRM Certification Resources for Educators](#)

[SHRM HR Curriculum Guidebook](#)

**Questions for the Record from  
REPRESENTATIVE Frederica S. Wilson**

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Opportunity@Work is a nonprofit social enterprise whose mission is to expand access to career opportunities for STARS – the 70+ million talented U.S. workers who are “Skilled Through Alternative Routes,” (STARS) rather than a bachelor’s degree. We conducted an extensive analysis of worker skills in the U.S. labor force and found that over 30 million STARS have the skills today for higher wage jobs. We are sharing this data with the field to challenge the narrative that STARS are “low skill,” to change perceptions, and to shift common hiring practices that rely heavily on degree attainment.

Workers acquire skills, including valuable “soft skills”, through on-the-job learning or work experience.<sup>1</sup> These include skills such as active listening, service orientation, and critical thinking. Workers cite on-the-job learning as critical for their professional development, while team managers routinely look for work experience and applied skills when recruiting for new roles.<sup>2</sup> Work experience sends a clear signal about a worker’s knowledge and abilities to accomplish specific tasks.<sup>3</sup> Figure 1 illustrates the transferability of skills from one job to another similarly skilled but higher paying job.

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<sup>1</sup> This analysis for this study of work experience as a job market signal is detailed in Peter Blair, Tomas Castagnino, Erica Groshen, Papia Debroy, Byron Auguste, Shad Ahmed, Fernando Garcia Diaz, Cristian Foschiatti, “Searching for STARS: Work Experience as a Job Market Signal for Workers without Bachelor’s degrees,” National Bureau of Economic Research Working Papers, March 2020.

<sup>2</sup> The State of American Jobs,” Pew Research Center, 2016. And “Strada-Gallup Education Consumer Insights,” Education Consumer Survey, 2018.

<sup>3</sup> Reach for the STARS, Opportunity@Work, 2020.

**Figure 1. Skills-based pathways in the U.S. labor market suggest the majority of STARs have skills for significantly higher wage work, today<sup>4</sup>**



This figure shows the high skills overlap between two sales roles. The first is accessible to STARs, while the second is less so. About 96,000 STARs have made this transition in the five-year period from 2017 to 2021.

Figure 1 illustrates the skill similarity between two common jobs. We used skills data sponsored from the Department of Labor to determine the skills demonstrated on a job, and infer that a worker in that job has those skills. In this example, the retail salesperson is in an entry level, low wage job, which has significant skill overlap with the sales representative, a middle-wage job. The first role is overwhelmingly filled by STARs while the second has an overrepresentation of workers with bachelor's degrees. Given the similarity of skills across these two jobs, we could expect to see large numbers of retail salespeople transition to the higher wage sales representative role: in reality, we do. Yet, STARs do not make this transition with the same frequency as workers with a bachelor's degree.

The problem, therefore, is not a lack of soft skills among low-wage workers, but rather that these skills are underestimated and overlooked. Our analysis demonstrates that many low-wage jobs require key foundational skills critical to 21st-century jobs, such as service orientation, social perceptiveness, active listening, time management and interpersonal communication. These are skills that employers often cite as missing in their search for talent at many different wage-levels. We argue that the skills exist in the U.S. labor force, but that there is an opportunity gap which requires alternative approaches to talent acquisition and development are needed to unlock them.

**2. How would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?**

Higher education is a critical pathway to higher wages in the U.S. labor market as it always has been, and will continue to be. It should not, however, be the only pathway to higher

<sup>4</sup> Ibid.

wages and job mobility. A workforce ecosystem that supports workers to gain skills – from any pathway – and translate those learnings to earnings is critical to a resilient and innovative workforce ecosystem that will meet the needs of American businesses in the coming years. To meet the skilling needs of our workforce, we need more affordable access to college as well as alternative models that are efficient, flexible, and affordable.

**3. How can we begin, even before college, to foster collaboration between formal curriculum tracks and competencies, credentialing, and organizations like yours?**

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High school education fosters critical skills for all workers in the U.S. labor force but employers have limited understanding of those skills and young workers have even less information about how to leverage those skills for jobs that open economic opportunity. To help employers see these skills, and also effectively signal their needs to STARs and potential STARs, we need better data and better program models. Such improvements require a serious investment in our federal workforce data infrastructure as well as in alternative programming such as apprenticeship programs and credentialing bootcamps.

First, data infrastructure improvements are critical; all labor market participants need trustworthy, granular, timely, and accurate data on occupations, vacancies, unemployment, wages and skill needs longitudinally, and across geographies.

Our current official labor market data are trustworthy but have long lags and/or provide insufficient skill, occupational and geographic detail to guide many decisions. We could do much better by enhancing, combining, and analyzing data currently collected by the states for administering the Unemployment Insurance (UI) program. The Bureau of Labor Statistics (BLS) already collects employer-level UI data for the Quarterly Census of Employment and Wages. BLS and over 20 states have an effort underway to expand this capacity for processing worker-level records under the [Wage Records Program initiative](#).

BLS and the states need funding to speed up this effort and allow all states to participate. With these data collected and curated on an ongoing basis, BLS can provide more detailed and granular statistics and evaluators can produce better and faster studies of program impacts. Then workers and employers will have better data to guide their decisions, program officials will have better input for allocating their efforts, and policymakers will have better evidence about policy effectiveness and gaps that need to be addressed. Only with 21st century data can the country ensure that its institutions, policies, and programs efficiently

support a dynamic and equitable labor market in the 21st century.

Second, increased investments in alternatives to college can open broad opportunities to high school graduates. Take the example of apprenticeship programs, which have long offered employers a means to build a reliable pipeline of workers with specific job skills, but remain underutilized in the U.S. compared to other countries.

Apprenticeships offer paid, work-based skills development through hands-on, employer-directed training often supplemented with classroom instruction. They typically last one to six years and result in credentials or occupational certificates. Approximately 600,000 workers were enrolled in apprenticeship programs in 2021, a fraction of the nearly 11 million students attending bachelor's degree programs full-time, and the vast majority of these apprenticeships are in the trades. Apprenticeships have historically been a reliable route to good jobs for STARs and they are overwhelmingly used by STARs — in 2021, nearly nine out of 10 participants in registered apprenticeships were STARs.

When apprenticeships expand to new roles, STARs see new opportunities and, our analysis suggests, they take advantage of these openings. In original research conducted by O@W, and Lightcast, we found a significant expansion since 2010 in both, formal registered apprenticeships and informal ones across a wide range of job roles and industries. Specifically, we found sustained growth in apprenticeships for roles that currently pose hiring challenges for employers. Apprenticeships for high-volume jobs, like pharmacy technicians and sales representatives, have grown steadily over the past 10 years, as have apprenticeships for jobs that are relatively new to the labor market, like cybersecurity analyst, or require a unique skill set, like healthcare roles. Where we saw this growth, we also saw active participation by nontraditional candidates for these roles – particularly STARs, women, and workers of color. This growth suggests employers are reaping benefits from these investments and with further collaboration, can strengthen the opportunities for workers coming out of high school to achieve more job mobility.

**Questions for the Record from  
REPRESENTATIVE JOHN JAMES**

**Committee Hearing:  
“Competencies Over Degrees: Transitioning to a Skills-Based Economy”**

**June 22, 2023  
10:15 a.m.**

**Representative John James (R-MI)  
Questions for Dr. Karin Kimbrough**

1. My staff had the opportunity to touch base with Southeast Michigan Construction Academy (SEMCA), which services many constituents in my district like:
  - Eric Lesmeister from Warren – Enlisted in the Navy (but go Army) right after high school. He served for 12 years with 2 deployments. He is now an electrical level 3 student working for Power Solutions a Fraser based electrical company.
  - Anthony Brouckaert from Clinton Twp – A Second year electrical student. He works for Colville Electric an Eastpointe based electrical company. He loves the electrical field and believes he is on a successful career path.
  - Milad Al-Ton from Warren – A Second year electrical student who works at his family’s electrical company. He aspires to obtain his masters license and open his own company.

This is the American Dream. The ability to have a choice in your future, yet for too long, we thought getting indebted tens of thousands of dollars was going to lead greater and prosperous futures. In my district, the nation’s number 1 manufacturing powerhouse, we have a great deal of potential.

Dr. Kimbrough,

You and LinkedIn are uniquely positioned to understand workforce dynamics.

- a) Would you say our biggest hurdles is the status quo, and are we seeing low-income areas being disproportionately impacted by this?
- b) In purely layman’s terms, how do we make it cool to be a welder or an electrician?
- c) I would also like to know ways that Congress can help. How are we standing in our own way?

**LinkedIn Responses to Questions for the Record from  
REPRESENTATIVE JOHN JAMES**

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Dr. Kimbrough,

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- a) **Would you say our biggest hurdles is the status quo, and are we seeing low-income areas being disproportionately impacted by this?**

**Dr. Karin Kimbrough Answer:**

As we know, there is an incredible amount of talent in the United States. However, we need to change how we recognize it, so that we are not leaving workers with skills behind. When employers hire based on degrees, they miss out on half of the workforce. In particular, this locks out roughly three quarters of rural, Hispanic, and Black Americans who don’t currently hold a four-year degree. Our nation and our economy cannot afford such a system to continue.

A skills-first approach to hiring can address this gap, by vastly expanding the pool of qualified talent and democratizing access to jobs. Our research found that in the U.S.

the impact of shifting to a skills-first approach increases the number of qualified, eligible workers by nearly 20 times. With a skills-first approach, in jobs where women are particularly underrepresented, such as Technology and Construction, the proportion of women in the U.S. talent pool would increase 26% more than it would for men. We also found that younger workers are in the best position to take advantage of a skills-first future. In the U.S., the talent pool increases more than 18 times for Millennial workers, and more than 21 times for Gen Z workers.

We recognize the value of a college degree. It is a meaningful signal of competency and skills. However, we need to create multiple pathways to signal relevant talent and skills.

**b) In purely layman's terms, how do we make it cool to be a welder or an electrician?**

**Dr. Karin Kimbrough Answer:**

Welders, electricians, and other skilled trades professionals have jobs that are consistently in-demand, and these are careers that don't require years of schooling but still have flexible hours and provide higher pay. These are all important quality of work considerations and add to the "cool" factor, not to mention how these careers give workers in these industries a great deal of autonomy in how and when they choose to work. These skills-driven professions allow many workers to begin to build a career quickly without having to spend four years in school or take on debt. Because many of these jobs do pay hourly, there's a lot of potential for overtime, and workers have the ability to create their own schedules because of the flexibility of the roles.

While pay can vary, take a welder in the state of California, for example (a state where more salary data is available). With only 2 years of experience (sometimes less) and a high school diploma or GED, a welder can make anywhere from \$18-\$30+ dollars per hour – that means entry level workers can begin making \$50,000+ in their first job. Electricians can make between \$30-50 an hour depending on the job, and plumbers can make anywhere from \$17-\$85 per hour.

**c) I would also like to know ways that Congress can help. How are we standing in our own way?**

**Dr. Karin Kimbrough Answer:**

Congress should consider skills-first hiring as a central tenet of workforce development legislation such as WIOA reauthorization, which LinkedIn supports, along with encouraging and supporting public and private employers seeking to implement this approach; expanding ways for participants to validate their existing skills; helping far more individuals access programs to gain new skills that are most in demand – as identified by employers; and supporting improved data and transparency so there's a clear understanding of what these skills are and where they are best acquired. We also support short-term Pell Grants to expand pathways for more individuals to gain skills.

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**Dr. Karin Kimbrough Answer:**

One of our primary contributions at LinkedIn has been to help drive the shift toward skills-first hiring through our platform, tools, and insights. Internally, we have removed degree requirements from all of our jobs that do not have an explicit need (i.e., legal positions). And to ensure skills are at the forefront of our jobs, we now require that all current and future jobs include 3-5 “Suggested Skills.”

At LinkedIn, we think of skills-first hiring as focusing on a candidate's skills and abilities to do the job, and we are currently working on building this into our hiring wherever we can. We also know that soft skills, which are transferable between many jobs, will continue to be the most important even as we encounter new technologies now and in the future. Skills like Leadership, Teamwork, Negotiation, Problem-solving, People management, Relationship building, Creativity, and Emotional intelligence are highly sought after and needed most in today's economy.

- 2. How would you propose collaborating with leaders in higher education, particularly at large urban, public, minority-serving institutions, so that they benefit from some of your proposed models?**

**Dr. Karin Kimbrough Answer:**

We need to make sure that community colleges and other institutions of higher education are aware of the skills required for today's in-demand jobs. That way they can ensure their curricula is informed by industry demands, thereby helping students develop those skills and competencies through classroom time and on-the-job learning. Leveraging public-private partnerships that highlight timely labor market information (LMI) is critical (LinkedIn has shared LMI with higher education institutions).

Colleges and universities also use LinkedIn Learning to complement classroom education, particularly with career services offices focused on ensuring students are prepared to look for jobs and are familiar with the skills and concepts that employers look for in their new hires.

Finally, these organizations also need to work with employers and students to make sure students complete their credential, having clearly demonstrated the skills they developed. We should make sure that students leave with an industry-recognized credential, such as a certification or skills verification, etc., as further validation of their skills development.

**3. How can we begin, even before college, to foster collaboration between formal curriculum tracks and competencies, credentialing, and organizations like yours?**

**Dr. Karin Kimbrough Answer:**

We recommend policymakers, business leaders, and communities work together to help to accelerate the shift to skills-first hiring. This includes urging the expanded use of skills-first hiring in government jobs; developing public-private efforts around skills-first strategies; funding public efforts to ensure education and workforce programs are teaching the skills required by employers; and including funding for programs to support current workers whose jobs are most at risk due to changing skill demands.

Signing into law the bipartisan Chance to Compete Act, which LinkedIn supports, would be another good step as is promoting skills-first hiring as part of the reauthorization of WIOA.

The need is clear: In the US, nearly 70% of jobs require a bachelor's degree but only 37% of the workforce has one. And the benefits are equally as clear – a skills-first approach adds up to nearly 20 times more eligible workers to employer talent pools. The good news is that progress is being made – roughly one in five job postings in the US no longer require degrees, up from 15% in 2021. In the last year, more than 45% of hirers on LinkedIn explicitly used skills data to fill their roles, up 12% year over year.

My own experience with my 5,000 Role Models program has shown that we cannot wait until students reach higher education.

[Whereupon at 1:06 p.m., the Committee was adjourned.]

