Featuring 21 chapters authored by leading policymakers and practitioners, *Workforce Realigned, Vol. II* showcases a variety of outcomes-driven initiatives from across the United States that enhance opportunities for workers while addressing the talent demands of the 21st-century economy.

"The United States needs an actionable, bipartisan strategy to create economic opportunity for all Americans and ensure our nation remains competitive. Workforce Realigned, Volume II *offers a wide range of innovative solutions that expand access to and financing for workforce training and services. These models have the ability to meet the needs of employers and workers and can serve as a vital resource for policymakers."*

FORMER GOVERNORS BILL HASLAM (R-TN) AND DEVAL PATRICK (D-MA), CO-CHAIRS, COMMISSION ON THE AMERICAN WORKFORCE, BIPARTISAN POLICY CENTER

"In an era of declining economic mobility, it's critical to rethink our talent development systems to reopen pathways to the middle class. This second volume of Workforce Realigned *furthers this conversation with innovative ideas from a variety of leading thinkers – policymakers, employers, philanthropists, education, and training leaders – all working to build smarter, more accountable partnerships that place worker outcomes at the center."*

RAJ CHETTY, PROFESSOR OF ECONOMICS AND DIRECTOR OF OPPORTUNITY INSIGHTS, HARVARD UNIVERSITY

A collaboration of

Federal Reserve Bank of Atlanta

Federal Reserve Bank of Chicago

Federal Reserve Bank of Philadelphia

Federal Reserve Bank of Richmond

SOCIAL FINANCE INSTITUTE

workforcerealigned.org

ISBN 979-8-218-72338-5
90000>
9 798218 723385

WORKFORCE ***REALIGNED*** VOLUME TWO New Incentives for Improving Workforce Outcomes

WORKFORCE REALIGNED

VOLUME TWO

New Incentives for Improving Workforce Outcomes

Federal Reserve Bank of Atlanta

Federal Reserve Bank of Chicago

Federal Reserve Bank of Philadelphia

Federal Reserve Bank of Richmond

SOCIAL FINANCE INSTITUTE

WORKFORCE REALIGNED

VOLUME TWO

New Incentives for Improving Workforce Outcomes

ISBN: 979-8-218-72338-5

TABLE OF CONTENTS

REPAYMENT MODELS TO RECYCLE CAPITAL

OUTCOMES FUNDS & PAY FOR SUCCESS

COMMUNITY & TECHNICAL COLLEGE INNOVATION

TRENDS & OPPORTUNITIES

ACKNOWLEDGEMENTS

Workforce Realigned, Vol. II was made possible by the collaborative efforts of the Social Finance Institute and the Federal Reserve Banks of Atlanta, Chicago, Richmond, and Philadelphia. Our institutions are grateful for the leadership of Tom Barkin (Richmond Fed), Raphael Bostic (Atlanta Fed), Austan Goolsbee (Chicago Fed), Patrick Harker (Philadelphia Fed), and Tracy Palandjian (Social Finance).

Under the editorial leadership of Meg Massey (Social Finance Institute), this volume was shaped and developed by a working group comprised of leaders from the five collaborating organizations: Karen Anderson (Social Finance Institute), Kristen Broady (Chicago Fed), Emily Corcoran (Richmond Fed), Maia Cotelo (Richmond Fed), Tiffani M. Horton (Atlanta Fed), Sarah Miller (Atlanta Fed), Ashley Putnam (Philadelphia Fed), and David J. Socolow (Social Finance Institute).

Each chapter in *Workforce Realigned, Vol. II* underwent thoughtful and rigorous review by relevant experts from both within and outside our institutions. For their investments of time and expertise in the review process, we would like to thank Nadine Abraham (Social Finance), Jeremy Avins (Arnold Ventures), Justin Bakule (Social Finance), Naomi Boyer (Ed Design Lab), Edna Cadmus (New Jersey Collaborating Center for Nursing), Danielle Charpentier (Social Finance), Andrew Chen (Social Finance), Scott Cheney (Credential Engine), Brittany Corde (Ascendium Education Group), Molly Dawson (Social Finance), Karen Drenkard (American Organization for Nursing Leadership), Jake Edwards (Social Finance), Ari Gandolfo (Bridgespan Partners), Annelies Goger (Brookings), Leah Greenberg (Social Finance), Todd Greene (Urban Institute/WorkRise), Kirstin Hill (Social Finance), Harry Holzer (Georgetown University), Hydie Hudson (Social Finance), Amber Ivey (Social Finance), Hanna Jamal (Social Finance), Betony Jones (former US Department of Energy), Mary Alice McCarthy (New America Foundation), Heather McKay (Strada Education Foundation), Stephanie Norris (Richmond Fed), Ethan Pollack (Jobs for the Future), Jack Porter (National Governors Association), Sooah Rho (Yale Center for Social Impact), Jake Segal (Social Finance), Meredith Segal (Social Finance), Paige Shevlin (former US Department of Transportation), Jason Tyszko (US Chamber of Commerce Foundation), Laura Ullrich (Richmond Fed), and Kirstin Yeado (Ascendium Education Group).

We would like to thank our communications and public affairs teams for their invaluable support in reviewing and editing each chapter. We are also grateful to Joan Gieseke, Eric Hernandez, Michael O'Donnell, Ryan Reynolds, and Susan Samuelson for their contributions to the layout and design of *Workforce Realigned, Vol. II* and its associated collateral.

WORKING GROUP MEMBERS

Karen Anderson
Managing Director, Social Finance Institute

Kristen Broady
Director of the Economic Mobility Project, Federal Reserve Bank of Chicago

Emily Wavering Corcoran
Senior Manager of Regional and Community Analysis, Federal Reserve Bank of Richmond

Maia Cotelo
Executive Speechwriter and Content Strategist, Federal Reserve Bank of Richmond

Tiffani M. Horton
Senior Adviser for Community & Economic Development, Federal Reserve Bank of Atlanta

Meg Massey
Director of Policy & Communications, Social Finance Institute

Sarah Miller
Director & Principal Adviser, Federal Reserve Bank of Atlanta

Ashley Putnam
Director of the Economic Growth & Mobility Project, Federal Reserve Bank of Philadelphia

David J. Socolow
Head of Policy, Social Finance Institute

FOREWORD

/ **TOM BARKIN** FEDERAL RESERVE BANK OF RICHMOND
RAPHAEL BOSTIC FEDERAL RESERVE BANK OF ATLANTA
AUSTAN GOOLSBEE FEDERAL RESERVE BANK OF CHICAGO
PATRICK HARKER FEDERAL RESERVE BANK OF PHILADELPHIA
TRACY PALANDJIAN SOCIAL FINANCE

The first volume of *Workforce Realigned* came out a year into the COVID-19 pandemic. Along with its devasting health impact, we witnessed an unprecedented economic disruption. In the United States alone, more than 20 million people lost their jobs. The sense of urgency at that time was undeniable. The emergency demanded a swift economic recovery that would bring workers off the sidelines and ensure no one would be left behind.

The crisis has since passed, but the appetite for rethinking workforce development has not.

The labor shortage of 2021 gave us a sense of what a true imbalance in the labor market feels like. In the context of our aging workforce, this glimpse at a world where labor demand far outpaced labor supply underlined the importance of a robust, strategic workforce development pipeline. As a result, many actors in our communities — including governments, employers, and non-profits — are recommitting themselves to investing in skills training that will strengthen our economy and benefit employers and workers alike.

The remarkable labor recovery that followed the pandemic serves as a hopeful reminder that with the right conditions in place, we are capable of meaningfully bolstering our labor supply and connecting workers with jobs.

Understanding what works, and what does not, will help identify which investments will deliver the most impact. It is in this context that we share the second volume of *Workforce Realigned,* which builds on lessons from the first volume, detailing the next generation of shared accountability models for workforce development.

This second volume of *Workforce Realigned* showcases a varied collection of outcomes-driven initiatives that enhance opportunities for workers while addressing our economy's talent demands. These initiatives stand out for tackling challenges that arise when workforce development efforts are pursued in isolation by each actor — training providers, governments, and employers, among others. By breaking down silos, these initiatives realign incentives and redistribute financial risk.

Aligning incentives with outcomes is not an unattainable goal for workforce development in the United States. The 21 case studies in this volume point the way to success: early leaders are laying a foundation, showing us what works and what needs work; ongoing innovations are pushing us forward, testing new ways to structure and fund initiatives; and new trends and opportunities inform and inspire us, helping chart the path to the future as we seek to create an economy that works for everyone amid emerging challenges.

There is widespread buy-in for investment in our future workforce. But to know where to invest, we need to know what works. And to know what works, we need to focus on outcomes.

Tom Barkin is President and CEO of the Federal Reserve Bank of Richmond.

Raphael Bostic is President and CEO of the Federal Reserve Bank of Atlanta.

Austan Goolsbee is President and CEO of the Federal Reserve Bank of Chicago.

Patrick Harker served as President and CEO of the Federal Reserve Bank of Philadelphia from July 1, 2015 to June 30, 2025.

Tracy Palandjian is CEO and Co-Founder of Social Finance, a national nonprofit and registered investment advisor.

INTRODUCTION

/ **KAREN ANDERSON, KRISTEN BROADY, EMILY CORCORAN, MAIA COTELO, TIFFANI M. HORTON, MEG MASSEY, SARAH MILLER, ASHLEY PUTNAM, AND DAVID J. SOCOLOW**
WORKFORCE REALIGNED WORKING GROUP

To create a strong economy that works for everyone, we must invest in a robust, productive workforce. What should that investment look like? This book does not seek to prescribe a specific path forward for the workforce development space; however, it does aim to elevate promising approaches that focus on outcomes — approaches that strive to deliver better value for workers, training providers, employers, and governments.

Too often, actors in the workforce development space operate in silos. Workers, either on their own or with the support of training providers or governments, invest time and money into upskilling that may not lead to concrete, tangible jobs with meaningful wage increases. At the same time, employers invest their time and money into recruiting and retaining skilled talent from a talent pool that remains in too-short supply. Investments are made, but the gap between available skilled workers and available jobs remains.

The rapid pace of change in the 21st century threatens to exacerbate this gap. In-demand sectors and relevant jobs will change, as will the specific skills needed to fulfill them. More than ever, the workforce development space will need to be agile, ready to adjust and ensure workers do not gamble on a future that will soon be obsolete.

The chapters in this book profile outcomes-driven initiatives that seek to enhance opportunities for workers while addressing the talent demands of the evolving economy. By breaking down silos through coordination and shared accountability, these initiatives redistribute risk and put outcomes front and center.

One model that is regaining steam is actually older than the republic itself: apprenticeships. Apprenticeships tackle the disconnect between labor supply and labor demand by connecting the two sides directly, ensuring workers get the specific training employers seek. In **"Can Pay for Success Scale Apprenticeships in the U.S.?"**, authors John Colborn, Harry Leech, and Deniz Nemli of Apprenticeships for America look at how other advanced economies, along with some U.S. states, have set up outcomes-based public support to increase the number of private-sector apprenticeship opportunities.

Rural LISC's Julianne Dunn explores how apprenticeships can offer a practical solution for rural communities in **"Smoothing the Path to a Family-Sustaining Career: Supporting Apprenticeships in Rural America."** She shares how Rural LISC developed a ready-to-use apprenticeship toolkit to help stand up new programs in the Mississippi Delta, and outlines ways to adapt the model for other rural areas.

It's not always about bringing new workers in the door, but about helping employees upskill. AARP Foundation president Claire Casey speaks to this in **"A Promising Model of Financial Risk-Sharing: The AARP Foundation Upskilling Initiative."** The AARP program enabled small and medium-sized enterprises to upskill low-income older workers; they reimbursed businesses for the cost of training in exchange for a guaranteed wage increase for participating workers.

Intermediaries can help connect workers and jobs. Achieve Partners' Ryan Craig and Jeremy Bernard-Sasges make the case in **"The Hire-Train-Deploy Model: Rethinking Entry-Level Workforce Development in the Age of AI"** that the rise of artificial intelligence (AI) demands better on-the-job training options for entry-level workers, and that hire-train-deploy firms are well-positioned to facilitate that training and shoulder some of the inherent risk. In **"Building a Self-Sustaining Staffing Agency for the Social Sector,"** First Step Staffing CEO Amelia Nickerson shares how the nonprofit social enterprise provides formerly unhoused or incarcerated individuals with training and supportive wraparound services and helps place them in jobs.

Pooling capital into an outcomes fund is one way to pay for both wraparound supports and training opportunities in a way that shares risk among stakeholders. In **"Innovative Financing for Infrastructure and Energy Job Training,"** Brookings Metro senior fellow Xavier de Souza Briggs and Social Finance CEO Tracy Palandjian examine how this outcomes-based model – sometimes referred to in the workforce context as "talent finance" – could be used to finance training for middle-skill occupations in industries poised for growth.

Several other chapters highlight outcomes-based repayment solutions that stretch funding to train more workers through shared accountability for financing and results. Consider the ReNEW Fund, which Western Governors University (WGU) president Scott Pulsipher and Central Health's Jeannie Virden delineate in **"The ReNEW Fund: Building and Sustaining a Talent Pipeline for Nurses."** This initiative targets the high post-COVID rates of nursing turnover by helping WGU nursing students complete the last two years of their Bachelor of Science-Nursing (BSN) degree program; if they commit to a minimum term of employment with a participating employer that pays into the fund, graduates do not have to repay their loans.

Grow with Google founder Lisa Gevelber explains in **"The Google Career Certificates Fund: Investing in the Next Generation of Tech Workers"** how Google is using its role as a leader in the private sector to help disadvantaged workers receive necessary training for in-demand technology fields through zero-interest loans, as well as wraparound services to support them as they upskill. In **"Paying It Forward in New Jersey: Designing and Implementing a New Fund for Talent Development,"** Tara Colton, chief economic security officer at the New Jersey Economic Development Authority, explains how New Jersey leveraged a zero-interest loan model with income-based payment terms, living cost stipends throughout training, and other wraparound supports to bolster the talent pipeline for the state's critical sectors.

Solutions that blend public and private capital to address barriers to workforce development are a prime example of outcomes funds in practice. Sir Ronald Cohen's updated chapter on **"The Promise of Outcomes Funds for Economic Mobility"** lays the foundation for establishing such funds. The federal government has pursued a number of policies intended to align incentives with outcomes. Former House Speaker Paul Ryan offers a brief history of these policies in **"Buying Outcomes: Lessons from the Past."**

States are also taking an outcomes-based approach with an emphasis on shared accountability by tying some public payments to agreed-upon metrics for success. Connecticut's Office of Early Childhood (OEC) developed rate cards, which are a set of metrics laying out desired outcomes and specifying how providers can earn a payment for each achievement. As OEC Commissioner Beth Bye shares in **"Strengthening Families' Economic Wellbeing: Lessons from Connecticut's Outcomes Rate Card,"** this shift from outputs to outcomes transformed the conversation among government and service providers about how to best support families. Additional case studies for this model can be found in **"Governing for Results: Case Studies from Massachusetts"** and **"A Good Job at the End of Training: Rhode Island's Outcomes-Focused Approach to Workforce Development."** One common thread among many of the profiled models is the importance of building on demonstrated results. **"Employer Pay-for-Success: Taking the Risk Out of Workforce Partnerships in Philadelphia,"** authored by the Philadelphia Federal Reserve Bank's Ashley Putnam, Philadelphia Works' Tyrone Hampton, Jr., and Skills Initiative's Cait Garozzo, describes a partnership led by the Skills Initiative in which employers reimburse training costs for individuals they hire and retain through a pay-for-success partnership with employers in the Life Sciences industry. The partnership is expanding an earlier pay-for-success partnership Philadelphia Works piloted to include new employers in the biotech sector.

One place where we are seeing considerable innovation at the state level is in the technical and community college space. In **"Subsidizing Success, Not Enrollment: The Texas State Technical College Funding Model,"** senior vice chancellor Michael Bettersworth looks at the economic impact of this first-in-the-nation outcomes-based funding formula, which ties 100 percent of TSTC's state funding to the number of its students obtaining good-paying jobs. The initiative has focused TSTC on delivering programs of study that lead to significantly increased wages. **"FastForwardVA: Connecting Workers, Employers, and Skills,"** authored by Virginia Community College System (VCCS) chancellor David Doré, shows how VCCS's outcomes-based program enables adult learners to increase their income by obtaining "middle-skill" credentials in high-growth sectors. The program ties what students pay for these short-term non-degree credentials to their employment outcomes and links the colleges' state funding to student success. In **"Improving Outcomes (Measurement): A New Survey of Community College Success,"** the Richmond Federal Reserve Bank's Tom Barkin and Laura Ullrich highlight the crucial role of these institutions in closing the skilled trades gap and emphasize the importance of measuring their success with tailored metrics that reflect their student bodies and contributions.

Tackling non-skill barriers to training and work can be just as crucial as the training itself. If workers cannot secure child care or transportation, or if they are preoccupied with securing basic needs for their family, their focus and success in training programs is likely to be worse. In **"Paths to Providing Supports for Women's Participation in Workforce Development Programs,"** Kate Bahn provides an overview of wraparound support services that can be tailored to support specific workforce development participants' needs.

"Worker and Learner Perspectives: Insights from Participants in Outcomes-Based Training Programs," authored by the Atlanta Federal Reserve Bank's Tiffani M. Horton and Sarah Miller, supports such investments. They argue feedback from participants based on their first-hand lived experience can yield key insights that others might miss, making it essential to program improvement. One of their key takeaways? For most people, additional support – whether for childcare, reliable transportation, or simply access to resources in an emergency – is critical to successfully completing a training or upskilling program.

In her chapter **"Human Capital, Automation, and Artificial Intelligence: Post-COVID-19 Integration,"** Federal Reserve Bank of Chicago senior economist Kristen Broady makes the case for training programs to increase their focus on aspects of work that require human emotional intelligence.

The concept of iterative learning, where we learn from prior attempts, from lessons learned, and from demonstrated successes, is at the heart of this book. Meeting the workforce challenge is daunting, but innovation is underway. And crucially, this innovation, as you'll see throughout the book, is centered around outcomes: what works and what doesn't.

Karen Anderson is Managing Director of the Social Finance Institute.

Kristen Broady is a Senior Economist, Economic Adviser, and Director of the Economic Mobility Project at the Federal Reserve Bank of Chicago.

Emily Wavering Corcoran is Senior Manager of Regional and Community Analysis at the Federal Reserve Bank of Richmond.

Maia Cotelo is Executive Speechwriter and Content Strategist at the Federal Reserve Bank of Richmond.

Tiffani M. Horton is a Senior Adviser for Community and Economic Development at the Federal Reserve Bank of Atlanta.

Meg Massey is the Director of Policy and Communications at the Social Finance Institute.

Sarah Miller is a Director and Principal Adviser for Community and Economic Development at the Federal Reserve Bank of Atlanta..

Ashley Putnam is the Director of the Economic Growth & Mobility Project (EGMP), a strategic initiative of the Federal Reserve Bank of Philadelphia.

David J. Socolow is Head of Policy at the Social Finance Institute.

1

CAN PAY FOR SUCCESS SCALE APPRENTICESHIPS IN THE U.S.?

/ JOHN COLBORN, HARRY LEECH, AND DENIZ NEMLI
APPRENTICESHIPS FOR AMERICA

In this chapter, we propose an examination of pay for success proposals for expanded funding of U.S. apprenticeships. After a brief review of the apprenticeship model, we review the U.S. context for apprenticeship, including the relatively low levels of public funding for apprenticeship when compared with other countries where apprenticeship is much more prevalent. We then look at apprenticeship funding systems in England, France, and Australia for insights into the design of an effective public investment effort. We also look at U.S. experimentation with pay for success models, with a special focus on California's Apprenticeship Innovation Fund. Finally, we conclude with a look at prospects for a national pay-for-success funding model for apprenticeships, including considerations for design and implementation in this unique context.

INTRODUCTION

Apprenticeship in the United States is having a moment. For years a niche workforce development strategy almost exclusively limited to the construction trades, apprenticeship over the last 10 years has seen both growth and diversification. Apprenticeships have sprouted up in new occupations, engaged a range of institutions from business trade groups to community colleges, and captured the discourse of policymakers looking for alternatives to an increasingly unpopular and unaffordable "college for all" prescription. Public perceptions of apprenticeship are also changing, with employers, workers, students, and job seekers expressing more interest in apprenticeship opportunities.

> **Apprenticeships have sprouted up in new occupations, have engaged a range of institutions from business trade groups to community colleges, and have captured the discourse of policymakers looking for alternatives to an increasingly unpopular and unaffordable 'college for all' prescription.**

Apprenticeship is getting a second look for a good reason. It is a powerful work-based, earn-and-learn training model, and the numbers prove apprenticeships work: On average, apprentices earn around 50% more a year after completing the apprenticeship compared to the year before.[1] Graduates of registered apprenticeship programs earn an estimated $301,533 more than comparable peers across a career, including wages and benefits.[2] Businesses benefit too: Canadian research suggests that businesses benefit an average of $1.47 returned for every dollar invested through increased productivity.[3] The majority of Swiss businesses report a net benefit from training apprentices.[4] In England, employers receive a net benefit of £2,496 during training.[5]

As a real job with benefits and no costs to the learner, apprenticeships reduce barriers to access for underserved populations. As a training program designed by and for employers, apprenticeships bridge the gap between education and the workforce, and ensure individuals receive training in the skills employers need. And apprenticeship seems to be purpose-built to respond to many emerging dynamics in contemporary labor markets. See chapter 4 of this volume, "AI and the Return of Apprenticeships: Using The Hire-Train-Deploy Model: Rethinking Entry-Level Workforce Development in the Age of AI."

---

1 Douglas Walton, Karen N. Gardiner, and Burt Barnow, "Expanding Apprenticeship to New Sectors and Populations: The Experiences and Outcomes of Apprentices in the American Apprenticeship Initiative," prepared for the U.S. Department of Labor, Employment and Training Administration, Abt Associates, August 2022, https://www.dol.gov/sites/dolgov/files/ETA/publications/ETAOP2022-35_AAI_Outcomes_Final_Report_508_9-2022.pdf.

2 Debbie Reed et al., "An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States: Final Report," prepared for the U.S. Department of Labor, Employment and Training Administration, Mathematica Policy Research, July 25, 2012, https://mathematica.org/publications/an-effectiveness-assessment-and-costbenefit-analysis-of-registered-apprenticeship-in-10-states.

3 Canadian Apprenticeship Forum – Forum canadien sur l'apprentissage (CAF-FCA), "It Pays to Hire an Apprentice: Calculating the Return on Training Investment for Skilled Trades Employers in Canada," June 2009, https://www.nsapprenticeship.ca/sites/default/files/files/CAF-pays.pdf.

4 Alexander Gehret, Manuel Aepli, Andreas Kuhn, and Jürg Schweri, "Lohnt sich die Lehrlingsausbildung für die Betriebe? Resultate der vierten Kosten-Nutzen-Erhebung," Eidgenössisches Hochschulinstitut für Berufsbildung, November 2019, https://www.ehb.swiss/sites/default/files/obs_ehb_bericht_kosten-nutzen.pdf.

5 St Martin's Group, "The Real Costs and Benefits of Apprenticeships," September 2021, https://stmartinsgroup.org/wp-content/uploads/2021/09/The-St-Martins-Group_The-Real-Costs-and-Benefits-ofApprenticeships.pdf.

/ **FIGURE 1** /

COMPARISON OF INTERNATIONAL APPRENTICESHIP LEVELS

Country	Active Apprentices	Labor Force	Apprentices % of labor force
United States	560,000[1]	168,550,000[2]	0.33%
Scotland	39,000[3]	2,656,000[4]	1.47%
Austria*	108,000[5]	4,797,000[6]	2.27%
Canada*	459,000[7]	21,164,000[8]	2.11%
Australia	352,000[9]	14,522,000[10]	2.42%
England	767,000[11]	28,913,000[12]	2.65%
Germany*	1,217,000[13]	45,883,000[14]	2.65%
France	1,036,000[15]	31,647,000[16]	3.27%
Switzerland*	210,000[17]	5,355,000[18]	3.92%

Note: Asterisk (*) indicates data is from 2023; all other data is from 2024.

1 https://www.apprenticeship.gov/data-and-statistics/apprentices-by-state-dashboard

2 https://www.bls.gov/webapps/legacy/cpsatab1.htm

3 https://www.skillsdevelopmentscotland.co.uk/media/1hiip1pm/modern-apprenticeship-statistics-quarter-4-2023-24.pdf

4 https://www.gov.scot/publications/scotlands-labour-market-insights-april-2024/pages/people-in-work/

5 https://www.wko.at/statistik/jahrbuch/2024-c16.pdf

6 https://tradingeconomics.com/austria/labor-force-total-wb-data.html#:~:text=Labor%20force%2C%20total%20in%20Austria,compiled%20from%20officially%20recognized%20sources.

7 https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710021901

8 https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028703&pickMembers%5B0%5D=3.1&pickMembers%5B1%5D=4.1&cubeTimeFrame.startMonth=12&cubeTimeFrame.startYear=2023&referencePeriods=20231201%2C20231201

9 https://www.ncver.edu.au/research-and-statistics/data/databuilder#

10 https://www.abs.gov.au/statistics/labour/employment-and-unemployment/labour-force-australia/latest-release

11 https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships/2024-25

12 https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/headlinelabourforcesurveyindicatorsforallregionshi00

13 https://www-genesis.destatis.de/datenbank/online/statistic/21211/table/21211-0001

14 https://www.destatis.de/EN/Themes/Economy/Short-Term-Indicators/Labour-Market/karb811_x13a.html

15 https://poem.travail-emploi.gouv.fr/synthese/contrats-d-apprentissage

16 https://tradingeconomics.com/france/labor-force-total-wb-data.html

17 https://www.bfs.admin.ch/bfs/en/home/statistics/education-science/pupils-students/upper-secondary/vocational-training-apprenticeships.html

18 https://www.bfs.admin.ch/bfs/en/home/statistics/work-income/employment-working-hours/economically-active-population/labour-market-status.html

Yet the U.S. lags behind the levels of apprenticeship seen in other countries. Even ignoring the apprenticeship powerhouses of Germany and Switzerland, apprentices are a far lower share of the U.S. labor force relative to many developed economies, including several where national policy has only recently embraced the practice. While the raw number of apprentices isn't dramatically different country to country, the difference is dramatic in comparison to the size of their labor force. The U.S. has just under half as many apprentices as a proportion of the labor force as in Scotland, the second-lowest performer.

The countries listed in Figure 1 invest far more in their apprenticeship efforts. On an adjusted per capita level, France spends almost 200 times more .more than the United States. England and Canada spend spend 60 and 20 times more, respectively, and Australia spends 250 times more. Making a deeper investment in apprenticeship is central to growing apprenticeship in the United States. But what form should this investment take?

In this chapter, we explore the application of a pay for success investment model to apprenticeship. We'll look at how such models have been implemented internationally and (to a much more limited degree) in the states. We'll outline a proposal for a pay for success model. And we'll describe the impact such a model could have on apprenticeship and talent development practices in the United States.

APPRENTICESHIP IN THE UNITED STATES: AN OVERVIEW

Apprenticeship is hardly new; its modern practice dates back to 1937 when the U.S. passed the National Apprenticeship Act, which forms the basis of the system we use today. Informal apprenticeship predates the founding of the country. Famously, George Washington (surveyor), Paul Revere (silversmith), and Benjamin Franklin (printer) were apprentices.

Apprenticeship is understood to embody four elements. First, it is a job expected to continue beyond the term of the apprenticeship.

Second, it combines on-the-job and classroom or other instruction to develop specified skills and abilities to make an apprentice fully productive in their role. Third, it involves a mentorship, ensuring that apprentices have workplace-based coaching. And finally, it entails graduated wages where apprentices start at a rate less than their fully productive peers and work their way up to a market wage for the occupation.

A public funding stream directly tied to hiring and retention of apprentices would be a game changer in the United States. In addition to offering substantially more funding, such a model offers the prospect of reliable and stable funding to attract investment in apprenticeship practices and the infrastructure of organizations and arrangements to scale apprenticeship.

While once largely limited to the construction trades, other occupations have also seen significant growth. A growing one-third of all apprentices are now in nontrades occupations that include health care, education, business services, engineering, technology, manufacturing, and other sectors.

Official recognition of an apprenticeship program comes in the form of registration, which can happen federally or through a network of state apprenticeship offices. Apprentices who complete the term of a registered apprenticeship receive a credential from the U.S. Department of Labor.

The United States offers many varieties of apprenticeship. While individual employers may register their own apprenticeship program limited to their employees, most apprentices work under multiemployer apprenticeships that bring together employers for a commonly agreed set of competencies and training plans. These group efforts can involve a union that jointly sponsors the apprenticeship but can also be sponsored by a range of other institutions, including trade groups, community colleges, nonprofit organizations, staffing agencies, and others. According to data from the U.S. Department of Labor, 45% of currently active apprentices are union members. Historically, apprenticeships have been time based with stated expectations for hours of classroom and work, but many apprenticeship programs now use competency models. Apprenticeship is available to anyone age 16 and up, and some programs specialize in apprenticeship programs serving younger people. These programs may be school based or operate outside of schools.

U.S. CONTEXT AND FUNDING ENVIRONMENT

Apprenticeships are underutilized in the U.S. for three main reasons: A lack of awareness and understanding, a complex and underscaled administrative system, and low levels of funding and incentivization. Until recently, federal appropriations for apprenticeship were limited to support for the registration function. Apprenticeship had almost no public funding. Starting with the Obama administration and continuing through the Trump and Biden administrations, federal outlays have grown. Today, about $300 million is annually appropriated for the support of apprenticeship. These funds are distributed in two ways: Funds are down-streamed to states in support of state systems and projects, and funds are awarded directly through competitive grants to apprenticeship programs and organizations working to expand apprenticeship.

As described below, state appropriations for apprenticeships have likewise historically been limited but are growing modestly. States have made funding available to community colleges and secondary schools for work on apprenticeship and youth apprenticeship. Many states have tax credit incentives for employers hiring apprentices. And a few states are appropriating small amounts to operate grant programs to support apprenticeship efforts.

Public support for traditional college postsecondary pathways dwarfs these amounts, with college pathways receiving $1,000 in federal and state funding for every dollar spent on apprenticeship.[6] Traditional college students receive $50 for every dollar benefiting an apprentice.[7]

Importantly, one other source of public support comes in the form of industrial policy. Apprenticeship's growth in the construction sector is in no small part the result of the federal Davis-Bacon Act of 1931, which sets forth expectations for wages and working conditions for construction projects using federal funding. Davis-Bacon has had the impact of creating industry norms for much of the construction industry and includes provisions for paying less than prevailing wages to apprentices. More recently, the Inflation Reduction Act and the CHIPS and Science Act advanced a range of workforce development objectives through direct funding as well as through tax incentives and funding requirements for industry beneficiaries, including the use of apprenticeship in projects supported through these efforts.

Notwithstanding the gains of the last decade, a myriad of problems — the small amounts involved, the patchwork nature of U.S. support for apprenticeship, the limited duration of most funding, and idiosyncratic distribution mechanisms — separate the U.S. funding mechanisms from those in countries that have more substantially grown their share of apprenticeships in the labor force. As a result, the U.S. lacks a vibrant ecosystem of organizations acting as solutions providers and enablers of apprenticeship, a critical condition to scaling up the practice.

---

6 Urban Institute, "Higher Education Expenditures," n.d., https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/higher-education-expenditures.

7 Ryan Craig, *Apprentice Nation: How the "Earn and Learn" Alternative to Higher Education Will Create a Stronger and Fairer America* (Dallas, TX: BenBella Books, 2023).

A public funding stream directly tied to hiring and retention of apprentices would be a game changer in the United States. In addition to offering substantially more funding, such a model offers the prospect of reliable and stable funding to attract investment in apprenticeship practices and the infrastructure of organizations and arrangements to scale apprenticeship. Based on the experience of other countries, we estimate that such a funding approach would lead to an eightfold increase in apprenticeship.

PAY FOR SUCCESS AND APPRENTICESHIP

Applying pay-for-success models to apprenticeship can be complicated by nomenclature, definitions of success, and the practicalities of these innovative funding arrangements.

In a recent report by the U.S. Department of Labor on pay for success and apprenticeship, the department noted the many forms pay for success (PFS) has taken:

> *In one definition, PFS is seen as a performance-based contracting tool, where payments to service providers hinge on meeting predetermined benchmarks. Another definition focuses on public-private collaboration, with private sector investors taking on financial risks that governments traditionally hold. In yet another view, PFS emphasizes the social impact bond (SIB) model, which involves direct investments by private or nonprofit entities in social programs, with repayment contingent on third party-verified success metrics.*[8]

In the end, the department found none of these definitions satisfactory or workable and instead focused on an outcomes-based contracting approach to create financial incentives for increasing apprenticeships.

Defining success. The ultimate goal of an apprenticeship is, for the employer, the development of productive employees and, for the apprentice, securing a career in a high-paying occupation. These are critical aspects of the social value of apprenticeship: the enhanced lifetime earnings of the apprentice as their wages rise to the market-rate salary for a fully skilled employee in their occupation, the economic development impact of a productive employee, and all the social goods that stem from these outcomes. However, for the purposes of an incentive funding model, the timing and measurement of such long-term outcomes pose practical challenges. Instead, most public funding models that encourage apprenticeship tie payments to intermediary (but no less valuable) milestones achieved during the term of the apprenticeship.

---

8 U.S. Department of Labor Employment and Training Administration, "ETA Report: Pay-for-Success Feasibility Study for Registered Apprenticeships — October 23, 2024," November 15, 2024, https://apprenticeshipsforamerica.org/resources/advocacy-resources/24/eta-report-pay-for-success-feasibility-study-for-registered-apprenticeships-october-23-2024.

Apprenticeship requires a different form of incentive funding design because it starts where most workforce programs end: with a job. For many workforce development pay-for-success models, placement in a job comes after weeks, months, or even years of education, training, and other workplace preparation activities. Job placement constitutes one of the most important success events that might generate an outcomes-based payment. On the other hand, apprenticeships do not begin until the worker is hired. Paying for a result that occurs on day 1 may seem counterintuitive, but herein lies the strength of the apprenticeship model: It front-loads many of the success-creating activities of recruiting and organizing employers and subsequently ensuring a structure for training and employment success (which involves real costs).

Funding model design. Finally, even once the success events are fully defined, key details must be addressed if a pay- for-success program is to be successful in the apprenticeship context. Seemingly simple issues such as who receives the payment are nontrivial in an apprenticeship system where the sponsor of record, the apprentice's employer, and the organization that incurred the costs of planning and launching the apprenticeship may each be a different entity.

> **Scaling apprenticeships in the U.S. is no longer a controversial goal. Few have a quarrel with widening routes to rewarding careers by emphasizing learning by doing, earning while learning, and attaining high skills while contributing to production.**

For the purposes of this chapter, we define apprenticeship pay-for-success as a public funding mechanism that pays a *fixed rate per apprentice* upon the satisfaction of one or more *milestones*, such as hiring at the start of an apprenticeship, employer retention of an apprentice for a defined time period, and the worker's completion of the apprenticeship and receipt of enhanced wages. Ideally, such funding would be available to all-comers and would thereby catalyze a competitive ecosystem. But limits on funding may mean that the funding arrangements are restricted to particular populations, occupations, or organizations.

LESSONS FROM INTERNATIONAL FUNDING SYSTEMS

Internationally, governments that have funded apprenticeships using pay-for-success models have grown their countries' programs rapidly. In this section, we provide a brief description of international approaches to funding apprenticeships as well as an analysis of the key features that provide a model for scaling U.S. apprenticeships.

ENGLAND: INVESTMENT FUNDED BY A DEDICATED TAX LEVY

English apprenticeships have a long history: The first national regulations were introduced in the 1563 Statute of Artificers.[9] Apprenticeships waxed and waned through the 20th century before rapid growth in the early 2000s. Apprenticeships grew from 65,000 starts in the 1996–97 academic year, to a high of around 500,000 starts a year in the mid-2010s, before falling more recently to 340,000 starts in the latest academic year.[10]

Alongside introducing national standards, improving quality, and a focused media campaign, public funding was a major driver of this exponential increase. During the period of expansion, funding was paid directly to training providers, through sustained annual funding formulas based on the number of apprentices under contract. Funding contracts were activated when an apprentice started. Employers paid wages and on-the-job training costs, with the government meeting all other costs, determining the fixed rate per apprentice by convening groups of employers.

In 2017 the Apprenticeship Levy was introduced: U.K. employers with an annual payroll of £3m+ ($3.8m) pay the levy at 0.5% of total payroll, which then funds the costs of apprenticeships for both levy payers and nonlevy payers. The levy was forecast to raise £3.9 billion ($4.9 billion)[11] in 2023–24.[12] Training providers receive monthly funding allocations based on the number of active apprentices. Employers also receive tax rebates for hiring young apprentices.

Evidence indicates this investment has produced a significant social return. The Chartered Management Institute found that apprentices qualified in 2019 are projected to add £7 billion to the English economy by the end of 2029, based on an initial training investment of £2 billion — a 300% return on investment.[13]

FRANCE: INTERMEDIARY LEADERSHIP

As in England, apprenticeships were a popular route for French workers in the early 20th century but stagnated in the postwar period, with around 200,000 new apprentices starting each year.

---

9 Andrew Chrucky, "Statute of Artificers, 1563," Digital Text International, https://www.ditext.com/morris/1563.html.

10 U.K. Department for Education, "Academic Year 2023/24: Apprenticeships," accredited official statistics, November 28, 2024, https://explore-education-statistics.service.gov.uk/find-statistics/apprenticeships.

11 Based on average exchange rates in January 2025.

12 Office for Budget Responsibility, "Economic and Fiscal Outlook," CP 1027, March 2024, https://obr.uk/efo/economic-and-fiscal-outlook-march-2024/#annex-a.

13 Chartered Management Institute, "Apprentices Add £7 Billion to Economy Within a Decade," press release, November 8, 2022, https://www.managers.org.uk/about-cmi/media-centre/press-releases/apprentices-add-7-billion-to-economy-within-a-decade%EF%BF%BC/.

In 2018, facing high youth unemployment, France introduced dramatic reforms: liberalizing the creation of Centres de Formation d'Apprentice (CFAs), which provide off-the-job training; increasing the apprentice age limit to 30; introducing a new quality assurance certification (Qualiopi); simplifying funding incentives for

employers; simplifying contractual arrangements to align with conventional employment contracts; increasing apprenticeship wages; and introducing a new national government agency, France Compétences, to regulate and fund the system.[14]

The 2018 reforms introduced a system of "contract cost" financing for CFAs, where professional branches set the levels of cost associated with training — *the niveau de pris en charge* — with oversight from France Compétences to ensure convergence.[15] These levels are based on the actual costs of training, from data reported by CFAs. Revenue from the apprenticeship tax, 0.68% of payroll for all employees, is used to meet these costs.[16] Funding is paid when apprentices are hired and the apprenticeship begins.

France has a range of incentives for employers. Apprentice wages are exempt from social security taxes. During the COVID-19 pandemic, France introduced payments of €5,000 ($5,370) for apprentices under 18, and €8,000 ($8,590) for adult apprentices, for the first year of apprenticeship contracts.[17] Beginning in 2023, a €6,000 ($6,340) subsidy was made available, as part of a new goal of reaching 1 million annual apprenticeship starts by 2027, up from current levels of 800,000 starts each year and more than double the annual number of new apprentices in 2018.[18,19]

Both the 2018 reforms and the pandemic-related subsidies have caused a significant scaling up in French apprenticeships. The number of apprenticeship contracts has grown from 494,000 in 2018 to 799,000 in

---

14 Frédéric Turlan, "France: Government Unveils Plans for Reform of Apprenticeship System," Eurofound, March 22, 2018, https://www.eurofound.europa.eu/en/resources/article/2018/france-government-unveils-plans-reform-apprenticeship-system.

15 France Compétences, "Niveaux de prise en charge des contrats d'apprentissage," April 2, 2024, https://www.francecompetences.fr/reguler-le-marche/niveaux-de-prise-en-charge-des-contrats-dapprentissage; France Compétences, "Réguler la formation professionnelle et l'apprentissage," n.d., https://www.francecompetences.fr/reguler-le-marche/.

16 France, "Labor Code, Article R6123-25," July 10, 2024, https://www.legifrance.gouv.fr/codes/article_lc/LEGIARTI000049915629.

17 Bruno Coquet, "Apprentissage: un bilan des années folles," policy brief, OFCE, Sciences Po, June 14, 2023, https://www.ofce.sciences-po.fr/pdf/pbrief/2023/OFCEpbrief117.pdf.

18 Entreprendre.service-public.fr, "Hiring Aids for an Apprenticeship Contract," January 1, 2023, https://entreprendre.service-public.fr/vosdroits/F23556?lang=en.

19 AFP, "The Government Maintains Significant Aid to Reach One Million Apprentices," Batinfo, December 2, 2022, https://batinfo.com/en/actuality/the-government-maintains-significant-aid-to-reach-one-million-apprentices_22718.

2021.[20] At this point, the French youth employment rate hit its lowest level for more than 30 years, at 16.4%. Financial incentives played a major role in this expansion, with one analysis concluding that the 2018 reforms accounted for 15% of the increase and monetary incentives the remaining 85%.[21]

While it is difficult to account for the complete costs of French apprenticeships, an estimated €20 billion ($21.5 billion) was spent in 2022, more than 1% of government spending.[22] Of this amount, training costs were €7.6 billion ($8.2 billion), with employer subsidies at €10.6 billion ($11.4 billion).

AUSTRALIA: EMPLOYER ENGAGEMENT

Historically, funding for apprenticeships in Australia was primarily the responsibility of employers, with limited government involvement. Government funding increased substantially with the National Apprenticeship Assistance Scheme in 1973, providing financial support to apprentices and employers.

Today, the Australian apprenticeship system is characterized by a mix of government funding and employer contributions. The Australian government provides significant financial support for apprenticeships, covering a portion of training costs and offering various incentives to employers. Public funding meets 100% of the training costs for apprentices under the age of 25, with reduced rates for older apprentices. Employers are responsible for paying apprentice wages.

More recently, the Australian Apprenticeships Incentive System was introduced. With a funding allocation of AU$2.994 billion ($1.9 billion USD) from the period 2022–23 to 2026–27, the Incentive System had already disbursed AU$318.6 million ($200 million USD) in financial support to employers, apprentices, and training organizations by the end of 2023.[23] The Australian government spent a total of AU$4.6 billion ($2.9 billion USD), combining federal and state spending, on apprenticeships in 2023.[24]

Australia's apprenticeship funding system has evolved significantly over the past century, with major reforms aimed at increasing accessibility and employer involvement. While recent initiatives have

20 Stéphane Claquin and Danish Kamal Faruqui, "Apprenticeship in France," L.E.K., March 23, 2023, https://www.lek.com/insights/edu/eu/ei/apprenticeship-france.

21 Coquet, "Apprentissage: un bilan des années folles."

22 Coquet, "Apprentissage: un bilan des années folles."

23 "Design and Implementation of the Australian Apprenticeships Incentive System." 2024. Australian National Audit Office. https://www.anao.gov.au/sites/default/files/2024-03/Auditor-General_Report_2023-24_20.pdf.

24 National Centre for Vocational Education Research. 2003. "Government Funding of VET 2023." January 1, 2003. https://ncver.edu.au/research-and-statistics/publications/all-publications/government-funding-of-vet-2023.

shown promise, ongoing challenges highlight the need for continued refinement and support.

KEY TAKEAWAYS FROM INTERNATIONAL APPROACHES

We take the following key features of these international models as informative to a U.S. approach to scaling apprenticeship:

Funding is tied to achievement of milestones: Funding formulas are determined by the number of active apprentices under contract with employers. This is in contrast with the U.S. grantmaking approach where grants for system infrastructure are based on *potential* apprentices.

Funding for apprenticeship is simple: Formulas set amounts for each apprentice hired; these amounts may vary by the length of training and the occupation of the apprentice, as well as adjustments for completion or apprentice demographics, but are spelled out and transparent to all would-be recipients. This approach provides predictable funding: Organizations planning to scale up their programs know what income they will receive to cover costs.

Funding for apprenticeship is sustained. All three models cited above have multiyear guarantees on the funding available for apprenticeships. Apprenticeships can last between one and six years: The U.S. approach of short-term grants requires organizations to take risks on how they will fund programs over the long term.

The scale of funding provided for apprenticeships internationally meets the scale of the challenge: Multiple billions are allocated year on year, compared to the paltry level of U.S. investment.

PROMISING STATE PRACTICES

In the U.S., the funding system for apprenticeship is a patchwork of federal, state, public, private, and occasional philanthropic funds. Much of this funding is time limited, competitive, or tied to particular inputs. Figure 3, however, shows some examples of state-level pay-for-apprenticeship policies that are more in line with international models in countries that have successfully scaled apprenticeships.

The California model is particularly noteworthy. The state has an ambitious target for scale: Governor Gavin Newsom has committed to establishing 500,000 apprentices by 2029. To help reach this target, in 2022 California introduced the Apprenticeship Innovation Fund (AIF). The AIF was established to create an ongoing, predictable, and sustainable funding model for apprenticeship intermediaries. It is a formula-based fund where eligible applicants receive funding based on their numbers of apprentices.

From an initial allocation of $135 million over three years, $17 million was awarded in 2022, funding over 6,000 apprentices and over 200,000 hours of related instruction. For apprentices in 2023, $22 million was awarded, covering 8,270 apprentices and 242,000 hours of related instruction. Early signs are that the AIF has had a positive impact: nontrades apprentices grew from 18,809 in 2022 to 21,590 in 2023, a 15% increase; overall apprentice starts grew 9% in the same period; and California has seen an average annual growth of 11% from 2014 to 2023. [25]

The AIF has supported programs in diverse sectors. For example, Early Care & Education Pathways to Success (ECEPTS), a project of Tides Center, is an industry intermediary and sponsor of registered apprenticeships (RA) for occupations within the early care and education industry. With over 500 registered apprentices, ECEPTS has been recognized as one of the fastest-growing sponsors of apprenticeship programs in California. They have used their AIF funding to support program sustainability. Partners have used this funding for a variety of purposes, including paying for mentors, success coordinators, and other supportive services for participants.

PROPOSAL FOR A NATIONAL PAY FOR SUCCESS APPRENTICESHIP SYSTEM

Scaling apprenticeships in the U.S. is no longer a controversial goal. Few have a quarrel with widening routes to rewarding careers by emphasizing learning by doing, earning while learning, and attaining high skills while contributing to production. But the key question is, how can the U.S. generate enough apprenticeships to reach everyone who qualifies and chooses to pursue this path to careers? And who will cover these costs?

Fortunately, several mechanisms are readily available for funding many of the costs of apprenticeship. Employers have generally shown a readiness to cover the wage costs of apprentices. To be sure, wage incentives may at times encourage employers to hire from particular populations or sustain wages during periods of economic stress. But existing state and federal funding mechanisms are available for supporting these objectives. Apprenticeship programs are also generally able to tap existing funding streams in support of the classroom training components of apprenticeship using community colleges, higher education finance, or workforce development funding.

25 State of California Department of Industrial Relations, "Apprenticeship Innovation Funding (AIF)," November 2024, https://www.dir.ca.gov/DAS/Grants/Apprenticeship-Innovation-Funding.html.

This leaves the marginal costs of creating and operating apprenticeship programs, which we assess to be the most significant limiting factor to apprenticeship growth.

The lessons of other countries suggest that a formula-based, pay-for-performance funding mechanism acts as a critical gap funder for apprenticeship and can give rise to the necessary ecosystem of enabling institutions and intermediaries that will stimulate apprenticeships at scale. These organizations not only persuade employers to try apprenticeship but also help employers to organize and register their programs.

We propose a funding model to mobilize an array of intermediaries and group sponsors to scale apprenticeships. A sound design and implementation plan for the strategy are critical. We suggest the following:

1. A Pay for Apprenticeship plan that provides apprenticeship intermediaries or employer sponsors with $3,000 for each registered apprentice they place with employers. Upon the completion of the apprenticeship, intermediaries or sponsors would qualify for an additional $1,000, yielding a maximum of $4,000 per new registered apprentice. For apprenticeship programs operating for more than a year, the amount per apprentice per year would be $2,000 per apprentice plus $1,000 for completion.

2. To reduce the deadweight costs of paying for apprenticeship activity already underway, construction trades apprenticeships would be excluded from this funding program, as would existing nongroup apprenticeship programs (those sponsored by a single employer).

3. Intermediaries eligible for the incentives would include group sponsors of apprenticeships, staffing companies, business services companies, other nonprofits and for-profit organizations, schools, workforce boards, and other state and local agencies. A set of "good standing" criteria would ensure that prospective payees affiliated with apprenticeship efforts with poor completion rates or other performance issues would be excluded from payment.

4. The intermediaries and sponsors would document the employment and completion of the apprentice through the existing public Registered Apprenticeship Partners Information Database System (RAPIDS). To ensure quality, only apprenticeships operating through the registered apprenticeship system would qualify.

5. To avoid swamping governmental overhead costs, we encourage the Department of Labor to consider contracting on a competitive basis with an organization that has a core capacity in efficient payment processing. This approach would safeguard rigorous and efficient program operations, ensuring payments only go to fund registered apprenticeships and undertaking appropriate auditing of intermediaries.

The experience of California's AIF suggests such a program would start with modest use but would grow over time. We estimate that an initial outlay of $2.4 billion per year would increase the number of new apprenticeships in the U.S. over 10 years to 2 million per year — an eightfold increase. This increased takeup of apprenticeships can be compared with the status quo projection: Today's very low annual apprenticeship starts would only double over that same period.

We estimate that such a boost in the number of new apprentices would generate a positive societal return on investment in the range of $5 billion to $7 billion, assuming similar characteristics (length, completion rates) as in England. Broader system costs — for example, the costs of administration and classroom training — could amount to an additional $4 billion, although we would expect many of these costs to be substitutions from other spending on workforce development and higher education.[26]

Comparing the costs and benefits of this proposal versus the counterfactual of the current apprenticeship system, our modeling suggests that the return on investment for a Pay for Apprenticeship model would be around 1.68; that is, for every dollar invested in a Pay for Apprenticeship model, the social return would be $1.68.

Based on the estimated net positive economic benefits from the hiring of an incremental number of apprentices in the U.S., the proposed pay-for-apprenticeship funding amounts are commensurate with the value of these outcomes. This societal return on investment justifies federal outlays for outcomes-based financial incentives to spur additional apprenticeship starts and completions.

This outline is not intended to cover all the details of such a funding proposal. For example, we think such a payment structure should act as a platform that can be extended for particular policy purposes. Federal and/or state governments may wish to add incentives for economic development, industrial policy, or equity objectives.

---

26 We calculate the societal benefits as the wage increases of these new apprentices versus a counterfactual of apprentice growth continuing its current trajectory and roughly doubling in 10 years' time. The increase in apprentice wages from the additional apprentices stimulated by a Pay for Apprenticeship model would amount to $28.7 billion in aggregate compared against this counterfactual. This assumes that apprentices who complete an apprenticeship would receive an average salary of $80,000 — roughly $33,000 higher than the current average noncollege salary. In reality, returns are likely to be higher; other researchers have estimated that if apprentices were to expand to emerging, nontraditional occupations, apprentice salaries could be 20% higher than the current average.

In designing some pay-for-apprenticeship regimes, policymakers may wish to privilege certain institutions as required partners or institutional types. While we understand this impulse to build out the ecosystem of apprenticeship in focused ways, we prefer the power of market forces to identify those actors that can be most effective with the resources available. However, as with other policy objectives, we see opportunities to flex this platform with added incentives that might benefit various key institutions.

Finally, we recognize that many practical operational questions remain to be addressed in implementing such a proposal. RAPIDS, for example, was not built for this purpose and will need to be updated. Our aim here is not to write the regulations for such a funding program but to provide a strategic framework that can be further developed.

CONCLUSION

Apprenticeship holds great promise for U.S. workers and businesses and has been constrained by underinvestment. As a consensus emerges to expand apprenticeship, now is the time to think through a funding system that goes beyond the current public support approaches. We need a funding mechanism that can drive the scaling of apprenticeship to levels seen by other countries. We need a system that provides greater parity between college degree pathways and apprenticeship. And we need a system that advances an impactful and diverse ecosystem of organizations developing, operating, and growing apprenticeship opportunities.

Apprenticeship holds great promise for U.S. workers and businesses and has been constrained by underinvestment. As a consensus emerges to expand apprenticeship, now is the time to think through a funding system that goes beyond the current public support approaches

John Colborn is the Executive Director of Apprenticeships for America, a membership and advocacy organization working to expand apprenticeship in the United States.

Harry Leech is the Director of Strategy at Apprenticeships for America.

Deniz Nemli is the Research and Communications Coordinator at Apprenticeships for America.

2

SMOOTHING THE PATH TO A FAMILY-SUSTAINING CAREER

SUPPORTING APPRENTICESHIPS IN RURAL AMERICA

/ **JULIANNE DUNN** RURAL LISC

Apprenticeships are a successful and practical economic development solution to address the ever-growing need for a quality workforce and are a common-sense approach for employees to build their skills while simultaneously earning income to provide for their daily needs. These work-based learning programs provide industry-specific training through hands-on experience and related classroom-based instruction. Mentored by an experienced employee, apprentices earn a paycheck while training, ultimately completing proficiency tests and, in some cases, earning nationally recognized industry credentials. Businesses benefit from apprenticeship programs that enable them to recruit and upskill a high-quality workforce, reduce turnover, increase employee loyalty and productivity, and bring new voices into the workplace who can contribute to innovations. Approximately 94% of registered apprentices retain employment, with an average annual salary of $84,000, per the U.S. Department of Labor's Apprenticeship USA program.

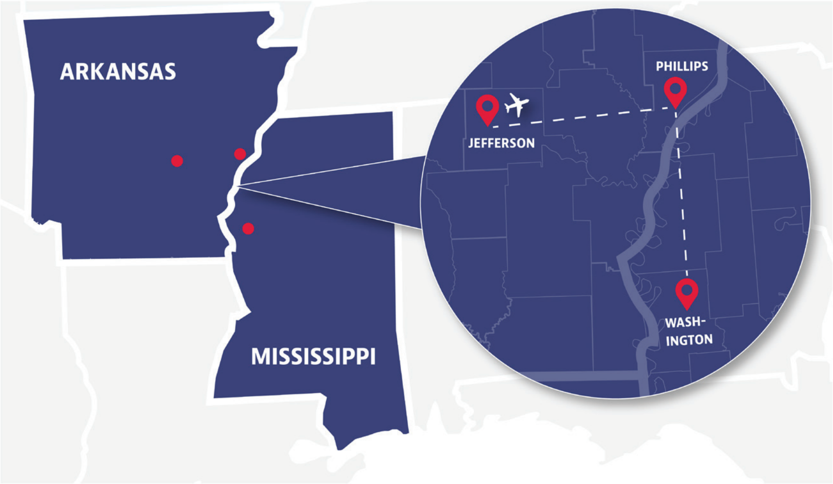
According to the U.S. Department of Agriculture Economic Research Service, rural areas have a higher unemployment rate than urban areas.[27] This is often due to a skills and opportunity gap for rural workers and the limited support services available for the workforce. Apprenticeship

27 Tracey Farrigan, Brandon Genetin, Austin Sanders, John Pender, Kelsey L. Thomas, Richelle Winkler, and John Cromartie, "Rural America at a Glance (Report No. EIB-282)," U.S. Department of Agriculture, Economic Research Service, November 2024, https://doi.org/10.32747/2024.8722498.ers.

programs in rural areas help address the opportunity gap by offering hands-on training to expand the talent pipeline for the industries that have jobs to fill. Traditionally, apprenticeships have been focused on skilled trades and construction jobs, but the model has seen expansion in education and health care career pathways, among others.[28]

/ FIGURE 1 /

REGIONAL COLLABORATIVES IN ARKANSAS AND MISSISSIPPI



Developing a robust selection of apprenticeships in a community can provide opportunities to upskill incumbent workers and create a group of highly skilled potential recruits. While apprenticeship programming can be impactful for a region, rural communities often struggle to develop an effective apprenticeship ecosystem with participation from area employers, educational institutions, training hubs, and job seekers.[29] Most potential anchor organizations are already at capacity, and the additional work of developing an apprenticeship program may seem daunting.

The term "rural" has no standard definition, even within the federal government, making it difficult to identify accurate and reliable data on the number of rural apprenticeships. One of the few apprenticeship sectors that can be assumed to be primarily rural — agricultural — had 4,332 registered apprentices in 2024, as reported by the U.S.

---

28 U.S. Congress Joint Economic Committee, "Broadening Registered Apprenticeships Can Boost America's Workforce and Grow the Middle Class," Issue Brief, September 2024, https://www.jec.senate.gov/public/_cache/files/c7f24858-09b4-4469-9d9e-5f8e87332048/jec-brief-registered-apprenticeships.pdf.

29 U.S. Department of Labor, Chief Evaluation Office, "Approaches to Expanding Registered Apprenticeship in Rural Areas: Takeaways from Seven States," December 2024, https://www.dol.gov/resource-library/approaches-expanding-registered-apprenticeship-rural-areas-takeaways-seven-states.

Department of Labor.[30] However, not all agrarian programs are rural, and agricultural apprenticeships are not the only available apprenticeships in rural America.

Through its workforce development program, Rural LISC (Local Initiatives Support Corporation) has partnered with programs in 25 states and two territories. The network's current apprenticeship programs include health care, construction, manufacturing, education, hospitality, and transportation. The most common apprenticeships in their partner network are in manufacturing, construction, and agriculture; however, there is a growing interest and demand for apprenticeships in the health care and sustainability sectors.

Regardless of the challenges in launching an apprenticeship in rural communities, studies show that most apprentices remain employed after completing their programs, which can contribute to long-term economic growth.[31] For rural communities, retaining workers at sponsoring apprenticeship employers also means they stay in their communities, rather than migrating to larger cities that may appear to offer more job opportunities. By equipping residents with in-demand and transferable skills, apprenticeships can foster local talent retention and enable rural communities to thrive in an increasingly competitive job market while maintaining the small-town culture most rural communities prefer.

By equipping residents with in-demand and transferable skills, apprenticeships can foster local talent retention and enable rural communities to thrive in an increasingly competitive job market while maintaining the small-town culture most rural communities prefer.

UNDERSTANDING THE NEEDS: RURAL LISC AND THE MISSISSIPPI DELTA APPRENTICESHIP STEERING COMMITTEE DEVELOPED A RESOURCE

With these needs in mind and funding from Ascendium Education Group and Walton Family Foundation, Rural LISC brought together three regional collaboratives in the Arkansas and Mississippi Delta with national apprenticeship consultants, Thomas P. Miller & Associates (TPMA), to create a ready-to-use toolkit explicitly designed for rural areas that included digestible definitions of the types of

30 U.S. Department of Labor, Apprenticeship USA, https://www.apprenticeship.gov/apprenticeship-industries/agriculture.

31 Daniel Kuehn, Siobhan Mills De La Rosa, Robert Lerman, and Kevin Hollenbeck, "Do Employers Earn Positive Returns to Investments in Apprenticeship? Evidence from Registered Programs under the American Apprenticeship Initiative," report prepared for U.S. Department of Labor, Employment and Training Administration, August 2022, https://www.dol.gov/sites/dolgov/files/ETA/publications/ETAOP2022-36_AAI_ROI_Final_Report_508_9-2022.pdf. For more on the economic impact of apprenticeships, please refer to chapter 1 of this volume: "Can Pay for Success Scale Apprenticeships in the US?"

apprenticeships, case studies of successful rural apprenticeships, and information on the possible steps to developing an apprenticeship ecosystem. The three area collaboratives served the areas around Jefferson County and Phillips County in Arkansas and Washington County in Mississippi. Each collaborative was comprised of the area's workforce ecosystem stakeholders, including K-12 schools, higher education institutions, vocational and technical schools, economic development organizations, local workforce investment boards, workforce-facing nonprofits, area employers, community foundations, and agencies providing support services to workers and job seekers.

The project design required that Rural LISC and TPMA rely on the representatives of these area collaboratives to lead the way in identifying the resources they needed to participate and the challenges they were facing in their communities. The three area collaboratives were created and provided with funds to address any organizational capacity issues they may have in building apprenticeships. Each of the three area collaboratives also provided four to five representatives to participate in the Mississippi Delta Apprenticeship Steering Committee, which met virtually once a month in the fall of 2022 and winter of 2023 and once in person in November 2022. Each area collaborative was also committed to utilizing the toolkit in their communities and developing one to three registered apprenticeship pathways with their partners, with the goal of serving five to 10 potential workforce members per year on each path.

By the end of the project period, the Apprenticeship Steering Committee had identified the necessary information for the toolkit to be used in their communities, thereby better educating employers and job seekers on the benefits of apprenticeships. They also identified the priority issues facing their workforce and the conditions that needed to be present to support a reliable workforce ecosystem in their communities, benefiting employers, job seekers, upskillers, and the surrounding community.

The most significant challenge was getting interested workers to the training centers. Public transportation is relatively nonexistent, and the training locations are not always easily accessible. Participants may be able to arrange some shared ride options with their family and friends; however, reliable transportation for the entire program is challenging. The area collaboratives identified several solutions to address this obstacle, including providing gas stipends, offering shuttle services from centralized locations, and incentivizing participant ride shares. This issue persists, and the collaboratives continue to explore various solutions. While none of the collaboratives felt they had "solved" this issue, their recommendation for future workforce ecosystem collaboratives is to utilize ecosystem members to identify possible solutions collectively and to set this as an agenda point early and often.

In this same vein, the collaborators also identified the need for a broader area workforce assessment to better understand the barriers faced by the workforce in their area, including availability of child or elder care, proximity to healthy food and other essentials, and affordable housing. They concluded that utilizing the same collaborative problem-solving process to address the issues identified in an area's assessment will ensure that any apprenticeship or work-based learning program launched or expanded will succeed.

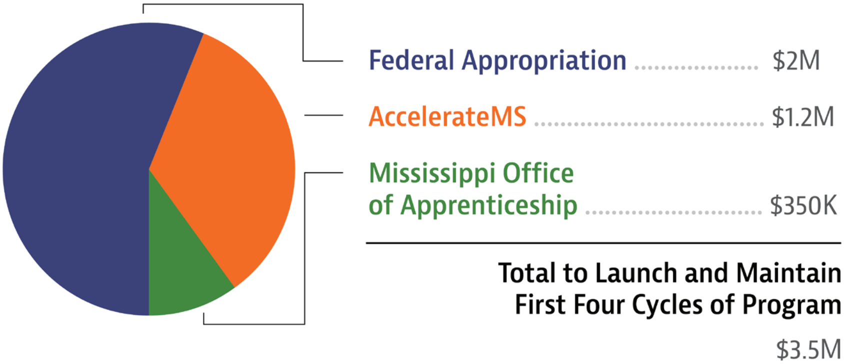
While the specific challenges and potential solutions these collaboratives focused on are not included in the toolkit, they prioritized collectively identifying these challenges and streamlining the data collected to ensure consistent analysis and success.

To increase awareness of the structure and benefits of apprenticeships, the Apprenticeship Steering Committee identified the need for the toolkit to feature a significant amount of information on the different types of apprenticeships, the process involved in registering an apprenticeship, the terminology associated with apprenticeships, and case studies that were directly comparable to the communities they were representing. With abundant data and case studies featuring urban communities, the Committee was eager to present only information relevant to their size and types of opportunities. The resulting information enabled the area collaboratives to meet with local employers and municipalities, addressing any concerns and hesitations about launching apprenticeships. They were also able to utilize the information to enhance their collaboration with community colleges and training centers.

BUILDING A RURAL APPRENTICESHIP: THE SOUTH DELTA PLANNING AND DEVELOPMENT DISTRICT'S DELTA AERIAL APPLICATOR (AG PILOT) APPRENTICESHIP PROGRAM EXAMPLE

The majority of the resulting apprenticeships were focused on traditional pathways in skilled trades and manufacturing, but one innovative program in Mississippi concentrated on agricultural pilot careers in aviation. The South Delta Planning and Development District (SDPDD) led the development, launch, and evaluation of the Delta Aerial Applicator (Ag Pilot) Apprenticeship Program. They built upon the foundation created with Rural LISC's Apprenticeship Steering Committee and Apprenticeship Toolkit and brought together a collaborative with Delta State University and local employers to build the apprenticeship program by braiding together multiple certificate curriculums, hands-on training in the specific aircraft needed for the specialized aerial work, and support funds to ensure that participants did not need to pay out of pocket to participate. Each partner signed a sponsored agreement to align program goals, metrics, and financial commitments. Metrics included the number of participants, the wages at the start and end of the program, and the types of social support available to the participants.

/ FIGURE 2 /
FUNDING SOURCES OF AG PILOT APPRENTICESHIP PROGRAM



Currently in its third cycle of implementation, 100% of participants have been retained by employer sponsors investing in their professional development and providing jobs at the completion of the program. Twenty-one people have graduated from the program so far, and eight more graduating in May 2025, including two women, with a waitlist for future participants to fill at least three more cycles. Participants received an apprentice salary by the employer sponsor, individual coaching and mentorship by experts in the field, and financial support to pay for job-required tools and address social support needs, including travel costs and learning materials. The training is designed specifically for a high-demand position as a pilot to support agriculture initiatives across the country; however, these skills are transferable to additional employment opportunities with several federal agencies to monitor drug trafficking and fire protection. Whether the participants work as agricultural pilots or use their aviation skills to work for the federal government, their salaries jumped significantly at the completion of the program. Most participants started the program earning between $40,000 and $50,000. The minimum salary for the resulting positions is approximately $100,000-$175,000, which has led the SDPDD team to estimate that the salary of participants will jump by at least 50% above their current earnings.

> **Currently in its third cycle of implementation, 100% of participants have been retained by employer sponsors investing in their professional development and providing jobs at the completion of the program.**

One participant, John Reece Jackson, shared, “Without this opportunity that this program has offered me, I would not have been able to afford this training program, and it has helped me out in the long run to afford flight school and all the credentials that come with it.”

Jackson was one of the rising stars in the second class of the Ag Pilot Apprentices in Delta State University’s (DSU) Aerial Applicator Pilot Certification Program. Jackson earned his instrument and commercial ratings, as well as his pilot’s license, while in the program. Beyond Basic Ag Pilot Training, he also received training in Turbine Transition, Advanced Turbine, GPS Guidance System, Light Bar, and Flying in the Wire and Obstruction Environment for Agricultural Operators. He earned his Certified Flight Instructor I and II credentials and is now poised to transition from apprentice to mentor and educator within the same program in which he participated. Each training moved him further up his career ladder and increased his earning potential.

BARRIERS OR OPPORTUNITIES: SHARING THE LESSONS LEARNED AND WHAT TO CONSIDER WHEN LAUNCHING A RURAL APPRENTICESHIP IN RURAL AMERICA

“It took almost a year of working closely with our employer partners, Delta State University, state apprenticeship team, local and federal officials, and Rural LISC to get our first apprenticeship off the ground. There were no major fumbles or delays; it simply took time to coordinate everything. By the time we started working on the second apprenticeship program for electrical residential and commercial electrical contractor, we had figured out what questions to ask, who needed to be at each meeting, and what activities were just going to take more time than others.” — Mitzi Woods, South Delta Planning and Development District’s workforce director and the anchor of the Washington County area collaborative.

Through working with all three apprenticeship collaboratives, the Rural LISC team learned important lessons that have shaped future workforce strategies. While apprenticeships seem like a perfect fit for addressing the job gap in rural spaces, significant access barriers remain. Some barriers are educational, with potential trainees lacking the basic skills in math, literacy, and technology necessary to learn more complex skills usually related to apprenticeships. Some barriers are economic, with potential apprentices expected to already have the right tools, uniforms, and other equipment.

Other barriers are cultural, where potential apprentices do not feel welcome in the potential work environments or do not appear to fit the perceived mold of the specific career pathway. The apprenticeships that Rural LISC supported all included social support funds for apprentices to address accessing foundational training sessions and providing necessary physical tools. Still, cultural barriers can only be addressed by employers and the educational spaces where the apprentices are gaining new skills. Women make up half of the workforce but only 14% of the pool of apprentices.[32] In recent years, the number of apprentices who self-identify as an individual with a disability has grown to over 3,000[33] — about 1% of all apprentices — and they are more concentrated in construction, educational services, and transportation/warehousing. And, despite participation at rates consistent with their percentage of the population, Black apprentices are less likely than white apprentices to complete an apprenticeship program.[34] Facts like these show employers need to consider their practices to be able to recruit and retain a diverse apprenticeship pool, which has been shown to be more productive and better for the bottom line.[35]

"It took almost a year of working closely with our employer partners, Delta State University, state apprenticeship team, local and federal officials, and Rural LISC to get our first apprenticeship off the ground. There were no major fumbles or delays; it simply took time to coordinate everything. By the time we started working on the second apprenticeship program for electrical residential and commercial electrical contractor, we had figured out what questions to ask, who needed to be at each meeting, and what activities were just going to take more time than others." — Mitzi Woods, South Delta Planning and Development District's workforce director and the anchor of the Washington County area collaborative.

---

32 Barbara A. Butrica, Daniel Kuehn, and Madeleine Sirois, "Women in Apprenticeships and Nontraditional Occupations in the United States: Apprenticeship Evidence-Building Portfolio," May 2023, https://www.apprenticeship.gov/sites/default/files/WANTO-knowledge-report-508%206.15.23.pdf.

33 Nanette Goodman, Nick Canfield, and Michael Morris, "Disability Inclusion in Registered Apprenticeship Programs," n.d., https://disabilityinclusiveemployment.org/wp-content/uploads/2022/02/2024-goodman-apprenticeship.pdf. Note: individuals who self-identify as disabled make up 13% of the population but only 1% of the pool of apprentices.

34 U.S. Department of Labor, "U.S. Apprenticeship Overview," November 3, 2021, https://www.dol.gov/sites/dolgov/files/OPA/files/20211103-apprenticeship-equity.pdf.

35 Daniel Kuehn, John Marotta, Bhavani Arabandi, and Batia Katz, "Inclusive Apprenticeship: A Summary of What We Know about Apprentices with Disabilities," Urban Institute, May 2021, inclusive-apprenticeship-a-summary-of-what-we-know-about-apprentices-with-disabilities.pdf; PIA—Partnership on Inclusive Apprenticeship, https://inclusiveapprenticeship.org/resources/the-value-of-inclusive-apprenticeships/calculate-the-return-on-investment-of-inclusive-apprenticeship/.

In addition, Rural LISC and its apprenticeship partners discovered that there is still much resistance to hosting apprenticeships by employers. Some employers are hesitant to engage in apprenticeships due to existing union relationships. Others are resistant to exploring alternative models to support their workforce. Still other employers are reluctant or lack the capacity to develop or host a comprehensive apprenticeship program.

Who is at the table? Educating local employers about the benefits of apprenticeships and connecting them to their successful peers have been the most effective strategies to overcome preconceived negative perceptions. Two of the Apprenticeship Steering Committee collaboratives hosted informational sessions for community employers, utilizing the Rural LISC Apprenticeship Toolkit, to share best practices for employers and gauge which partners are ready to sponsor an apprenticeship.

Part of the collaborative learning process has been identifying which partners should be included in any workforce ecosystem discussion. For apprenticeships, this has included the addition of local support nonprofits to provide insight into the obstacles that potential apprentices face outside of work that impact their ability to complete their apprenticeships. These nonprofits include local food pantries, workforce boards, Boys & Girls Clubs, social service benefits offices, and faith-based organizations. Adding these voices to the collaboratives increased the completion rates of apprenticeships.

Who is in charge? The opportunity gap in rural regions also requires time and effort to identify partnerships that will work toward developing and implementing the apprenticeship program. Employer partners are a must, but the education and workforce partners in the community are also important to identify the actual skills already in the local labor force, the training and instructors in place, and the open positions available. The host of the apprenticeship program can be any of these partners, but having an anchor like a local economic development agency or community college with dedicated staff focused on developing the apprenticeship program and managing the partnership collaboratives (workforce ecosystem) is key.

Employer partners are a must, but the education and workforce partners in the community are also important to identify the actual skills already in the local labor force, the training and instructors in place, and the open positions available.

With the Apprenticeship Toolkit,[36] the Apprenticeship Steering Committee collaboratives were given a road map on how to recruit and maintain relationships in rural committees, along with guidance on creating data-sharing agreements, identifying regional career pathways, and providing role descriptions for partners in workforce ecosystem collaboratives. Connecting with the state apprenticeship program is also essential to tapping into additional funding resources and receiving support in the federal registration process. Every single area collaborative credits the relationship they develop with their state office as crucial to launching a rural apprenticeship, which includes inviting these officials to their community and interacting with potential apprentices. Intermediary partners like Rural LISC can be instrumental in organizing the initial meetings and connections, but local anchors need to dedicate ongoing efforts to maintain this crucial relationship.

With the Apprenticeship Toolkit, the Apprenticeship Steering Committee collaboratives were given a road map on how to recruit and maintain relationships in rural committees, along with guidance on creating data-sharing agreements, identifying regional career pathways, and providing role descriptions for partners in workforce ecosystem collaboratives.

How much does it cost? A significant challenge in launching and running an apprenticeship like the Ag Pilot program is the cost and labor involved. The SDPDD braided the financial and technical assistance investment from Rural LISC with a $2 million federal appropriation, a $1.2 million AccelerateMS[37] grant, and $350,000 from the Mississippi Office of Apprenticeship to launch and maintain the first four cycles of the program. Initial costs were focused on the time spent by the SDPDD team to coordinate efforts between the partners, register for the national apprenticeship designation, and provide up-front materials to the participants. The costs have decreased as the program continues, but funding will continue to be required as more cycles are held. The program costs approximately $95,000 per participant for training, testing fees, access to equipment and planes, instructor costs, and some supplemental expenses, for which the participants do not have to pay a single cent. However, they do commit to fully engaging in the program within the designated timeline.

The success of this apprenticeship program has led the SDPDD team to start developing another innovative apprenticeship, focusing on a residential and commercial electrician pathway, which launched

36 Thomas P. Miller & Associates, "Rural LISC Apprenticeship Toolkit," January 2023, https://www.lisc.org/media/filer_public/3c/de/3cde3724-8c1a-4e8f-9560-ccd7c370bd9e/rural_lisc_apprenticeship_toolkit.pdf.

37 AccelerateMS is the leading office for workforce development strategy and delivery in Mississippi; see https://acceleratems.org.

in November 2024 with 15 participants enrolled in the first cycle. Collaborative partners in this electrician apprenticeship include local employers, Build Mississippi,[38] Mississippi Delta Community College, and AccelerateMS. While the braiding of these different funding sources may seem unique to SDPDD, it is the most common method to fully launch a new apprenticeship. Few funders or donors in rural areas can fully fund a new apprenticeship, so bringing together multiple public and private sources is necessary.

How can the workforce ecosystem support the apprentice? The unique challenges of establishing a new apprenticeship in a rural region have required all the Apprenticeship Steering Committee members to include supplemental social support for participants in the apprenticeship program. While an apprentice is paid a salary by design — so there is no wage disruption — it is likely that participants will need to travel great distances to attend classes or reach the experiential spaces where they learn best (e.g., air base, manufacturing plant, field). Any supplemental funding or support for participants in apprenticeship programs must include travel costs to training centers for both participants and their educators, as well as consideration of costs to the personal support system for the participant (rent, child or elder care, food, and the job requirements and hours of their support system). Participants received a child care stipend for one of the programs based in southeast Arkansas or could enroll their child in on-site child care. In another location, a shuttle bus was procured to provide transportation for participants and connect the training center to the center of the community. Compared to urban areas, rural communities have significantly fewer funding source opportunities, so it is necessary to braid together multiple funding streams to fund a successful rural apprenticeship program, starting with the area employers that are hosting the opportunity.

Compared to urban areas, rural communities have significantly fewer funding source opportunities, so it is necessary to braid together multiple funding streams to fund a successful rural apprenticeship program, starting with the area employers that are hosting the opportunity.

LOOKING FORWARD

In rural areas, where educational and job opportunities can be limited, apprenticeships provide a vital pathway to stable, well-paying careers.

38 Build Mississippi is an initiative powered by Mississippi Construction Education Foundation (MCEF), a nonprofit educational foundation that provides the National Center for Construction Education and Research (NCCER) with craft training and credentialing in almost 200 career and technical programs across the state while offering workforce training and credentialing in construction and industrial maintenance trades; see https://buildmississippi.com.

Moving forward, Rural LISC is continuing to partner with regional workforce collaboratives to offer support in developing, implementing, and growing apprenticeship opportunities in various sectors, including jobs in clean energy technology and installation. Rural LISC is expanding its toolkit, based on the first two years of use, to include more details about the apprentice and employer perspective and highlight the best practices of the first three participants in the Apprenticeship Steering Committee. The toolkit has already been utilized by community colleges, and the second edition will include more information to support these educational institutions as potential anchors for apprenticeship development and maintenance.

Funding will continue to be the biggest barrier and opportunity. Providing assistance and guidance in accessing and managing multiple funding sources from public and private sources will continue to be a significant part of the Rural LISC strategy when supporting apprenticeship programs. These efforts will include working with the LISC Policy team to elevate workforce concerns to state and federal legislators and supporting community partners in accessing local and state funding.

In conclusion, apprenticeships can serve as a cornerstone for the growth and sustainability of rural communities. By fostering local talent, enhancing workforce development, and addressing skill gaps, they create a ripple effect that benefits individuals and the broader economy. As rural areas continue to face unique challenges, strengthening and expanding apprenticeship programs will ensure long-term prosperity, reduce unemployment, and provide the next generation with the tools they need to thrive.

As rural areas continue to face unique challenges, strengthening and expanding apprenticeship programs will ensure long-term prosperity, reduce unemployment, and provide the next generation with the tools they need to thrive.

Julianne Dunn is the Senior Program Officer on the Workforce + Financial Prosperity team at Rural LISC.

A PROMISING MODEL OF FINANCIAL RISK-SHARING

THE AARP FOUNDATION UPSKILLING INITIATIVE

/ **CLAIRE CASEY** AARP FOUNDATION

Investing in training has proven benefits for employers and employees alike: Employers improve retention and productivity while employees gain skills and opportunities for career advancement and wage gains. Unfortunately, small and medium-sized enterprises (SMEs), which account for 46% of U.S. private sector jobs,[39] often lack the resources to provide formal training programs like those available at large corporations. Meanwhile, older workers, who constitute 33% of the U.S. workforce today,[40] tend to be left out of training opportunities which are predominantly directed toward younger workers.

AARP Foundation's Upskilling Initiative sought to address the unmet demand for upskilling — defined as on-the-job training to improve specialized skills — on both sides. The initiative tested SMEs' willingness to commit to guaranteed hourly wage increases for older employees who completed a selected training by redistributing cost, risk, and accountability between employers, workers, and philanthropy. While designed for older workers with low income, the model holds broader promise for the tens of millions of low-wage workers employed at SMEs across the country.

---

39 U.S. Small Business Administration (SBA). "Frequently Asked Questions About Small Business, 2023." Office of Advocacy (blog). July 25, 2024. https://advocacy.sba.gov/2023/03/07/frequently-asked-questions-about-small-business-2023/.

40 AARP Foundation calculations based on U.S. Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," 2023, https://www.bls.gov/cps/cpsaat03.htm.

THE HALF-LIFE OF SKILLS IS GROWING SHORTER AS PEOPLE ARE WORKING LONGER: THE DEMAND FOR UPSKILLING

We are in a period of profound change in the nature of work, driven by technological transformation, federal infrastructure investment, and growing longevity. The estimated half-life of a skill — the amount of time before half of the knowledge in a particular area becomes obsolete — has decreased from 10 to 15 years to about 5 years, and 2.5 years for technical skills.[41,42] At the same time, people are working longer, by choice or out of necessity. Already, one in three U.S. workers is over 50,[43] and nearly half of workers expect to work beyond age 65.[44] A 50-year-old today may need upskilling four to eight more times to remain productively engaged at work for another 20 years. The approach to workforce training in the United States has not adapted to this new reality.

Businesses see local skills gaps as a primary barrier to their ability to remain competitive in the changing economy.[45] Investing in job-related training is viewed as the most promising strategy to overcoming this obstacle.[46] Those that invest in upskilling show strong results: 93% of businesses with advanced upskilling programs reported increased productivity and an improvement in employee retention.[47] However, access to upskilling programs has been uneven across organizations and among different worker groups.

> **...older workers, who constitute 33% of the U.S. workforce today, tend to be left out of training opportunities which are predominantly directed toward younger workers.**

Defined as firms with fewer than 500 employees, SMEs, which employ 61.6 million people, or 45.9% of the private sector workforce in the

41 Annette LaPrade et al., "The Enterprise Guide to Closing the Skills Gap: Strategies for Building and Maintaining a Skilled Workforce," 6, IBM Institute for Business Value, 2019, accessed October 23, 2024, https://www.ibm.com/downloads/documents/us-en/10a99803f8afda48.

42 Douglas Thomas and John Seely Brown, *A New Culture of Learning: Cultivating the Imagination for a World of Constant Change* (CreateSpace Independent Publishing Platform, 2011); Sonia Malik, "Skills Transformation for the 2021 Workplace," IBM Learning Blog, December 7, 2020, accessed October 23, 2024, https://www.ibm.com/blogs/ibm-training/skills-transformation-2021-workplace/.

43 AARP Foundation calculations based on U.S. Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," 2023, https://www.bls.gov/cps/cpsaat03.htm.

44 Transamerica Institute, "A Compendium of Findings About the Retirement Outlook of U.S. Workers: 21st Annual Transamerica Retirement Survey of Workers," 47, November 2021, accessed October 23, 2024, https://www.transamericainstitute.org/docs/library/research/2021-retirement-outlook-compendium-report.pdf.

45 Attilio Di Battista et al., "Future of Jobs Report 2023," 42, World Economic Forum, May 2023, accessed August 18, 2024, www.weforum.org/publications/the-future-of-jobs-report-2023.

46 Di Battista et al., "Future of Jobs Report," 49–50.

47 PwC Research, "Thriving in an Age of Continuous Reinvention," 34, 23rd Annual Global CEO Survey, accessed September 23, 2024, https://www.pwc.com/gx/en/ceo-survey/2020/reports/pwc-23rd-global-ceo-survey.pdf.

U.S.,[48,49] face greater challenges in upskilling their workforce relative to larger organizations with better resources. They have smaller budgets for workforce development and less administrative capacity to identify relevant training opportunities.[50] Without addressing these constraints, individual SMEs risk falling behind in an economy that increasingly rewards adaptability and innovation, capabilities that hinge on a skilled workforce with relevant expertise.[51]

In the rapidly changing labor market, workers are also seeking upskilling opportunities to remain competitive and to pursue higher pay and career advancement.[52] In a national survey, 39% of workers who participated in an upskilling program reported some career advancement with their current employer, including a promotion or pay increase.[53] However, despite growing demand, access to these opportunities remains more limited for certain groups, particularly low-wage workers. Employers are more likely to provide training to higher-paid employees.[54] This tendency has an outsized impact on historically marginalized groups, who disproportionately hold low-wage jobs.[55]

Older workers also have less access to job training and to corresponding supportive services and career navigation assistance[56] due to employer biases about their willingness and ability to remain in the workforce.[57] Most training programs are geared towards the needs and preferences

---

48 U.S. Small Business Administration, "U.S. Small Business Administration Small Business Profile 2023,"accessed August 18, 2024, https://advocacy.sba.gov/wp-content/uploads/2023/11/2023-Small-Business-Economic-Profile-US.pdf.

49 These figures do not include self-employed individuals, employees of private households, railroad employees, and agricultural production employees. Data on U.S. small business and employment is from the U.S. Census Bureau, "2023 Statistics of U.S. Businesses," accessed August 18, 2024, https://www.census.gov/programs-surveys/susb.html.

50 OECD, "OECD SME and Entrepreneurship Outlook 2023," 225, https://doi.org/10.1787/342b8564-en; Marco Marchese et al., "Enhancing SME Productivity: Policy Highlights on the Role of Managerial Skills, Workforce Skills and Business Linkages," 12 (OECD SME and Entrepreneurship Papers, No. 16, OECD Publishing, Paris, 2019), https://doi.org/10.1787/825bd8a8-en.

51 OECD, "OECD SME and Entrepreneurship Outlook 2023," 22.

52 "Education Index: Learning Curve," 2, EdAssist by Bright Horizons, 2023, accessed August 18, 2024, www.brighthorizons.com/-/media/BH-New/Newsroom/Media-Kit/Education-Index-2023.

53 Gallup and Amazon, "The American Upskilling Study: Empowering Workers for the Jobs of Tomorrow," 14, 2021, accessed September 23, 2024, www.gallup.com/file/analytics/354647/amazon-upskilling-report.pdf

54 Gallup and Amazon, "The American Upskilling Study," 7–8.

55 Martha Ross and Nicole Bateman, "Meet the Low-Wage Workforce," 39–42, Brookings Institution, November 2019, accessed October 16, 2024, https://www.brookings.edu/wp-content/uploads/2019/11/201911_Brookings-Metro_low-wage-workforce_Ross-Bateman.pdf.

56 Barbara A. Butrica and Stipica Mudrazija, "Skills-Based Hiring and Older Workers," 39, 42, Urban Institute, March 2022, accessed October 14, 2024, https://www.urban.org/sites/default/files/2022-03/Skills-Based%20Hiring%20and%20Older%20Workers.pdf.

57 Butrica and Mudrazija, "Skills-Based Hiring," 15.

of younger workers.[58] For low-income older workers, targeted training opportunities are particularly scarce.[59] They are underserved by community colleges and less likely to be offered employer-sponsored training. [60,61] They are also underrepresented in the nation's primary federally funded workforce development programs.[62]

WORKFORCE 50+ IS GROWING AND FACING CHALLENGES

Over the past two decades, the number of workers aged 50 and older in the U.S. has grown by 47% to 54.9 million in 2023.[63] This growth is compared to a 3% increase in the number of workers under age 50 over the same time period. Today, the share of older workers has reached a historic level, comprising one-third of the U.S. workforce.[64] This demographic shift has been rapid, and our institutions and approaches to workforce development have failed to keep pace.

The increasing cost of living and other financial challenges are driving people to remain in the workforce longer. According to a 2024 survey by AARP, more than a third of Americans over the age of 50 are worried about covering basic expenses, such as food and housing costs.[65] Many low-income older workers are left with no choice but to continue working. Few earn enough to save for retirement, and only one in four have access to an employer-sponsored retirement savings account.[66] Social Security benefits for a low-wage worker (earning an average of $29,649 in 2023-indexed dollars) who retired at age 62 in 2024 would be just $12,135 annually — an income well below the federal poverty line.[67]

---

58 Clearinghouse for Labor Evaluation and Research (CLEAR), "What Do We Know About Interventions That Support and Help Improve Employment for Older Workers?" 1, September 2023, accessed October 17, 2024, https://clear.dol.gov/sites/default/files/Older_Workers_Synthesis_Report_2023_08_0.pdf.

59 Barbara A. Butrica, "Workforce Programs Serving Older Workers and Other Populations with Employment Barriers: Older Workers Implementation and Descriptive Study," 10, Urban Institute, September 2022, accessed October 14, 2024, https://www.dol.gov/sites/dolgov/files/OASP/evaluation/pdf/Older-Workers-Lit-Review.pdf.

60 American Association of Community Colleges, "Fast Facts 2023," accessed October 14, 2024, https://www.aacc.nche.edu/wp-content/uploads/2023/03/AACC2023_FastFacts.pdf.

61 Butrica and Mudrazija, "Skills-Based Hiring," 16.

62 AARP Foundation calculations based on U.S. Bureau of Labor Statistics, U.S. Department of Labor's Workforce Innovation and Opportunity Act (WIOA) performance data, 2022, https://www.dol.gov/agencies/eta/performance/wioa-performance. People 55+ were 20% of participants in WIOA-funded programs overall and 16% of WIOA Adult and Dislocated Worker programs, compared to 23% of the workforce overall.

63 AARP Foundation calculations based on and U.S. Bureau of Labor Statistics, "Household Data Annual Averages," 2003, and "Labor Force Statistics from the Current Population Survey," 2023, https://www.bls.gov/cps/cpsaat03.htm.

64 U.S. Bureau of Labor Statistics, "Household Data Annual Averages" and "Labor Force Statistics."

65 S. Kathi Brown, "AARP Financial Security Trends Survey, January 2024," AARP Research, April 24, 2024, https://states.aarp.org/colorado/new-aarp-survey-findings.

66 United States Government Accountability Office, "Older Workers: Retirement Account Disparities Have Increased by Income and Persisted by Race Over Time," 24, GAO-23-105342 Report to Congressional Requesters, July 2023, accessed October 15, 2024, https://www.gao.gov/assets/gao-23-105342.pdf.

67 Kyle Burkhalter and Karen Rose, "Replacement Rates for Hypothetical Retired Workers," 3, Social Security Administration [preprint], Actuarial Note Number 2024.9, May 2024, https://www.ssa.gov/OACT/NOTES/ran9/an2024-9.pdf.

Unfortunately, even as more people expect and need to work longer, they continue to face significant barriers to staying in or reentering the labor market, including:

- **Misperception of lower return on investment for older workers**: Even though older workers stay in jobs longer than younger workers, employers view them as having shorter tenures and therefore consider investing in training for older workers as having a lower return.[68,69] They also view older workers as having less ability to learn new skills.[70] Partly due to these misperceptions, older workers have limited access to training opportunities, including upskilling, which are crucial for enhancing skills or transitioning to new career paths.
- **Pervasive ageism and age-related bias**: According to AARP's 2023 survey on age discrimination among workers over age 50, 64% of respondents think older workers face age discrimination in the workplace; among them, 90% believe it is a common occurrence.[71] This discrimination can manifest in various ways, including being passed over for promotions and excluded from training opportunities. Fear of age discrimination also prevents older adults from pursuing better jobs: 58% of low-income older workers responding to an AARP survey felt stuck in their present roles, unable to change jobs because of their age.[72]
- **Caregiving responsibilities**: Many older workers provide care for elderly family members. According to research by AARP and the National Alliance for Caregiving, 54% of caregivers are age 50 or older, and more than two-thirds (67%) of those between the ages of 50 and 64 also work.[73] Caregiving adds to their stress and financial strain while also limiting the time they can dedicate to career development.

CLOSING THE GAP

A common limitation of existing upskilling programs is the underrepresentation of low-wage older workers. While designing a model for these workers, we looked first at the effective features of analogous programs, as well as additional limitations.

68 U.S. Bureau of Labor Statistics, "Employee Tenure Summary: Employee Tenure in 2024," September 26, 2024, accessed October 23, 2024, https://www.bls.gov/news.release/tenure.nr0.htm.

69 Butrica and Mudrazija, "Skills-Based Hiring," 15–16.

70 Butrica and Mudrazija, "Skills-Based Hiring," 15.

71 Lona Choi-Allum, "Age Discrimination Among Workers Age 50-Plus," AARP Research, July 26, 2022, https://doi.org/10.26419/res.00545.001.

72 AARP, "The Economic Impact of Age Discrimination: How Discriminating Against Older Workers Could Cost the U.S. Economy $850 Billion," 2020, https://doi.org/10.26419/int.00042.003.

73 National Alliance for Caregiving and AARP, "Caregiving in the U.S.: 2020 Report," 11, 63, https://www.caregiving.org/wp-content/uploads/2021/01/full-report-caregiving-in-the-united-states-01-21.pdf.

Large employer-sponsored programs have an upskilling model that works for employers and employees alike. Employers invest in workforce development and select the training that is most relevant to their business needs. Their investment leads to increased innovation, productivity,[74] and profitability.[75] Employees are incentivized to participate as a pathway to career advancement and higher wages.[76] These programs lead to greater job satisfaction and reduced turnover.[77]

Government-supported training programs, such as customized training programs, replicate key parts of this model while removing a financial barrier for employers by sharing the cost of training. They also allow employers to identify training that is specific to business needs.[78] Participating employees gain job security because employers commit to retaining workers who complete training, but evidence of measurable wage growth is limited.[79]

> **Employers are more likely to provide training to higher-paid employees. This tendency has an outsized impact on historically marginalized groups, who disproportionately hold low-wage jobs.**

AARP FOUNDATION UPSKILLING PILOT

In 2021, AARP Foundation launched the Upskilling Initiative, a three-year pilot program, in response to the pressing need to improve the economic opportunity of older workers with low incomes and to support small businesses. The pilot sought to replicate the proven risk and incentive structure of successful employer-sponsored upskilling programs. It removed the financial barrier to participation for SMEs, an approach similar to customized training programs, but it also sought to ensure measurable wage growth for low-wage older workers.

PROGRAM DESIGN

The pilot was designed as an employer-sponsored upskilling program, with a focus on low-income older employees, defined as those earning

74 Benoit Dostie, "Who Benefits From Firm-Sponsored Training?" IZA World of Labor, 2020, https://wol.iza.org/articles/who-benefits-from-firm-sponsored-training/long.

75 Joydeep Chatterjee, "Strategy, Human Capital Investments, Business-Domain Capabilities, and Performance: A Study in the Global Software Services Industry," *Strategic Management Journal* 38, no. 3(March 2017): 588–608.

76 Gallup and Amazon, "The American Upskilling Study," 23.

77 Vasilios D. Kosteas, "Job Satisfaction and Employer-Sponsored Training," British Journal of Industrial Relations 61, no. 4 (December 2023): 771–95, https://onlinelibrary.wiley.com/doi/epdf/10.1111/bjir.12741.

78 Steve Duscha and Wanda Lee Graves, "The Employer as the Client: State-Financed Customized Training," 4, U.S. Department of Labor, 2006, https://www.dol.gov/agencies/eta/research/publications/employer-client-state-financed-customized-training.

79 Kenneth Fortson et al., "Providing Public Workforce Services to Job Seekers: 30-Month Impact Findings on the WIA Adult and Dislocated Worker Programs," 67, 70, 137, Mathematica Policy Research, May 30, 2017, https://www.mathematica.org/publications/providing-public-workforce-services-to-job-seekers-30-month-impact-findings-on-the-wia-adult.

$16 or less per hour. AARP Foundation provided reimbursement of up to $2,500 per employee in training funds in exchange for a guaranteed hourly wage increase of between $1.50 and $2.50. SMEs paid training costs up front and were reimbursed once employees completed training. Participant businesses selected the most relevant training for their operations, ensuring that the skills acquired would directly support their business objectives.

> **The estimated half-life of a skill — the amount of time before half of the knowledge in a particular area becomes obsolete — has decreased from 10 to 15 years to about 5 years, and 2.5 years for technical skills.**

To reach participant SMEs, AARP Foundation partnered with industry associations. The associations solicited applications from their member businesses, managed and tracked the application process, verified the eligibility of applicant businesses and the qualifications of training providers identified by businesses, and monitored training outcomes. They played a vital role in facilitating communication, ensuring compliance, and providing support to participating businesses throughout the process. AARP Foundation provided a portion of the administrative costs, as well as marketing and outreach support.

RESULTS

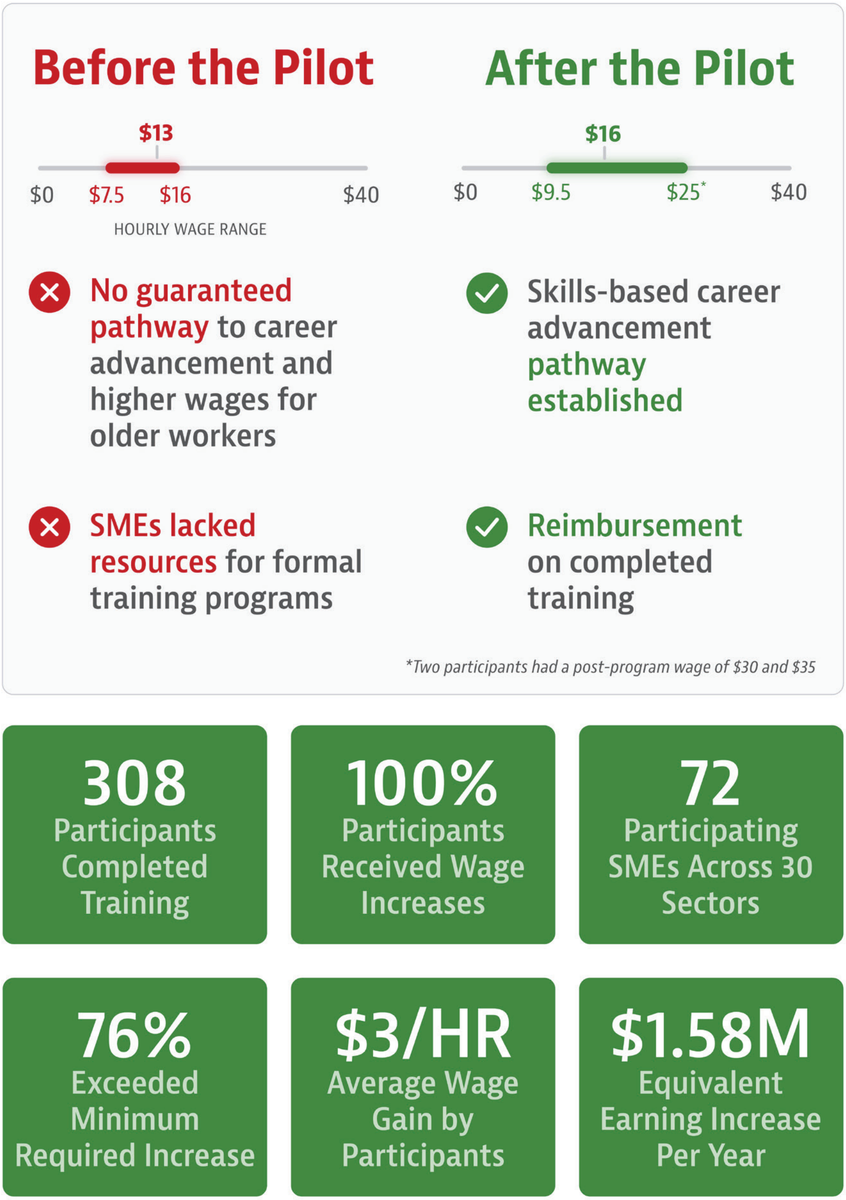
The pilot tested two assumptions: (1) whether SMEs would be willing to pay the up-front cost of upskilling their low-income older workers if they were reimbursed for all or a significant portion of the training costs and (2) whether the perceived benefits of upskilling to SMEs would outweigh the cost of providing wage increases for employees who completed the training. Both assumptions were validated.

We found that the financial incentive of reimbursement for training was sufficient for 72 SMEs to offer upskilling to low-wage older workers and to pay up front for training. Participating SMEs came from 30 sectors, including health/wellness, food service, logistics, construction, and nonprofits. Associations did not report the number of SMEs who were offered the chance to participate and declined.

Participating SMEs were willing to guarantee wage increases to employees who completed training. All 308 participants who completed the training program reported a wage gain, and 233 participants, or three-quarters, reported a wage gain that was higher than the minimum required, indicating that SMEs perceived clear benefits from the upskilling. The average wage gain reported by participating employees was $3.00 per hour, twice the minimum wage increase that was required. Collectively, those wage increases translated to $1.58 million worth of increased earnings per year.

/ FIGURE 1 /

AARP FOUNDATION UPSKILLING INITIATIVE RESULT HIGHLIGHTS



THE PROMISE OF THE MODEL

Three key elements contributed to the success of the pilot:

1. Linking funding to wage gains: Requiring employers to commit to wage gains allowed philanthropic funding for upskilling to translate directly into tangible financial benefits for workers.

2. Shifting risk from employee or funder to business: As in large corporate upskilling programs, the business — the entity best positioned to determine what skills are valuable and needed — held the risk for the up-front cost and selection of the upskilling training.

3. Aligning incentives: The pilot aligned the incentives of the funder, the employer, and the employee. By conditioning reimbursement from the funder on the successful completion of the training, employers had an incentive to support and encourage their employee's completion. Likewise, the formalization of employers' commitments to wage increases guaranteed that the benefits of training were clear and substantial, motivating workers to participate and succeed.

CONCLUSION AND RECOMMENDATIONS

The AARP Foundation Upskilling Initiative's early success demonstrates that with appropriate risk and accountability sharing, a philanthropic investment in upskilling can deliver value to resource-constrained businesses and economic opportunity to workers.

The pilot also revealed opportunities for improvement and further research that will need to be addressed going forward:

- **Supporting SMEs in identifying skill gaps and workforce training needs:** Unlike larger corporations, SMEs often lack the resources and capacity to conduct thorough skills assessments and identify relevant upskilling programs. Providing SMEs with access to standardized assessment tools, quality training options, and expert consultancy could streamline the process and ensure that training investments align with both business objectives and employee development goals. Such support is instrumental to sustain and increase SMEs' successful participation in upskilling efforts without imposing excessive administrative burdens on them.
- **Reducing barriers to participation:** Some SMEs indicated that having to cover the full up-front cost of the selected training created too high a financial barrier to participation. A worthwhile step would be to test the impact of different levels of up-front cost

sharing to maintain the risk and incentive structure of the model while increasing accessibility for cash-flow-sensitive[80] businesses.

- **Additional research is needed to understand the long-term impact of upskilling:** Future studies should explore the relationship between upskilling older workers in low-income fields and SME staff retention and productivity, as well as workers' financial security and access to opportunities to move into higher-paying or higher-skilled jobs. Defining the long-term benefits would reinforce the case for investing in upskilling opportunities for older workers.

Claire Casey is President of AARP Foundation, where she guides the strategic direction of the nation's leading organization committed to reducing poverty for and with older adults.

---

80 This term refers to businesses that depend on day-to-day cash flow from their sales or services to remain open and/or continue to grow.

THE HIRE-TRAIN-DEPLOY MODEL

RETHINKING ENTRY-LEVEL WORKFORCE DEVELOPMENT IN THE AGE OF AI

/ **RYAN CRAIG AND JEREMY BERNARD-SASGES**
ACHIEVE PARTNERS

INTRODUCTION

While affordability and student loan debt continue to grab the higher education headlines, an important fact is being overlooked: If every student graduated into a job with a salary of $60,000, the average level of student loan debt would be affordable. So, the dark, seamy underbelly of the student debt crisis is underemployment.

According to Strada Education Foundation's updated report on underemployment, 52% of college graduates are underemployed a year after they graduate even though millions of good jobs claim to be entry level and accessible to career launchers.[81]

Further, those with less than a college degree also struggle with employment. According to the Bureau of Labor Statistics, in 2023, the unemployment rate for those with some college but no degree was 3.3% — 1.5 times higher than the rate for graduates with a bachelor's degree (2.2%).[82] For adults with only a high school diploma, the unemployment rate was 3.9% — 1.8 times greater than that of their

81 "Talent Disrupted: College Graduates, Underemployment, and the Way Forward," Burning Glass Institute / Strada Education Foundation, February 2024, stradaeducation.org/report/talent-disrupted/.

82 U.S. Bureau of Labor Statistics, "Table 5.1 Unemployment Rates and Earnings by Educational Attainment, 2023," https://www.bls.gov/emp/tables/unemployment-earnings-education.htm.

counterparts holding a bachelor's degree. And for adults with less than a high school diploma, the unemployment rate was 5.6%, which is 2.5 times greater.

/ FIGURE 1 /
HTD MODEL

HIRE

Intermediary hires high-potential talent without specific skills or experience

TRAIN

Intermediary trains talent via last-mile training programs to deliver related technical instruction up front

DEPLOY

Intermediary deploys talent to client projects via managed services or staff augmentation

ADDITIONAL BENEFITS

Intermediary serves as the **employer of record** throughout

Simple approach for clients to hire new, trained, productive talent

So, having a college degree is no longer enough to ensure employment, and those without a college degree struggle with unemployment even more significantly. Unfortunately, the bar is even higher than before[83] to break into the good entry-level jobs that pay a living wage and provide clear career paths for economic advancement. Today's good entry-level jobs ask for specific digital and business skills that are much harder to learn in a classroom than they are through experience. As an example, an open entry-level job in IT listed among the required skills: iSeries programming languages (e.g., Java, SQL, RPG, CL) and experience performing technology audits.[84] Similarly, those who want to become an entry-level Salesforce developer would need to demonstrate experience with JSON, .NET, Java, XML, and related languages, as well

83 Younger US Workers Struggle for Jobs as Entry-level Posts Disappear." 2025. S&P Global Market Intelligence. January 17, 2025. https://www.spglobal.com/market-intelligence/en/news-insights/articles/2024/12/younger-us-workers-struggle-for-jobs-as-entry-level-posts-disappear-86796454.

84 David Rice, "Entry-Level, 3 Years' Experience Required: Are You Blocking New Talent from Joining Your Business?" People Managing People, November 18, 2024, https://peoplemanagingpeople.com/articles/entry-level-requirements/.

as experience with integration technologies.[85] This mismatch between an employee's skills and the skills required for a certain position is called the "skills gap." In addition to the skills gap, employers also want experience:

> **Today's good entry-level jobs ask for specific digital and business skills that are much harder to learn in a classroom than they are through experience.**

One could become a Trailhead-certified Salesforce administrator in many ways, but not many employers are looking for a newly minted Salesforce administrator with no relevant work experience. This disparity between an employee's experience and the experience required by the employer is called the "experience gap." The data is piling up: Entry-level positions in engineering, cybersecurity, and health care now — surprisingly, depressingly — demand years of work experience.[86] This challenge is consistent for those with or without a college degree.

Unfortunately, the experience gap is about to turn into a chasm. The reason is artificial intelligence (AI). C-suite executives estimate that AI will eliminate 56% of entry-level roles by 2028.[87] Here's what one U.K.-based executive recruiter forecasts for the Big 4 accounting firms:

> *Over the next five years, the Big 4 accounting firms will significantly reduce their graduate and school-leaver hiring intake as they begin to implement AI across various areas of their operations. ... A consensus is emerging that AI could automate many tasks currently performed by junior staff at the Big 4 ... leading to smaller overall organisational sizes. ... Historically, the Big 4 have hired substantial numbers of graduates, offering high-class training that benefits the broader economy. With fewer traditional roles available, it raises concerns about where new graduates will find comparable opportunities and training.*[88]

---

85 "What Is an Entry Level Salesforce and How to Become One," ZipRecruiter, n.d., https://www.ziprecruiter.com/career/Entry-Level-Salesforce/What-Is-How-to-Become#:~:text=To%20become%20an%20entry%2Dlevel,information%20technology%20or%20computer%20science.

86 Abha Bhattarai, "New College Grads Are More Likely to Be Unemployed in Today's Job Market," Washington Post, November 19, 2023, https://www.washingtonpost.com/business/2023/11/19/college-grads-unemployed-jobs/; Tim W., chief information security officer and cybersecurity expert, LinkedIn post, 2021, https://www.linkedin.com/posts/activity-6631568765173792770-U7F7/; Joseph Pisani and Lindsay Ellis, "The Next Challenge for the Class of 2024: Finding a Job," Wall Street Journal, May 22, 2024, https://www.achievepartners.com/the-next-challenge-for-the-class-of-2024-finding-ajo.pdf.

87 "Navigating the Workplace in the Age of AI," edX Enterprise, September 6, 2023, https://business.edx.org/white-paper/navigating-the-workplace-in-the-age-of-ai.

88 James O'Dowd, founder and managing partner at Patrick Morgan, *LinkedIn* post, 2024, https://www.linkedin.com/feed/update/urn:li:activity:7191341296932814849/.

AI is on the cusp of transforming entry-level work. From time immemorial, employers have made this implicit bargain with entry-level workers: You may not know the industry or role very well, but we'll hire and pay you while you learn the ropes; and as you're becoming productive, you'll spend your time on menial or mechanical work. Going forward, the Big 4 and other employers aren't going to want or need workers to spend hundreds of hours assembling financial reports, bidding on Google and Facebook ads, or drafting client pitch decks. AI will do that. Instead, employers will expect entry-level workers to leverage AI and spend the bulk of their time on higher-value client work and projects. But new employees won't be able to do higher-value work without relevant in-field experience — that is, tryouts that train.

The Wall Street Journal is already connecting the dots.[89] Employers plan to hire 5.6% fewer graduates than they did in 2023, and candidates with prior experience have a big advantage. According to the managing partner at a D.C.-based systems integrator, "AI right now is making … entry-level positions — I don't want to say obsolete — but they're changing them."

AI isn't only displacing many entry-level roles; it's accelerating the ongoing "experience inflation" to hyperinflation. Receiving relevant, in-field, and hopefully paid work experience to best position themselves for a first good full-time job will become imperative for entry-level workers.

Various options are available to provide young people with work experience before they begin searching for their first full-time role, but apprenticeships stand out as a clear top option for many reasons. Apprenticeships are full-time jobs that don't require prior technical or business skills or experience; these are provided over the course of the apprenticeship. In many cases, apprenticeships also teach life skills like professionalism and communication. By turning to apprenticeships, candidates can develop the in-field work experience they need to jump into entry-level roles, bridge the skills and experience gaps widened by AI, and leverage AI on the job to create real impact from day one.

Apprenticeships meaningfully raise candidates' earning potential and save the government money.[90] A study by Washington state showed

89 Pisani, Joseph, and Lindsay Ellis. May 22, 2024. "The Next Challenge for the Class of 2024: Finding a Job." The Wall Street Journal.
https://www.wsj.com/lifestyle/careers/jobs-ai-disruption-2024-college-graduates-f72247ab.

90 U.S. Department of Labor, "Earn While You Learn Today," Apprenticeship USA, accessed October 28, 2022, https://www.apprenticeship.gov/sites/default/files/dol-industry-factsheet-careerseeker-v10.pdf;
Batia Katz et al., "Did Apprentices Achieve Faster Earnings Growth Than Comparable Workers? Findings from the American Apprenticeship Initiative
Evaluation," Urban Institute, August 2022, https://wdr.doleta.gov/research/FullText_Documents/ETAOP2022-41_AAI_Brief-Earnings_Growth_Final_508_9-2022.pdf; Debbie Reed et al., "An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States," Mathematica Policy Research, July 25, 2012, https://wdr.doleta.gov/research/fulltext_documents/etaop_2012_10.pdf.

that every $1 invested in apprenticeships saves taxpayers $7.80 over a period of 10 years.[91]

> **... employers will expect entry-level workers to leverage AI and spend the bulk of their time on higher-value client work and projects. But new employees won't be able to do higher-value work without relevant in-field experience — that is, tryouts that train.**

Until now, apprenticeships have remained principally limited to the building and construction trades. But what's worked for construction may not work in a digital economy, which brings us to an innovative new model of apprenticeships and likely the fastest growing: Hire-Train-Deploy programs.

Hire-Train-Deploy programs are run by apprenticeship intermediaries. What are apprenticeship intermediaries? Michael Prebil at New America says:

> *Apprenticeship intermediaries cut through the complexity of developing and delivering apprenticeships by taking on some of the tasks that an employer would perform if it ran a program all by itself.*[92]

Urban Institute goes on to differentiate the types of activities intermediaries perform for companies:

> *Low-intervention activities in which intermediaries engage within the apprenticeship ecosystem could include building awareness, convening and connecting relevant actors, and providing high-level advice. High-intervention activities could include active roles in designing and registering programs; recruiting, coaching, and monitoring apprentices' progress; providing training and instruction; and serving as the employer of record.*[93]

The U.S. hasn't yet made a systematic effort to foster intermediaries. As Brookings Institution researcher Annelies Goger notes, "For occupations and industries that are new to apprenticeships and have low unionization (such as technology and health care), there is an institutional vacuum in the intermediary role that is often a barrier

---

91 "Workforce Training Results," Washington Workforce Training & Education Coordinating Board, accessed October 18, 2022, https://www.wtb.wa.gov/research-resources/workforce-training-results/#open.

92 Michael Prebil, "Community College Intermediaries Can Support Youth Apprenticeship and Work-Based Learning," New America (blog post), February 1, 2023, https://www.newamerica.org/education-policy/edcentral/community-college-intermediaries-support-youth-apprenticeship-in-skilled-trades.

93 Diana Elliott and Miriam Farnbauer, "Bridging German and U.S. Apprenticeship Models," Urban Institute, August 2021, https://www.urban.org/sites/default/files/publication/104677/bridging-german-and-us-apprenticeship-models.pdf.

to scaling apprenticeships."[94] Partnering with apprenticeship service providers should be old hat for American companies; U.S. companies lead the world in outsourcing services to specialty providers.[95] American companies aren't particularly interested in running apprenticeship programs[96] — it's not core to their business. Partnering with intermediaries who are willing to do the heavy lifting until apprentices prove their ability to do the job makes good business sense.

If you know anything about apprenticeship intermediaries, it's probably nonprofits building pathways and providing new opportunities for at-risk populations. You may even have heard of some of them, along with personal stories from participants. What follows is an example of the best-known nonprofit apprenticeship intermediary and an apprentice who has benefited.

YEAR UP

Founded in 2000, Year Up pays weekly stipends to underprivileged young adults and starts them on six months of intensive classroom training in tech, business operations, financial operations, sales, and customer support. Beyond specific tech and sector knowledge, Year Up apprentices acquire the knowledge they need to be successful professionals (e.g., punctuality, personal conduct, communication) and are supported by Year Up social workers and advisers.

Apprentices who successfully complete classroom training are sent on six-month placements to corporate partners like Bank of America, Merck, and JPMorgan Chase. During placement, apprentices return to Year Up one-half day each week for workshops and career planning.

Year Up's outcomes are terrific. Within four months of program completion, 80% of apprentices are employed full-time or enrolled in postsecondary programs. A 2022 study found that four years after the program, Year Up apprentices earned $8,000 more than young adults who qualified but were assigned to a control group and sent to other programs.[97] Overall, 75% of Year Up apprentices are underrepresented minorities.

Because not every apprentice is hired by a partner, Year Up launched Year Up Professional Resources (YUPRO), a staffing firm that hires

94 Annelies Goger, "Desegregating Work and Learning through 'Earn-and-Learn' Models," Brookings Institution, December 9, 2020, https://www.brookings.edu/research/desegregating-work-and-learning.

95 https://www.statista.com/outlook/tmo/cybersecurity/security-services/professional-services/worldwide https://www.statista.com/outlook/tmo/it-services/worldwide

96 See Figure 1 in Chapter 1 of this volume, "Can Pay for Success Scale Apprenticeships in the US?"

97 David Fein and Samuel Dastrup, "Benefits That Last: Long-Term Impact and Cost-Benefit Findings for Year Up," OPRE Report 2022-77, Pathways for Advancing Careers and Education (PACE), March 2022, https://www.acf.hhs.gov/sites/default/files/documents/opre/year%20up%20long-term%20impact%20report_apr2022.pdf.

Year Up graduates, serves as the employer of record, and staffs them out to clients.

The corollary of Year Up's outcomes is cost. All the wraparound services cost $28,290 per participant. As no company is going to pay that amount to find entry-level tech, business, or customer service support workers, Year Up's engine has been fueled by philanthropy. In 2021, Year Up received $114 million in charitable contributions and grants to subsidize the $76 million it received from corporate partners paying Year Up for apprentice time.[98] Year Up receives minimal government support.[99]

> *I knew I wanted to get into human resources, but no company wanted to hire me without the experience . . . So when the opportunity for the apprenticeship came, I knew I had to take it.*
>
> *— Reason Bennett*

Reason Bennett grew up in the Bronx. After graduating, she started college but dropped out and took a job in a nursing home. The nursing home job lasted five years before Reason switched to working in cell phone stores. But she always wanted more than a frontline job.

Reason started an apprenticeship with Year Up in 2017. She spent the first six months of the program learning about anti–money laundering before landing a place at JPMorgan Chase. She was eventually hired full-time at JPMorgan in 2018 and went on to work there for two years before a corporate restructuring cost Reason her job.

Reason had nearly given up on a great job at a great company. But Year Up hadn't given up on Reason. In 2021, YUPRO reached out to Reason and asked if she'd be interested in a new placement, this time in HR. Thanks to YUPRO, Reason is now an analyst in HR at a Fortune 500 financial services company where she supports emerging talent programs. "Working with Year Up was the best decision I have made," she says. "I knew Year Up would be my foot in the door to corporate America. Now I'm working at one of the best places to work, in the department I've been dreaming of."

While Year Up and other nonprofit apprenticeship intermediaries have been around for decades, a newer, higher-intervention model has emerged in recent years that's even more attractive to employers:

---

98 Department of the Treasury, Internal Revenue Service, Form 990, "Return of Organization Exempt from Income Tax," Year Up, Inc., 2021, accessed October 18, 2022, https://www.yearup.org/sites/default/files/2022-07/Year%20Up%2C%20Inc.%20 2021%20Form%20990%20-%20Open%20to%20Public%20Inspection.PDF.

99 David Fein, Samuel Dastrup, and Kimberly Burnett, "Still Bridging the Opportunity Divide for Low-Income Youth: Year Up's Longer-Term Impacts," OPRE Report 2021-56, Pathways for Advancing Careers and Education (PACE), April 2021, https://www.acf.hhs.gov/sites/default/files/documents/opre/year-up-report-april-2021.pdf.

Hire-Train-Deploy providers (or HTD). HTD programs: (1) hire high-potential talent without specific skills or experience; (2) deliver related technical instruction (RTI) up front (which they call last-mile training or LMT); (3) provide relevant work experience through deployments on client projects, via managed services for clients, or through staff augmentation (i.e., staffing talent fresh out of RTI directly at clients); (4) serve as the employer of record throughout; and (5) make it simple for clients to hire new, trained, productive talent.

HTD is a form of unregistered apprenticeship, and it's unregistered for good reason: HTD companies don't have to deal with the large barriers to registering their apprenticeship, and they have very little incentive to do so. Instead of being driven by government policy, HTD apprenticeships are market driven.

Apprenticeship is great. But HTD is the apotheosis of apprenticeship, allowing clients to "try before they buy." That matters a great deal to skittish companies in the U.S. and globally. Due to this "try before you buy" model, HTD companies and their clients can be more nimble than traditional apprenticeship programs at large organizations. HTD companies often train candidates in distinct cohorts (e.g., 10–15 candidates at a time). The instructional material and focus of these cohorts can be modified over time, so the latest, most relevant material is being taught, and the skills candidates learn are complementary to AI. Importantly, market pressure ensures that this happens; if a cohort is trained in skills easily replaceable by AI, the HTD company won't be able to sell that cohort to a client. So, while apprenticeship does a great job of giving candidates the relevant experience needed to spring past an expanding skills and experience gap, HTD goes a step further by promoting greater adaptability in the subjects being taught and remaining complementary to AI.

What follows are several examples of apprenticeship and HTD in action.

REVATURE

Revature began life as a staffing company for software developers. About a decade ago, due to the firm's inability to find enough developers to fill client orders, the company developed an early version of HTD. Revature gave applicants multiple ways to demonstrate aptitude: computer science degrees, relevant coursework, or completing online projects to ensure that applicants had some capability with Java before being hired as apprentices.

Revature apprentices went through three months of LMT on specific training. Then, Revature would staff out apprentices at bill rates sufficiently more than pay rates to cover the costs and risks of recruiting, screening, hiring, training, and mentoring. One to two years later, clients were permitted to hire apprentices.

After fully committing to HTD in 2016, the high-intervention intermediary took flight. Revature launched dozens of partnerships with universities to source new graduates. In 2018, Revature placed 1,250 new software developers at clients. To broaden the business beyond software development, Revature built technology partnerships with platform companies like Salesforce, Appian, and ServiceNow. In 2022, Revature was the largest employer of entry-level tech talent in the country, placing approximately 3,000 apprentices at clients.

> *I'm living my best life. The only sad thing about my time with Revature is that it eventually ended.*
>
> *— Ian Baker*

Ian Baker grew up in challenging circumstances, and after his parents divorced, he and his mother moved to Florida. After high school, Ian enrolled in community college, began working part-time, and married a wonderful woman with two kids. After various retail jobs, Ian was hired to provide technical support for Apple. Ian rose rapidly but hit a pay ceiling and needed to make more to support his new family. When he learned about Revature's apprenticeship model, he applied immediately, although he was concerned that he didn't have a bachelor's degree. Revature evaluated his potential and, after Ian completed a four-week online class (one-hour sessions in the evening), hired him.

Ian's training took place at the University of South Florida, where Revature put up apprentices in subsidized apartments. Ian learned Java quickly from Revature's fast-paced curriculum. Some members of the cohort didn't make it, but that made Ian even more determined.

While Revature taught him software development, more important were the soft skills: "how to comport myself professionally, how to navigate company culture, how to interview, how to dress," and most of all, how to learn new tech skills. That was critical because Ian's first assignment was with a company that didn't use any of the languages he'd learned in training. Although he had to relocate to Baltimore with his family, the move was worth it. In his second year as a Revature consultant, he made two to three times more than he'd ever made before.

Ian's now working as a software engineer for Lowes and making more than $200,000 annually between his full-time job and side projects.

He's able to provide for his family. From where he started, without any personal or family connections, he's certain there was no other way to launch a career in software development.

ULTRAVIOLET CYBERSECURITY

Cybersecurity may be America's clearest yet most dangerous talent gap. Whereas a decade ago, cybersecurity at most firms consisted of virus protection software, today it's a mission-critical function, and we're currently short by about 600,000 workers even though cybersecurity analyst positions are good jobs that average $78,000 to start and serve as pathways to even more lucrative careers with impressive job security.[100]

While cybersecurity programs pop up at colleges and universities, most are master's degrees that cost $25,000+ and, as New America's Kevin Carey notes, "are heavily debt-financed."[101] In addition, much of what passes for college cybersecurity coursework is out-of-date, out-of-touch, and disconnected from entry-level industry-recognized certifications like SSCP, CompTIA Security+, and GSEC. Industry experts agree you don't need a degree for cybersecurity; becoming a pen tester or incident response analyst requires months, not years, of training.[102]

Compared to the other HTD models, cybersecurity is unique in one respect. While many companies manage software development or administer Salesforce or Workday internally, cybersecurity is primarily outsourced to managed security service providers (MSSPs): firms that are experts at identifying, targeting, and responding to threats.

So MSSPs are probably best positioned to know exactly what talent they need. The first MSSP to stand up an HTD model is Ultraviolet Cybersecurity. In 2022, Ultraviolet launched a 12-week paid cybersecurity analyst apprenticeship program including six weeks of RTI followed by six weeks of on-the-job training (OJT). For OJT, apprentices worked one-to-one with security operations center (SOC) analysts and transitioned to independent customer work. Check-ins with mentors and project leaders continued for the first six months to ensure successful integration.

---

100 "Entry Level Cyber Security Analyst Salary," ZipRecruiter, accessed October 18, 2022, https://www.ziprecruiter.com/Salaries/Entry-Level-Cyber-Security-Analyst-Salary; Cybercrime Magazine, "Robert Herjavec Cybercrime Magazine Podcast Video," posted on August 16, 2018, YouTube video, 8:26, https://www.youtube.com/watch?v=RE50JHQ_V80; Olivia Rockeman, "Hackers' Path Eased as 600,000 U.S. Cybersecurity Jobs Sit Empty," Bloomberg, March 30, 2022, https://www.bloomberg.com/news/articles/2022-03-30/hackers-path-is-eased-as-600-000-cybersecurity-jobs-sit-empty.

101 Jordan Weissman, "Master's Degrees Are the Second Biggest Scam in Higher Education," Slate, July 16, 2021, https://slate.com/business/2021/07/masters-degrees-debt-loans-worth-it.html.

102 Christian Espinosa, "Do You Have a Cybersecurity Talent Shortage? Don't Require a Four-Year Degree," Forbes, March 26, 2021, https://www.forbes.com/sites/forbestechcouncil/2021/03/26/do-you-have-a-cybersecurity-talent-shortage-dont-require-a-four-year-degree.

Everyone in IT knows it's kind of hard to get into cybersecurity. So I would definitely say to anyone trying to get into cyber that an apprenticeship is very helpful.

— Zestiny Simmons

Zestiny Simmons grew up in South Carolina and attended George Washington University (GWU), where she earned a bachelor's degree in business administration with a concentration in IT management. She found a job posting for the Ultraviolet apprenticeship program and applied.

Zestiny spent the first month of her SOC analyst program learning cybersecurity concepts and walking through the software platforms Ultraviolet uses. (Brand-new apprentices aren't allowed on Ultraviolet's systems right away; that practice would be too risky.) After Zestiny performed well during that first month, Ultraviolet made her a full-time offer. Zestiny's job is now to monitor threats across multiple clients and use Ultraviolet software platforms to analyze those threats. If she believes something needs to be done to address a threat, she escalates it. Zestiny's glad she pursued the Ultraviolet program. "My alternate path would have been to go to graduate school and try to find a job the traditional way."

RO HEALTH

Ro Health is a health care staffing company that places nurses and therapists in school districts. In 2022, Ro launched its own apprenticeship program, hiring high-potential workers and delivering RTI to enable them to pass the registered behavior technician (RBT) exam and attain certification. Newly minted RBTs are then staffed at client schools while continuing to receive training, mentoring, and support. Ro's apprenticeship program is a simple way to launch thousands of careers in behavioral health and a great way for schools to secure the talent they need to serve the growing number of students with autism.

I finally feel appreciated for my abilities. My pay now reflects my experience and accomplishments.

— Janae Gautier

Janae Gautier is from Sacramento. Her mom was a nurse, her dad a police officer. Janae always assumed she would go to college and attended a two-year program in Sacramento before transferring to California Southern University, where she earned a bachelor's degree in psychology, attending school online.

Janae had various jobs while in school. She worked at a clothing store, then at a gas station. As she entered her final year of college, she began working with children at an after-school program. After she graduated, she got a job helping special needs students in a Sacramento school. But in this job, and others that followed, Janae was treated (and paid) as a caregiver rather than an educator or a member of a child's treatment team.

That's when she found Ro Health. Ro paid Janae to complete RBT training and certification. Today, Janae works in a K–3 independence and learning support (ILS) classroom for students with disabilities and adaptive functioning needs, reinforcing positive behaviors and maintaining the classroom environment. She loves the class and teaming up with the teacher and other aides. She's also making 30% more than she was making before she became an RBT. Janae is grateful to Ro Health for the opportunity to become an RBT and live comfortably while working in an environment that she truly enjoys.

CONCLUSION

What do all these HTD businesses have in common? First, they already have relationships with dozens or hundreds of talent-starved clients. They have or can easily develop a staffing business. HTD companies have the capability to sell talent because their technical and industry expertise allows them to talk to tech and business leaders on equal footing and propose and deliver talent solutions with customized training. The U.S. has tens of thousands of business services firms that fit this bill.

Another commonality: They've turned a bug in their business model into a feature. Especially in talent-starved sectors and ecosystems (such as cybersecurity and health care), a growing number of companies have taken to poaching talented workers from their competitors. Few companies feel this more acutely than tech service providers like Revature. These companies employ trained workers and put them to work for clients. Nowadays, however, talent-starved clients increasingly seek to take that talent themselves. While large service providers make it crystal clear to clients that poaching is verboten, smaller tech service providers often find themselves at the mercy of big clients in desperate need of their talent, regardless of what contracts might say.

HTD companies flip the switch and turn the bug of losing talent into a money-making feature. What's more, with AI shifting the types of tasks that are performed by entry-level talent, the HTD model preserves flexibility for the HTD companies and their clients to adapt more quickly and leverage AI, rather than be replaced by it.

In today's economy, recent college graduates are already facing an uphill battle against student loan debt, those without college degrees are facing an even greater burden of unemployment, and all entry-level talent is bearing the brunt of unattainable entry-level job requirements. Unfortunately, AI may be about to make things much worse. For the next generation of workers, prior work experience will become even more critical.

Apprenticeships and Hire-Train-Deploy are part of the solution. Candidates from all backgrounds are experiencing the benefits, irrespective of whether they have a college degree. Many candidates learn about the opportunities from friends or online job boards, and they are thrilled when they do. Across multiple industries, intermediaries are popping up to provide entry-level workers with a pathway to gain experience, get paid, and help clients all at the same time. In turn, the benefit is felt throughout the value chain: Apprentices bridge the skills and experience gaps while being paid; clients gain access to new, diverse, lower-cost talent in talent-starved sectors; and HTD companies like Revature, Ultraviolet, and Ro Health grow by solving the problem. Even the government and taxpayers save money.[103] If you're like us, perhaps the only remaining question is: How do I get involved?

Ryan Craig is a Managing Director at Achieve Partners and the author of the book Apprentice Nation: How the "Earn and Learn" Alternative to Higher Education Will Create a Stronger and Fairer America (2023).

Jeremy Bernard-Sasges is an Analyst at Achieve Partners, where he invests in and supports portfolio company strategy across specialized services and education technology verticals.

---

103 U.S. Department of Labor, "Earn While You Learn Today," Apprenticeship USA, accessed October 28, 2022, https://www.apprenticeship.gov/sites/default/files/dol-industry-factsheet-careerseeker-v10.pdf;
Batia Katz et al., "Did Apprentices Achieve Faster Earnings Growth Than Comparable Workers? Findings from the American Apprenticeship Initiative Evaluation," Urban Institute, August 2022, https://wdr.doleta.gov/research/FullText_Documents/ETAOP2022-41_AAI_Brief-Earnings_Growth_Final_508_9-2022.pdf; Debbie Reed et al., "An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States," Mathematica Policy Research, July 25, 2012, https://wdr.doleta.gov/research/fulltext_documents/etaop_2012_10.pdf; "Workforce Training Results," Washington Workforce Training & Education Coordinating Board, accessed October 18, 2022, https://www.wtb.wa.gov/research-resources/workforce-training-results/#open

5

BUILDING A SELF-SUSTAINING STAFFING AGENCY FOR THE SOCIAL SECTOR

/ **AMELIA NICKERSON** FIRST STEP STAFFING

An earlier version of this chapter appeared in the first volume of Workforce Realigned *(2021). That version was co-authored by First Step Staffing's Amelia Nickerson and by CaSonya Thomas, former assistant executive officer, Human Services of San Bernardino County.*

Most of the roughly 25,000 staffing firms in the U.S.[104] are for-profit entities with healthy profit margins. The typical staffing firm does not have a social mission and, therefore, rarely works with candidates who lack traditional qualifications or require significant support to enter the workforce successfully.

Staffing firms have long provided a high-value, outsourced approach to recruiting and retaining talent. Businesses hire staffing firms to help them assess their personnel needs, source promising candidates, conduct initial interviews, and handle contracting and payment. Staffing firms maintain databases of talented employees, enabling them to offer businesses easy access to a large pool of prescreened candidates.

For individuals, staffing agencies increase the chance of getting hired, offer coaching and training, and minimize time between jobs. In many

---

104 "Staffing Industry Statistics," American Staffing Association, accessed February 12, 2021, https://americanstaffing.net/research/fact-sheets-analysis-staffing-industrytrends/staffing-industry-statistics.

cases, individuals placed by staffing firms remain on the payroll of the staffing firm.

First Step Staffing (FSS) is similar to other staffing agencies regarding the services it offers to employers, but its clients are quite different from those of its peers. FSS helps to provide job access to housing-insecure and justice-involved[105] individuals. A nonprofit workforce development agency, FSS brings a social enterprise model to the staffing firm space. In addition to offering the traditional services of a staffing agency, FSS provides wraparound services designed to help individuals with unstable life circumstances to succeed in job placements. Success at work provides much-needed income for basic needs like food and shelter, but it also provides intangible benefits — like dignity, hope, and access to social capital — that are important components for First Step clients' long-term success.

A SELF-SUSTAINING MODEL TO HELP INDIVIDUALS EXPERIENCING HOMELESSNESS OBTAIN AND RETAIN JOBS

FSS serves individuals who face chronic challenges to obtaining and retaining work — primarily military veterans, housing-insecure individuals, and formerly incarcerated individuals. FSS provides support meant to ensure that clients successfully obtain financial stability through paid work and that employers are satisfied with the talent that FSS places. To help individuals mitigate persistent barriers to rejoining the workforce, FSS offers a cadre of wraparound services through local partners. Since 2023, these services have expanded to include free upskilling training after initial placement, direct housing assistance, financial empowerment, benefits enrollment, and help with other basic needs to ensure opportunities for both economic opportunity and economic mobility. Upskilling training includes short-term training and certification programs in high-demand careers. Flexible private funding ensured that First Step had the working capital to expand these services to multiple markets after the initial pilot phases.

> **The typical staffing firm does not have a social mission and, therefore, rarely works with candidates who lack traditional qualifications or require significant support to enter the workforce successfully.**

Since 2015, First Step has expanded into new markets in two ways. One model involves growth through acquiring a for-profit staffing firm and then converting that firm to a social enterprise. Although this approach is very uncommon for mission-based organizations, FSS defines this

105 "Justice-involved" refers to current or prior experience with arrest and/or incarceration, including as a juvenile.

practice as critical to its success and scalability. FSS obtains two key assets by acquiring and converting existing firms: staff and employer partners. Experienced staffing firm professionals bring deep knowledge of the staffing field as well as personal knowledge of the clients and their industries. While marketing itself to corporate clients might be difficult for a social service agency such as FSS, the agency has been highly effective in retaining the employers of the acquired agencies and proving its ability to fulfill employers' needs over time.

> **Success at work provides much-needed income for basic needs like food and shelter, but it also provides intangible benefits — like dignity, hope, and access to social capital — that are important components for First Step clients' long-term success.**

Adding key wraparound services, such as transportation to and from the worksite at no additional cost to the employer partner, has enabled First Step to provide well-supported and highly motivated employees. This practice has resulted in retention rates and job fill rates that outpace the industry average for similar for-profit firms. These services also create a deeper connection with the individual employee, helping to build brand loyalty and awareness among the populations First Step seeks to serve. While some for-profit staffing firms are starting to offer services such as on-the-job training and additional upskilling courses, First Step's blended revenue model of earned revenue through staffing contracts, together with philanthropic support, allows us to allocate a significant amount of funds to these services annually. For instance, the housing assistance program, which was launched in 2023, is fully funded by private philanthropy — and early data suggest it increases job retention by 50% for those enrolled in the program.

Additionally, as First Step has grown into more markets, it has increased its ability to work with larger national employers in multiple sites. This growth has allowed First Step to open smaller branches with these employers as anchor accounts and expand through sales over time. National partners choosing to work with First Step in multiple markets is a key sign that they value the service, demonstrating a strong business case for this alternative staffing model. As First Step has grown to serve more markets, it is continuing to grow into a viable national employment service provider.

Using both growth models, over the last nine years, First Step has grown from $2 million to nearly $70 million in annual revenue and has scaled from assisting 100 individuals each year to now employing 8,000+. Today, First Step Staffing is one of the largest alternative staffing companies in the U.S. and is in the top 25% of all U.S. staffing companies based on revenue.

Operationally, FSS pays clients weekly while receiving payment from employers according to the 30- to 45-day terms standard to the staffing industry. Therefore, in addition to requiring the capital to purchase a staffing firm and establish operations, as well as the operating capital needed for a new branch, FSS needs to raise working capital in each market to ensure that, from the start, clients are paid on time while the firm awaits employer payments. This working capital, coupled with a line of credit, fuels the future growth of the organization.

> **Adding key wraparound services, such as transportation to and from the worksite at no additional cost to the employer partner, has enabled First Step to provide well-supported and highly motivated employees. This practice has resulted in retention rates and job fill rates that outpace the industry average for similar for-profit firms.**

After building its brand and experience in Atlanta, FSS obtained loans to expand. When FSS expanded to Philadelphia, it borrowed funds to cover 90% of its capital costs and secured grants and government contracts to cover the balance. With successful acquisitions in both Atlanta (2015) and Philadelphia (2018), First Step began to look at additional markets ideal for this growth model.

SHARING RISK AND RESPONSIBILITY TO BRING FSS TO SAN BERNARDINO

In recent years, the need for innovative employment solutions for homelessness in Southern California has grown more and more urgent. According to San Bernardino County's annual point-in-time homelessness assessments, the number of homeless individuals increased from 2,118 in 2018 to 2,607 in 2019. Believing that employment could be one part of the solution to help people permanently exit homelessness, First Step and San Bernardino County embarked on a unique, mutually beneficial partnership that included an outcomes-based funding mechanism and shared responsibility for the execution of the funding terms.

FSS sought to expand into San Bernardino by purchasing part of OS4Labor, a for-profit staffing firm that held contracts with thousands of employers to provide temporary, temp-to-hire, and direct-hire placements across roles including industrial, transportation, administrative, managerial, and professional positions. Through the acquisition, FSS could gain access to nearly 2,000 positions, primarily with employers in the light industrial and logistics sectors. The county of San Bernardino would refer people experiencing homelessness to

FSS, and FSS would place these individuals as natural turnover occurred in positions under contract with the staffing firm. The key question for FSS was how it would access the working capital necessary for the acquisition and launch.

The county of San Bernardino had long focused on helping homeless individuals obtain housing through cash assistance, access to Temporary Assistance for Needy Families (TANF), and behavioral health services. The county sought to expand its partnerships to help these individuals achieve independent living by securing and maintaining jobs well suited to their talents and needs. Philip Mangano, advisor to the county on homelessness and CEO of the American Round Table to Abolish Homelessness, reflected, "Part of the work in homelessness and the restoration of peoples' lives is the rebuilding of social capital. Nothing, not even housing, rebuilds that social capital more quickly and in a more fulsome way than having a job."

/ FIGURE 1 /

FIRST STEP STAFFING (FSS) GROWTH OVER TIME

Top 25% OF ALL U.S. STAFFING FIRMS BY REVENUE

Revenue Growth

$2M IN 2015 → **$70M** TODAY

35x INCREASE IN REVENUE OVER 9 YEARS

Individuals Employed PER YEAR

100 IN 2015 → **8K+** TODAY

80x INCREASE IN EMPLOYMENT OVER 9 YEARS

When FSS approached San Bernardino County, it was evident that FSS' unique approach to job placement and support was closely aligned with the workforce development and human services priorities of the county. The county saw FSS as a natural addition to its set of partners serving homeless, housing-insecure, unemployed, and justice-involved populations.

That's when San Bernardino County decided to do something innovative: provide funding for the program with a money-back guarantee. The county built on emerging thinking from the Pay for Success ecosystem around "social impact guarantees" and designed a contract driven by results.[106] A social impact guarantee, a concept introduced by Third Sector Capital Partners, offers governments a money-back guarantee should a social service program fail to achieve its desired outcomes. Prior to beginning conversations with the county, FSS had secured other sources of capital to support startup costs. FSS required additional funds to acquire an existing staffing firm and establish physical operations. The county was open to providing financial support for the program — but only if it received a guarantee that its funds would significantly affect employment outcomes. For its part, FSS wanted to ensure that the county would also be responsible for providing the necessary referrals.

FSS and San Bernardino County arrived at an agreement. San Bernardino would provide a onetime transfer of $1.5 million to FSS, and FSS committed to place at least 70% of referrals received, up to a maximum of 2,000 individuals per year. If FSS failed to achieve the target performance metrics, the county would be entitled to "claw back" a portion of the funds.

In performance-based contracts elsewhere, service providers have found it particularly challenging to secure sufficient referrals to achieve target metrics; such problems can leave service providers on the hook financially, even when they have delivered excellent service to the clients who were referred. To align incentives and to protect FSS in the case of low numbers of referrals, the contingency was tied to the percentage of referrals placed as opposed to an absolute minimum number of placements. At the same time, the inclusion of a maximum number of required placements protected FSS from financial consequences in the case of a very high number of referrals. This collective ownership of the long-term outcomes helped to break down silos within the county to ensure "work-ready" referrals were being made at the volume needed for the contract to succeed and that First Step had a pipeline of mission-based workers to fill the acquired jobs. Collective ownership of both the process and the outcomes created a mutually beneficial arrangement between First Step and the county. It also helped the county to streamline the incoming referral process, which was primarily led by a local champion within the county who could own the project from start to finish.

106 George Overholser, "Social Impact Guarantees Could Enable Pay for Success Contracting to Scale More Rapidly," in What Matters: Investing in Results to Build Strong, Vibrant Communities, by Federal Reserve Bank of San Francisco and Nonprofit Finance Fund (Federal Reserve Bank of San Francisco, 2017), 156–61, https://investinresults.org/ chapter/social-impact-guarantees-could-enable-pay-success-contracting-scale-morerapidly.html.

Since the key goal for the program was the placement of disenfranchised individuals into employment, “placement rate” was considered the key outcome and trigger for any potential financial clawback. If the actual placement rate was under 70% and the total number of placements was under 2,000 in a given year, FSS would be required to return a portion of funds. In such a case, the amount owed by FSS would be calculated according to the formula ((Percentage of Referrals Placed)/0.7) – 1) * $375,000.

To secure potential clawback payments, FSS provided the county with $300,000 in collateral funds to be held by the county in a noninterest-bearing account for the duration of the contract. In case of underperformance, these funds would be used toward FSS’ repayment obligations. If FSS were to achieve the 70% placement rate and/or at least 2,000 placements per year every year, the $300,000 would be returned to FSS at the completion of the contract.

The county’s funds for these job placement services came from three unique local government sources: 50% ($750,000) from identified savings of existing Discretionary General Funding in the Human Services claim budget unit, 25% ($375,000) from the Law and Justice Group from the Southwest Border Prosecution Initiative, and 25% ($375,000) from the 2011 Realignment-Local Innovation subaccount funds.

The creation of this innovative contract was enabled by leadership from county officials, collaboration between county legal counsel and FSS’ CEO and assistant executive officer, and the existing infrastructure of social service agencies. Support from Human Services, Workforce Development, and other county agencies, as well as from community and faith-based partners, was essential to the execution of this project. This existing infrastructure and the county’s belief in FSS’ model generated confidence that FSS would meet the placement targets. At the same time, no social service program is guaranteed to achieve its desired results; building the contract around results allowed the county to reclaim taxpayer dollars if things did not work out as hoped.

Individuals referred to FSS typically require ongoing support services to succeed. In San Bernardino County, existing interagency partnerships have proved successful in supporting FSS clients. FSS coordinates with the county and community and faith-based organizations to provide transportation, job coaching, housing placement assistance, and mental health resources as needed. These services are also offered at no cost to the job seeker and are paid for by county and community partners.

EARLY SIGNALS

The COVID-19 pandemic caused substantial labor market upheavals, including the loss of several of the businesses that had been purchased through the California acquisition. By the end of 2022, 45% of the acquired companies were no longer operating in the market or had ceased using staffing services to meet their workforce needs. Other companies were forced to eliminate jobs and faced temporary shutdowns, which affected possible placement targets within the county. To date, First Step's sales team continues to work to bring additional employer partners into the market.

San Bernardino County also faced delays in setting up its internal processes for referrals and follow-up for clients sent to First Step. However, by Q3 2020, First Step and the county had set up the program for success. Early strategies adopted included the following:

- **Implementation of structures to facilitate collaboration:** The county and FSS met weekly and communicated regularly by phone and email regarding referrals and job placement matters. In addition, they shared referral data every week, which included referrals, placements, hours worked, wages earned, and details related to job retention for each individual. During the grant period, San Bernardino County referred over 580 individuals to First Step. Of those, 288 accepted job placements and began working, while 294 individuals did not complete their referral or orientation with the program and were unable to be placed on assignments. At the same time, First Step took referrals and new hires from other partners throughout the county. In total, between 2020 and August 2024, First Step employed over 2,100 individuals who have collectively earned over $11.5 million in wages. This return on investment from the initial $1.5 million has demonstrated the power of effective collaboration and a mutually beneficial partnership.
- **Relationship building:** The county proactively introduced FSS to key stakeholders. The county and FSS collaborated on efforts such as hiring events at partner worksites and expanding employment opportunities in remote areas of the county.
- **Marketing:** The county organized countywide presentations to create awareness surrounding FSS' offerings and recruit new referring partners.

On an anecdotal level, placements were well received by both employers and clients. A transitional assistance client reported: "I was referred to the program … and was called right away [by] FSS. I went in to apply; [that] same day I was hired and [I] started working the next day. I was able to get income right when I needed [it]." Similarly, another client shared: “Working with FSS, I got a phone call and the next day I went in and applied for a job. They quickly took my information and called me back by the next day and had me working within that week.”

In the markets where it is more established, FSS has achieved strong results. In Atlanta, where FSS first acquired and converted a for-profit staffing firm in 2015, FSS employs 3,000+ individuals annually. FSS entered the Philadelphia market in 2018 and converted 80% of the 700 acquired jobs into opportunities for clients experiencing homelessness while also simultaneously growing the list of customers and job opportunities. FSS has demonstrated not only its effectiveness in serving customers and employers but also its sustainability as an enterprise, earning over $20 million in revenue in Philadelphia, achieving 100% employer retention, and adding new employers.

Even with the loss of business due to COVID-19 in California from 2020 to 2022, First Step was still able to place over 1,300 individuals into employment in 2023 in the San Bernardino area. These individuals collectively earned more than $1.3 million in wages during the course of the contract.[107] The most common reason for individuals’ lack of success after the referral to First Step was failure to show for the orientation and hiring (First Step would make three attempts to contact all referrals) or lack of attendance at the jobsite once an assignment was accepted. If First Step was able to reach the individual after they stopped reporting to work, the reasons were then relayed to the referring agency so other barriers could be addressed. These reasons could include housing, child care, or mental health needs that needed to be addressed before the individual was ready to return to work. In total, between 2020 and 2023, 590 people referred to First Step were ultimately unsuccessful in employment for these reasons.

However, since the annual placement numbers fell below the initial contract agreement with San Bernardino County, First Step paid back $268,170 of the initial $1.5 million grant. These funds were taken from the $300,000 collateral held by the county during the grant period. Ultimately, the feedback we received from the county was that they were very pleased with the outcomes and success rates through the partnership. They continue to refer potential workers to First Step beyond the contract period, which ended June 30, 2023.

Apart from the direct employment outcomes the contract was designed to deliver, COVID-19 has highlighted the value of the strong cross-sector partnerships supported by the structure of the FSS/San Bernardino contract. Over the nearly five years since the contract was signed,

---

107 The wage data only includes the 1,300 people placed by FSS. It does do not include other people employed in San Bernardino County during this same time.

workforce development agencies and community-based providers have deepened their knowledge of the offerings of other members of the ecosystem, strengthened their referral network, and established collaboration tools regarding clients. Increased communication among peer organizations has also enabled entities to identify and begin to address gaps in services, a particularly critical practice given the rapidly changing landscape of needs, funding streams, and services during COVID-19. The workforce ecosystem has grown even more innovative in coordinating with supportive services to ensure they are lowering barriers and increasing worker success[108]. More generally, the tightened safety net has effectively helped the county's most vulnerable individuals weather the turbulence of COVID-19.

Even with the loss of business due to COVID-19 in California from 2020 to 2022, First Step was still able to place over 1,300 individuals into employment in 2023 in the San Bernardino area.

As other regions look to potentially replicate this model, it is clear that the collaboration of multiple government agencies to provide viable referrals, more individualized support services, and a centralized referral system are all keys to success, despite the COVID-induced economic challenges. The shared relationship with both the financial and operational oversight of the program also helped to ensure mutual success and, most importantly, success for the individuals being hired. In some cities, this is already happening with the coordinated care system for homeless services. However, these services are often disconnected from other government programs, such as workforce development and services from the Department of Human Services. By creating a human-centered approach for the individuals in need of services, First Step removes the barriers and frustrations involved in seeking support at multiple agencies, thereby helping to create more success for the employee and ensuring a more work-ready worker for the employer.

For First Step, the diversification of funds was also essential as it allowed First Step to manage the necessary cash flow to support the program over the long term. The funds provided from San Bernardino County were merged with private philanthropy, social impact debt, and ongoing earned revenue through staffing contracts.

108 Jobs for the Future, "Innovative Wraparound Support Solutions That Help Workers," Jobs for the Future (JFF), March 21, 2024, https://www.jff.org/idea/innovative-wraparound-support-solutions-that-help-workers-succeed/.

CONSIDERATIONS FOR OTHER JURISDICTIONS

The contract that FSS and San Bernardino established may be a model both for FSS as it expands to other jurisdictions and for other social service programs seeking to collaborate with governments.

> **As other regions look to potentially replicate this model, it is clear that the collaboration of multiple government agencies to provide viable referrals, more individualized support services, and a centralized referral system are all keys to success.**

Three components of this contract are particularly powerful.

First, the contract offers governments a way to provide startup funds with an outcomes-based contingency that ensures that taxpayer dollars are achieving their goals. Governments ensure a certain level of referrals, and service providers take on the financial risk if targets are not achieved. Such a structure is appropriate only for a social service provider that is financially stable enough to withstand the potential hit to its balance sheet should it become necessary to repay the up-front investment. Another possibility is that a service provider could execute brilliantly and still fall short of targets for reasons beyond its control, such as unanticipated macroeconomic forces.

Second, the nature of the clawback provision aligns incentives among stakeholders. FSS must meet the necessary placement targets to retain the $1.5 million in funds provided by the county, and the county must provide sufficient referrals to maintain the applicability of the clawback provision. The structure not only provides protection for both parties but also creates mutual incentives to complete sufficient referrals to hit the targets within the contract.

Third, kick-starting sustainable programs like FSS can be a particularly impactful target for public dollars. Governments and philanthropists are often wary of committing to programs that will require continual infusions of capital. Social programs such as FSS that can generate sufficient revenue to cover their operational costs and require only startup capital present a cost-effective way of expanding high-quality programs. This powerful component was demonstrated in the case of San Bernardino in several ways. First, while First Step lost many employer contracts and revenue due to the pandemic, the variable expense model from the staffing enterprise ensured that the organization could manage its cash flow and expenses during this time. Also, the continual stream of earned revenue provided by the social enterprise model ensured that the organization continued to operate and provide services following the end of the contract period. Diverse funding streams are essential for the long-term viability of Pay for Success models.

Additional outcomes and lessons learned will emerge over the coming years. In the interim, the structure of the partnership itself is already demonstrating its power. The importance of this kind of approach — and the collaboration and transparency it ensures — was accentuated by the unprecedented challenges posed by COVID-19 and continues to this day. The contract structure promotes shared responsibility, clearly defined shared goals, and a set of shared strategies to translate those goals into positive outcomes for the community. As stated by Curt Hagman, chairman of the San Bernardino County Board of Supervisors, "The program is designed to have a lasting impact — it's an innovative approach to disrupt the cycle of poverty by providing employment opportunities that lead to upward economic mobility and hope for a better future."

> **Social programs such as FSS that can generate sufficient revenue to cover their operational costs and require only startup capital present a cost-effective way of expanding high-quality programs.**

As First Step continues to look at its various expansion models, it intends to use a variety of funding sources to support the ultimate goal of providing a pathway to employment for more individuals. These sources will include additional social impact debt, recoverable grants, philanthropy, and even unique financing mechanisms such as the New Markets Tax Credit Program (NMTC). The key will be finding communities and local partners who are invested in the alternative staffing model and view employment as a critical service in helping reduce homelessness and poverty throughout the U.S.

Amelia Nickerson joined First Step Staffing in January 2018 and was appointed as CEO in May 2020. She has more than fifteen years of experience as a fundraiser, volunteer, and board member for nonprofits across the Southeast.

INNOVATIVE FINANCING FOR INFRASTRUCTURE AND ENERGY JOB TRAINING

PARTNERSHIPS TO EXPAND ECONOMIC MOBILITY, COMPETITIVENESS, AND SUSTAINABILITY

/ **XAVIER DE SOUZA BRIGGS** BROOKINGS METRO
TRACY PALANDJIAN SOCIAL FINANCE

An earlier version of this chapter was submitted in 2024 as a paper for the Climate Resilience Summit series of the Pontificiae Academiae Acta of Libreria Editrice Vaticana.

INTRODUCTION

In the U.S., an estimated $30 trillion in transportation, water, and real estate assets could be reconfigured and repurposed to power a sustainable and competitive economy — a daunting but necessary transition to expand our power sources overall as demand grows, protect the nation's families and businesses from power outages while reducing energy and transportation costs, ensure safe and affordable water supplies, reduce flooding risks and other hazards, and also reduce greenhouse gas pollution.[109]

However, America's existing workforce development apparatus is fragmented, underfunded, siloed, and not designed to meet the

109 Roberto Bocca, "How to Raise the $30 Trillion Investment Needed for 'Hard-to-Abate' Sectors to Reach Net Zero," World Economic Forum, December 18, 2024, https://www.weforum.org/stories/2024/12/net-zero-transition-requires-a-30-trillion-investment-for-hard-to-abate-sectors/.

demand for workers to fill the jobs that will power this transition — or ensure that these new jobs are good jobs.

Major investments at the local, tribal, state, and federal levels of government, and complementary large-scale investments by the private sector, trade unions, and philanthropy, are providing the U.S. with the capital to not only renew our infrastructure but also launch a national workforce agenda focused on overcoming silos and expanding opportunity in labor-intensive, climate-critical sectors. Smartly structured capital can help realign incentives and encourage more productive collaboration across sectors by shifting the focus to *outcomes* rather than fragmented outputs — creating new paths to invest in upskilling current workers to transition into in-demand, quality jobs to upgrade the nation's energy systems and other infrastructure, and in apprenticeship programs for the next generation.

The required scale is significant: A 2023 Brookings Institution analysis estimates that the U.S. economy will need 32 million new workers over the next decade in infrastructure occupations alone; nearly half that total is simply to replace the millions of workers projected to retire or otherwise leave these skilled, in-demand occupations.[110] Further analysis on the future of work[111] indicates that these occupations are also among the *least* likely to be disrupted, let alone automated, by broader utilization of artificial intelligence and other emerging technologies in the coming years.

And yet: Though many of these roles are colloquially described as "green" jobs, the definition of a "green" job[112] remains somewhat elastic; further, it is worth pointing out that not every "green" job is a good job. There are indications that without new steps to ensure job quality nationwide, some occupations will be "deskilled," and wages kept low, in the transition to a sustainable economy. Clearly, we must do better.[113]

Many of the most in-demand jobs being created by major infrastructure investments have a clear green component *and* are relatively well paid, especially when compared to other jobs accessible to workers without a college degree.[114] Welding jobs are a telling

---

110 Joseph W. Kane, "The Incredible Shrinking Infrastructure Workforce — and What to Do About It," Brookings Institution, May 11, 2023, https://www.brookings.edu/articles/the-incredible-shrinking-infrastructure-workforce-and-what-to-do-about-it/.

111 Molly Kinder, Mark Muro, Sifan Liu, and Xavier de Souza Briggs, "Generative AI, the American Worker, and the Future of Work," Brookings Institution, October 10, 2024, https://www.brookings.edu/articles/generative-ai-the-american-worker-and-the-future-of-work/.

112 "Growing Quality Green Jobs," Jobs for the Future, n.d., https://info.jff.org/growing-quality-green-jobs.

113 Lewis Silkin, "Deskilling: What Are the Historical, Societal, and Legal Implications?" Future of Work Hub, April 28, 2021, https://www.futureofworkhub.info/explainers/2021/4/28/deskilling-what-are-the-historical-societal-and-legal-implications.

114 U.S. Bureau of Labor Statistics, "Career Outlook — Green Growth: Employment Projections in Environmentally Focused Occupations," April 2022, https://www.bls.gov/careeroutlook/2022/data-on-display/green-growth.htm.

example, requiring specialized skills and offering an average annual wage of $52,640.[115] As more of our infrastructure requires build-out or retrofitting for climate adaptation or mitigation, many similar occupations are poised for growth: electricians, line installers, pipe fitters, and more. Such jobs require training beyond a high school diploma — often called "middle skills" — but not a bachelor's degree. In this paper, we focus on this broad category of jobs, many in the skilled trades, rather than other kinds of good jobs — such as in science and engineering occupations — that require a bachelor's degree or more advanced degrees.

> **Though many of these roles are colloquially described as "green" jobs, the definition of a "green" job remains somewhat elastic; further, it is worth pointing out that not every "green" job is a good job. There are indications that without new steps to ensure job quality nationwide, some occupations will be "deskilled," and wages kept low, in the transition to a sustainable economy..**

Given troubling long-run trends that point to stagnant economic mobility[116] in the U.S. — particularly among workers who do not have a college degree[117] — there is a growing imperative to invest in new pathways to the prosperity that comes with stable, quality, and well-paid work.

Transforming the American workforce system requires multiple solutions and additional funding, but who invests and under what terms matters enormously. Funding not only *fuels activity* but also *structures relationships among actors*, especially when they co-invest — rethinking who pays, who benefits, and who takes on risk.

The public-private partnership-driven approach we will outline — one referred to in this chapter as "talent finance" and defined by support for training and upskilling via shared accountability and repayable financing — can and should be part of how we train and deploy a green workforce, given our ambitions and status quo gaps and inequities. This approach can scale up in ways that promote more equitable, accountable, and effective delivery of results for workers, employers, training providers, and supportive service providers alike.

---

115 U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Statistics, Occupational Employment and Wages, May 2023:
51-4121 Welders, Cutters, Solderers, and Brazers," https://www.bls.gov/oes/current/oes514121.htm.

116 Ember Smith, Ariel Gelrud Shiro, Christopher Pulliam, and Richard V. Reeves, "Stuck on the Ladder: Wealth Mobility Is Low and Decreases with Age," Brookings Institution, June 29, 2022, https://www.brookings.edu/articles/stuck-on-the-ladder-wealth-mobility-is-low-and-decreases-with-age/.

117 Robert E. Scott and David Cooper, "Almost Two-Thirds of People in the Labor Force Do Not Have a College Degree," Economic Policy Institute, March 30, 2016, https://www.epi.org/publication/almost-two-thirds-of-people-in-the-labor-force-do-not-have-a-college-degree.

A CRITICAL PROBLEM: MISALIGNED INCENTIVES

Much of the estimated $1.25 trillion appropriated through the 2021 Infrastructure Investment and Jobs Act and the 2022 Inflation Reduction Act is for work in the built environment, such as developing a large number of renewable energy and energy storage facilities and making transportation and water infrastructure more resilient.[118] A 2023 Brookings analysis identified $75 billion across

54 programs[119] funded by the two acts that either target green workforce development directly or are flexible enough to include it (another $490 billion can invest in the infrastructure workforce more broadly). The authorization of such significant public funding does not mean it will all be spent on workforce training. But this historic availability of public capital exposes a growing problem with the status quo: The U.S. currently does not have enough workers in these roles, nor does it have enough accessible pathways for workers to pursue these jobs.

> **Given troubling long-run trends that point to stagnant economic mobility in the U.S. — particularly among workers who do not have a college degree — there is a growing imperative to invest in new pathways to the prosperity that comes with stable, quality, and well-paid work.**

For decades, the U.S. has underinvested in a more balanced and market-responsive mix of postsecondary programs — including applied skills training, sometimes called career and technical education (CTE).[120] Unlike the widely available earn-while-you-learn applied skills opportunities in other advanced economies, only 519,000 Americans are enrolled in a registered apprenticeship program at any given time.[121] To put this in perspective, the U.S. spends about 50 times more on college

---

118 Here, we refer both to newly built infrastructure assets constructed to more demanding standards and to repaired or retrofits that enhance resilience to climate-related and other shocks.

119 Joseph W. Kane, Adie Tomer, and Anna Singer, "Unlocking New Federal Infrastructure Funding to Drive Green Workforce Development," Brookings Institution, October 12, 2023, https://www.brookings.edu/articles/unlocking-new-federal-infrastructure-funding-to-drive-green-workforce-development/.

120 Xavier de Souza Briggs, Joseph W. Kane, Rachel Korberg, and John D. Porcari, "We Haven't Yet Decided That Climate and Infrastructure Jobs Are for Everyone, or Even That We'll Have Enough Workers," Brookings Institution, September 1, 2023, https://www.brookings.edu/articles/we-havent-yet-decided-that-climate-and-infrastructure-jobs-are-for-everyone-or-even-that-well-have-enough-workers/.

121 U.S. Department of Labor, Apprenticeship USA, "Apprentice Population Dashboard," accessed April 19, 2024, https://www.apprenticeship.gov/data-and-statistics/apprentice-population-dashboard.

degrees than applied skills training[122] and has the lowest per capita job training expenditures[123] of any industrialized nation.

Where the U.S. offers high-quality applied skills training, there are typically barriers to entry that disproportionately affect historically disadvantaged and underserved groups, especially women and people of color. For example, many of the highly selective apprenticeship programs for skilled trades associated with the clean energy transition have entrance exams, require preexisting industry knowledge, do not assist prospective trainees with living expenses during pre-apprenticeship preparation, and do not offer supportive services during the program.[124]

> **...the institutions responsible for planning and producing capital projects — such as infrastructure agencies or privately owned utility companies — have rarely been expected to invest in the workforce needed for that production.**

The $3 billion federal Workforce Innovation and Opportunity Act (WIOA) illustrates these challenges: Despite being the main source of goals, operating rules, and funding for the U.S. public workforce system, its training programs reach just a fraction of 1% of the U.S. worker population each year, and 75% of said programs reported incomplete data to evaluators.[125]

Meanwhile, organized labor plays a key role that is relevant to middle-skill infrastructure jobs: Building trades unions collectively invest about $2 billion per year in training. But in many parts of the country, union density and participation are low, and the traditional funding model for union-led training was not designed to anticipate and scale to meet dramatic growth in demand — a classic, timing-of-money financing problem now in stark relief as we figure out how to grow our energy and infrastructure workforce.[126] We need complements and supplements to these traditional sources and arrangements.

---

122 Robert I. Lerman, "Scaling Apprenticeship to Increase Human Capital," Aspen Institute, February 4, 2019, https://www.aspeninstitute.org/longform/expanding-economic-opportunity-for-more-americans/scaling-apprenticeship-to-increase-human-capital/.

123 Harry J. Holzer, "Should the Federal Government Spend More on Workforce Development?" Brookings Institution, May 23, 2023, https://www.brookings.edu/articles/should-the-federal-government-spend-more-on-workforce-development/.

124 Robert Lerman, Pamela Loprest, and Daniel Kuehn, "Training for Jobs of the Future: Improving Access, Certifying Skills, and Expanding Apprenticeship," October 2019, Urban Institute, https://www.urban.org/sites/default/files/publication/101123/training_for_jobs_of_the_future_1.pdf.

125 David Deming, Alexis Gable, Rachel Lipson, and Arkādijs Zvaigzne, "Navigating Public Job Training," Project on Workforce, March 8, 2023, https://www.pw.hks.harvard.edu/post/publicjobtraining.

126 Franklin Apprenticeships, "The Role of Trade Unions in the U.S. Apprenticeship Arena: An Interview with Dr. John Gaal, Director of Training and Workforce Development, STL-KC Carpenters Regional Council," n.d., https://www.franklinapprenticeships.com/role-trade-unions-us-apprenticeship-arena/.

Finally, systems that aim for effectiveness and equity should be smart, promoting continuous learning based on meaningful evidence. But our system's current assumptions and incentives provide far less information than we should have about effectively placing workers[127] in quality jobs with economic mobility.[128] Successfully scaling apprenticeships, CTE programs, and other types of "middle-skill" pathways in the U.S. requires addressing long-entrenched norms and expectations, especially the comparatively high fragmentation of the U.S. system — and the scarcity of interdependent relationships among employers, employees, and job seekers — than in many other industrialized nations.

Capital projects in the built environment represent perhaps the biggest opportunity for middle-skill jobs, but the U.S. does not offer supportive, accessible, and affordable training at anywhere near the scale needed. There are many reasons for this supply and demand misalignment.

First, *accountability* — holding employers and training providers responsible for achieving meaningful results — is often elusive because workforce development funding is rarely provided by employers or linked to the most important and strategic worker outcomes, even though our public workforce system requires extensive performance measurement and onerous formal reporting.

Second — and relatedly — there are few *incentives* for employers to engage and co-invest to help meet their industry's skill needs, an absence made more conspicuous by the lack of adequate targeted public sector funding. As a result, training providers struggle to evolve their programs to meet current or future labor market demands, and the heavy reliance on public funding makes effective programs vulnerable to the ups and downs of annual budget cycles.

Third, and more specific to infrastructure, the institutions responsible for planning and producing capital projects — such as infrastructure agencies or privately owned utility companies — have rarely been expected to invest in the workforce needed for that production. Capital planning for projects proceeds with the assumption that the right skilled workforce will materialize[129] to complete them — without a comparable investment in making sure that such a workforce exists. This is another crucial disconnect between those charged with pursuing

---

127 Marcela Escobari, Ian Seyal, and Carlos Daboin Contreras, "Moving Up: Promoting Workers' Upward Mobility Using Network Analysis," Brookings Institution, June 14, 2021, https://www.brookings.edu/articles/moving-up-promoting-workers-upward-mobility-in-a-time-of-change/.

128 Kenneth Fortson, Dana Rotz, and Paul Burkander, "Providing Public Workforce Services to Job Seekers: 30-Month Impact Findings on the WIA Adult and Dislocated Worker Programs," Mathematica Policy Research, May 30, 2017, https://mathematica.org/publications/providing-public-workforce-services-to-job-seekers-30-month-impact-findings-on-the-wia-adult.

129 Briggs et al., "We Haven't Yet Decided."

a broadly supported national goal and those charged with preparing the workers essential to achieving that goal.

In other words, the actors in the U.S. workforce development ecosystem do not have the sort of coordination and mutual accountability that exist in other advanced economies: Employers passively rely on the talent produced by education and training programs, for which workers are generally expected to pay on their own, with minimal employer or government assistance.

Too many workers therefore shoulder the risks of paying for a training program and taking time away from a current job to complete it. Though there is little systematic data available[130] on how learner-workers cover costs of training and living expenses for noncredit programs, available data on liquid assets for low- to middle-income Americans,[131] together with analyses of subgroups of students and trainees, suggests many use credit cards and high-interest loans to fill the funding gap. The cost for workers to self-fund such skills training could be as much as $500 million annually, according to an Institute for Education Sciences 2021 analysis of short-duration occupational training programs.[132]

More than cost, however, it is factors largely outside of the worker's control — such as a lack of access to affordable child care, transportation, or credit to cover tuition — that appear to be the biggest impediments to program enrollment or completion.[133] Women and people of color are disproportionately impacted by these barriers, exacerbating the economic mobility challenge for historically marginalized groups. A 2024 study found that quality jobs in energy efficiency in particular "are the most challenging for women and people of color to access."[134]

A more successful workforce development system would share responsibility and accountability across all stakeholders, building relationships among actors by meeting the needs of employers,

130 Di Xu, Ben Castleman, Kelli Bird, Sabrina Solanki, and Michael Cooper, "Noncredit Workforce Training Programs Are Very Popular. We Know Next to Nothing about Them," Brookings Institution, May 23, 2023, https://www.brookings.edu/articles/noncredit-workforce-training-programs-are-very-popular-we-know-next-to-nothing-about-them/.

131 Consumer Financial Protection Bureau, Office of Research Publication, "Emergency Savings and Financial Security: Insights from the Making Ends Meet Survey and Consumer Credit Panel," March 23, 2022, https://www.consumerfinance.gov/data-research/research-reports/emergency-savings-financial-security-insights-from-making-ends-meet-survey-and-consumer-credit-panel/.

132 Institute of Education Sciences, "The Effects of Expanding Pell Grant Eligibility for Short Occupational Training Programs: Results from the Experimental Sites Initiative," NCEE 2021-001, U.S. Department of Education, National Center for Education Evaluation and Regional Assistance, December 2020, https://ies.ed.gov/ncee/pubs/2021001/pdf/2021001.pdf.

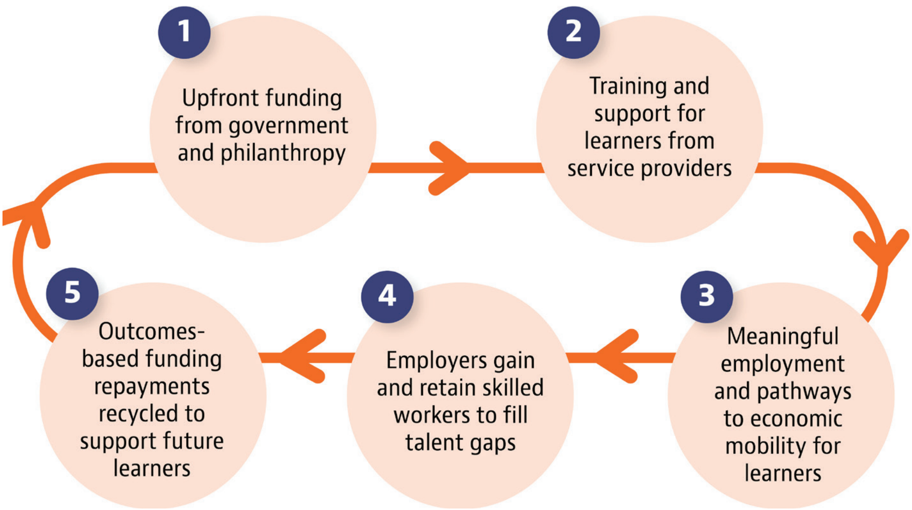
133 Cynthia Hess, Yana Mayayeva, Lindsey Reichlin Cruse, and Mala Thakur, "Supportive Services in Job Training and Education: A Research Review," Institute for Women's Policy Research, November 25, 2016, https://iwpr.org/supportive-services-in-job-training-and-education-a-research-review/.

134 Urban Institute, "Who Has Access to Good Clean-Energy Jobs?" May 1, 2024, https://www.urban.org/projects/clean-energy-job-access-race-gender.

workers, and government alike. Having "skin in the game" from multiple stakeholders, whose investments (monetary and nonmonetary) are organized around clear outcomes, would create a more robust, fiscally sustainable, resilient, and high-performing system.

Leveraging existing public, private, and philanthropic dollars — and responding to the unique opportunity catalyzed by historic levels of investment in infrastructure to address a range of national goals — could help rebalance the equation among stakeholders and create on-ramps to opportunity for millions of workers.

/ FIGURE 1 /
THE TALENT FINANCE MODEL



A NEW CONFIGURATION FOR WORKFORCE INVESTMENTS

As defined above, "talent finance" refers broadly to the use of public and private capital to address barriers to workforce development amid ballooning student loan debt, competing demands for limited public funding, and the impact of rapid technological innovation on the workforce.[135] Based on demonstrated early results from innovative projects across the U.S., this model can also be a rich source of lessons and systems change, shifting incentives, rewiring institutional relationships, and — with them — improving accountability. If adopted

135 U.S. Chamber of Commerce, "U.S. Chamber of Commerce Foundation Launches 'Talent Finance' Initiative to Develop New Models for Investment in the Workforce of the Future," September 21, 2020, https://www.uschamber.com/workforce/education/us-chamber-of-commerce-foundation-launches-talent-finance-initiative-develop-new.

at scale, it could play an important role in solving critical labor market shortages as well as expanding economic opportunities for millions of Americans.

This financing approach powers workforce training through partnerships among government, philanthropy, employers, training partners, and supportive service providers. Together, these stakeholders create outcomes-focused, self-sustaining programs that prepare workers for the specific jobs that employers need to fill, all while sharing risk on transparent terms.

Social Finance, a nonprofit organization founded and led by one of us, has helped implement talent finance in a range of places, industries, and occupations. Though each real-world example of the model is unique, there are four defining, shared elements (see Figure 1):

- **Change Payment Timing:** In the U.S., employers and governments are unlikely to provide sufficient up-front financing of job training for prospective employees or incumbent workers. When such direct grants are not available, these models source capital from other sources to pay for training in advance, which employees and/or employers repay through an affordable plan based on successful job placement and/or substantial earnings gains. Realigning the ***timing*** of costs and benefits reduces risks for employers and workers.
- **Tie Payment to Outcomes:** In many talent finance programs, employers commit to repayment on behalf of the trained workers they hire, so employers only pay for skills upgrades for workers who ultimately join and contribute to the success of their organization. These outcomes-based provisions offer robust protections for workers and address major drawbacks associated with traditional student loans.
- **Support the Learner-Worker Holistically:** Talent finance models offer access to supportive services to address living expenses and other challenges. A 2021 Department of Labor study[136] found that nearly half (48%) of those who drop out of community college do so because of a lack of funds to cover living expenses. Talent finance models that include living stipends and flexible emergency grants build agency, as workers help determine which supports they need most.
- **Align, Blend, and "Recycle" Capital from Co-Investors:** Capital raised from both public and private sources is deployed via a variety of structures that tie repayments to outcomes. In the most

136 Justin C. Ortagus, Benjamin T. Skinner, and Melvin J. Tanner, "Investigating Why Academically Successful Community College Students Leave College without a Degree," AERA Open 7 (December 16, 2021), https://doi.org/10.1177/23328584211065724.

robust models, these loan repayments are then recycled to serve additional workers over time.

Beyond funding new training programs, talent finance can help scale existing earn-while-you-learn opportunities by providing a funding mechanism for critical services to pre-apprenticeship program participants. Currently, such services are not adequately funded. Although many pre-apprenticeships cover the direct cost of participants' tuition, they generally do not provide wages or living stipends during training, nor do they pay for other important wraparound supports. Through talent finance, the ultimate employers of apprentices can help repay the funding advanced for supportive services that are vital to preparing workers to enter and succeed in the apprenticeship. Pre-apprenticeship programs can thereby create accessible apprenticeship entry points for underrepresented populations, including low-income trainees, women, and people of color, by offering career exploration and skills development services while helping workers prepare to enter apprenticeships.

In many talent finance programs, employers commit to repayment on behalf of the trained workers they hire, so employers only pay for skills upgrades for workers who ultimately join and contribute to the success of their organization.

As of early 2025, there are active talent finance initiatives in the states of Colorado, Hawaii, Massachusetts, New Jersey (see Chapter 9 of this volume, "Paying It Forward in New Jersey: Designing and Implementing a New Fund for Talent Development."), Ohio, South Carolina, and Texas, and nationwide through the Google Career Certificates Fund (see Chapter 8 of this volume, "Google Career Certificates Fund: Investing in the Next Generation of Tech Workers.") and the ReNEW Fund (see Chapter 7 of this volume, "The ReNEW Fund: Building and Sustaining a Talent Pipeline for Nurses."). Efforts at scale are still nascent, but the examples below clearly demonstrate how this model can be effective.

EXAMPLE: LEVERAGE PRIVATE SECTOR/EMPLOYER REPAYMENTS: ADTC CAREER IMPACT BOND[137]

In 2020, Social Finance partnered with American Diesel Training Centers (ADTC), a diesel technician training program based in Ohio, to launch a nearly $9 million Career Impact Bond funded through two investments from Social Finance's UP Fund, a $50 million pool of catalytic capital from family offices, philanthropies, and other sources.

137 Social Finance, "American Diesel Training Centers Career Impact Bond," https://socialfinance.org/work/adtc/.

From 2020 to 2022, the ADTC Career Impact Bond served more than 1,100 people through a five-week hands-on training course at two ADTC locations in Ohio. The short timeline makes this program significantly more practical and accessible for both learner-workers and employers.

The UP Fund covered all up-front enrollment fees along with the costs of a medical, physical, and diesel mechanic toolset. Some participating corporate employers covered additional supports like room and board. Participants also received career coaching, financial literacy training, and other services. Repayment by the learner-workers was contingent on finding a job paying above a minimum income level and only applied to the program fees, not the supportive services.

Top employers — including Penske Truck Leasing, Aim Transportation Solutions, and National Fleet Management — took over monthly payments for program graduates they hired. As a result, more than 50% of graduates had their training costs covered fully by employers and were able to exit the program with a better job and no repayment obligations. On average, program participants achieved a 60% median wage increase. At least one of the participating employers has now integrated the model into their overall workforce development strategy.

EXAMPLE BETTER USE OF PUBLIC FUNDS: NEW JERSEY PAY IT FORWARD[138]

As described in detail in chapter 9 of this volume, Social Finance partnered with the state government and eight large businesses in New Jersey to launch New Jersey Pay It Forward, a $24 million endeavor targeting in-demand industries like nursing, cybersecurity, welding, and HVAC (heating, ventilation, and air conditioning) technology. The program is designed to be additive: enhancing opportunity for disadvantaged workers without crowding out or substituting for other funding that already helps some workers to afford training.

New Jersey Pay It Forward provides zero-interest, no-fee loans for participants to enroll in high-quality job training, with a focus on people who may not have the credit history for a traditional loan. Participants also receive grants — which do not need to be repaid — for living stipends and supportive services as part of their enrollment, including access to emergency aid funds and mental health counseling. As of October 2023, more than 80% of participants were people of color, 65% did not have a four-year degree, and 45% identified as women.

138 Social Finance, “New Jersey Pay It Forward Program,” https://socialfinance.org/work/new-jersey/.

The New Jersey program's outcomes-based design seeks to shift risk away from workers by only requiring repayment if they are hired for a job in which they earn more than a defined minimum salary based on household size (e.g., $50,730 for workers from a three-person household). Even then, monthly payments are capped at no more than 10% of their discretionary income[139] for up to five years, and workers never repay more than the cost of training itself because the loans carry zero interest. Also, the grants for living stipends and supportive services are not subject to repayment.

Graduation rates for enrolled participants are as high as 90% for the nursing program, where the average annual salary is $75,000.

EXAMPLE INVESTING IN A GROWING SECTOR: MASSACHUSETTS CLIMATE CAREERS FUND[140]

In most states, public officials have shown strong interest in mobilizing the talent needed for the green economy — but rarely at a level, and with an operable delivery model, that is commensurate with projected employer demand.[141] That is now changing. At the Vatican Climate Summit in May 2024, Massachusetts Governor Maura Healey announced a first-of-its-kind fund focused exclusively on finding and training many of the nearly 30,000 additional full-time equivalent workers needed to meet the state's 2030 greenhouse gas emissions reduction mandates.[142]

Social Finance and the Massachusetts Clean Energy Center, with coordination and support from Governor Healey's administration, designed the initial $10 million pilot to help participating learner-workers prepare for well-paid, in-demand careers in clean energy and climate-related infrastructure by filling "last-dollar" financing gaps (e.g., unmet tuition costs and costs of living) and addressing barriers to enrolling in and completing training. All funds recouped through loan repayments from participants (and in some cases, employers) will be recycled back into the fund to finance future training, amplifying the impact of the capital seeding the fund.

---

139 NJ Pay It Forward defines "discretionary income" as the worker's income after subtracting 150% of the federal poverty level amount for their household size.

140 Social Finance, "Massachusetts Climate Careers Fund," https://socialfinance.org/work/massachusetts-climate-careers-fund/.

141 To be sure, planners in all sectors are also grappling with the challenges of projecting when and in what specific occupations that demand will present. Many estimates, such as the decade-forward estimates cited above, are at the national level for large occupations, not specific to states or regional labor markets, let alone the near- to medium-term time horizons most useful to training providers and other critical actors. Another plus of the talent finance model is its flexibility to adapt, and "dial" investments, to respond to changing market conditions over time.

142 Melissa Hoffer, "Recommendations of the Climate Chief: Pursuant to Section 3(b) of Executive Order No. 604," October 25, 2023, mass.gov/files/documents/2023/10/24/CLIMATE REPORT.pdf.

Crucially, the Massachusetts model is enabled by a whole-of-government approach: A Cabinet-level climate action lead coordinates across a range of state agencies, including economic development, education, energy, and labor.

Examples like New Jersey and Massachusetts show how governments can blend and braid federal funding with their own investments[143] to help reach their own workforce goals. As these jobs grow, it is essential to build on these models to achieve long-term sustainability, both in funding and/or financing and in maintaining shared accountability across all stakeholders.

CONCLUSION

With a historic influx of public and private investment, the U.S. can make shared stakes in outcomes part of the fabric of the workforce development system needed to transition to a sustainable economy and built environment. The key is breaking down silos, prioritizing effectiveness, and putting stakeholders in durable and accountable relationships with each other, aligned around clear outcomes.

The U.S. has a big talent pipeline to build, and there are no panaceas or quick fixes. New and innovatively structured funding is necessary but certainly not sufficient. Still, the results from talent finance models, some delivered with remarkable speed once the right elements were put in place, demonstrate that a more inclusive and sustainable future is very possible and need not await, say, major federal reforms or large sums of new public money.

A better workforce development system can strengthen the productive foundations of the American economy, expand economic mobility for millions of workers and their families, and mitigate the most significant effects of a changing climate (which concerns a very broad spectrum of the public and industry as well). We now have the know-how, as well as a tangible and unprecedented opportunity, to move rapidly in that direction.

Xavier de Souza Briggs is a Senior Fellow at Brookings Metro. He is also a senior advisor and co-founder of What Works Plus, a collaborative of philanthropic donors promoting equity and resilience through America's generational investments in infrastructure and climate action.

Tracy Palandjian is CEO and Co-Founder of Social Finance, a national nonprofit and registered investment advisor.

---

143 Joseph W. Kane and Adie Tomer, "Why Green Jobs Plans Matter and Where U.S. Cities Stand in Implementing Them," Brookings Institution, July 25, 2023, https://www.brookings.edu/articles/why-green-jobs-plans-matter-and-where-u-s-cities-stand-in-implementing-them/.

THE RENEW FUND™

BUILDING AND SUSTAINING A TALENT PIPELINE FOR NURSES

/ **SCOTT PULSIPHER** WESTERN GOVERNORS UNIVERSITY
JEANNIE VIRDEN CENTRAL HEALTH

INTRODUCTION

A functioning talent economy connects individuals with employers that depend on human talent to thrive, ensuring effective engagement for mutual growth and economic progress. But workforce shortages — driven by misalignments between education and work, rapid industry transformation, demographic shifts, and more — expose a critical gap. This disconnect hurts not only organizations but also the individuals and the communities they serve.

Nowhere do we see this more pronounced than in health care. Nurses are the backbone of our health care system,[144] but across the country, 30,000 to 40,000 fewer registered nurses (RNs) are trained each year than the number needed to meet demand.[145] With an annual average of 194,500 open RN positions — more than any other profession[146] — many hospitals are struggling to cover the gap. This costly shortage impacts patient care and imposes significant financial burdens on hospitals.

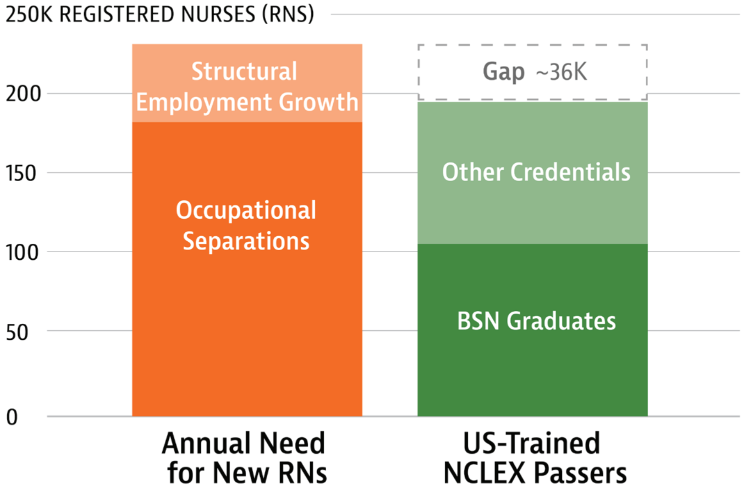
144 American Nurses Association, "What Is Nursing?" https://www.nursingworld.org/practice-policy/workforce/what-is-nursing/.

145 This estimate is based on an analysis of the difference between the number of nurses that are needed in America on an annual basis and the number of nurses that are being trained, using data and projections from the U.S. Department of Labor. Among other nuances, this estimate reflects individuals who are leaving nursing as well as the anticipated increases in the total number of nurses required to meet health care needs, and comparing the annual need for nurses with the number of domestically trained nurses passing the NCLEX each year, excluding the 40,000 internationally trained nurses.

146 American Nurses Association, "Nurses in the Workforce," https://www.nursingworld.org/practice-policy/workforce/.

/ FIGURE 1 /

ANNUAL REGISTERED NURSE LABOR MARKET PROJECTIONS (2023-2025)



For employers, recruiting and retaining nurses is a persistent challenge — particularly for hospitals that lack the resources to compete with larger systems and draw from a much smaller local talent pool. In one survey of 130 rural hospitals, nearly all identified staffing as their top concern.[147] Hospitals that are part of more resource-limited public systems face the added challenge of caring for higher-need populations, often including individuals who are unhoused, low income, or navigating complex health and social crises.

In the absence of a robust, reliable talent pipeline, many hospitals have turned to contract labor to keep pace with demand. The result is a costly and unsustainable workaround: U.S. hospitals spent an estimated $51.1 billion on contracted staff, including nurses, in 2023.[148] Traveling nurses, while essential in the short term, come at a premium — averaging $2,600 per week compared to $1,340 for permanent hospital staff.[149] In January 2022, traveling nurses earned 148% more than their staff-based counterparts.[150] Labor costs across the health care sector

147 The Chartis Group, "The COVID-19 Pandemic's Impact on Rural Hospital Staffing," November 2021, https://email.chartis.com/hubfs/CCRH/Chartis%20Rural_Vaccine%20Survey_FNL%2011.16.21.pdf.

148 American Hospital Association, "The Cost of Caring: Challenges Facing America's Hospitals in 2025," https://www.aha.org/costsofcaring#:~:text=Hospitals%20continue%20to%20turn%20to,on%20contracted%20staff%20in%202023.

149 Curchin, Emma and Center for Economic and Policy Research. 2023. "How Does Travel Nurse Pay Compare to Permanent Staff Nurses?" https://cepr.net/publications/how-does-travel-nurse-pay-compare-to-permanent-staff-nurses.

150 Ibid.

rose by more than $42.5 billion between 2021 and 2023 alone, now accounting for nearly 60% of hospital operating expenses.[151]

And yet, though there is a shortage of nurses, there is no shortage of people who *want* to become nurses. According to the American Association of Colleges of Nursing (AACN), in 2023 65,766 qualified applications were not accepted by U.S. nursing schools because of a lack of capacity to enroll and educate them.[152] Individuals with low and moderate incomes face additional barriers, as the total cost of attendance for undergraduate nursing programs often exceeds the limits of federal financial aid — including Pell grants, which don't have to be repaid and are a critical tool for expanding access. These financial limits force students to make up the difference, often by borrowing private student loans that come with high interest rates.

In other words, when our health care system can least afford it, barriers to entry are making it more difficult, particularly for those from low-to-moderate income backgrounds, to pursue a nursing career.

Nursing is a necessary profession and an opportunity to serve and help people. For many, it is also a path to a rewarding, in-demand, and well-paid career. While exact earnings vary by geography, type of health care facility, and type of nursing role, the median hourly rate for nurses is $45 nationally, with an average starting salary at $30.84/hour[153] and a median annual salary of $93,600.[154]

In other words, when our health care system can least afford it, barriers to entry are making it more difficult, particularly those from low-to-moderate income backgrounds, to pursue a nursing career.

Improving the supply of nurses goes beyond simply filling workforce demands and provides immense benefits to our society. Study after study shows that lower nurse-to-patient ratios and more nurses with

151 American Hospital Association, "The Cost of Caring."

152 American Association of Colleges of Nursing, "New AACN Data Points to Enrollment Challenges Facing U.S. Schools of Nursing," April 15, 2024, https://www.aacnnursing.org/news-data/all-news/new-aacn-data-points-to-enrollment-challenges-facing-us-schools-of-nursing#:~:text=Even%20though%20enrollments%20were%20down,pool%20of%20potential%20nurse%20educators.

153 Payscale, "Average Registered Nurse (RN) Hourly Pay," https://www.payscale.com/research/US/Job=Registered_Nurse_(RN)/Hourly_Rate/b6142914/Entry-Level.

154 U.S. Bureau of Labor Statistics, "Occupational Outlook Handbook: Registered Nurses," https://www.bls.gov/ooh/healthcare/registered-nurses.htm.

bachelor's degrees[155] result in better health outcomes for patients[156] and reduced turnover,[157] ultimately lowering costs to the health care system. This begs the question: How can we reimagine talent pipelines to place more qualified nurses in our understaffed health care system?

ALIGNING EDUCATION AND WORK AT WESTERN GOVERNORS UNIVERSITY

Founded in 1997, Western Governors University (WGU) was conceived by a group of 19 governors to address many challenges that persist today, including workforce shortages, barriers to enrollment, and a lack of alignment between higher education institutions and industry. Recognizing that far too many individuals were unable to access a pathway to opportunity, the nonprofit university was designed to bring affordable, accessible, flexible, and high-quality, workforce-aligned education opportunities to individuals looking to improve their lives.

It was in that spirit that WGU founded the Michael O. Leavitt School of Health (formerly College of Health Professions) in 2006, supported by a grant from Hospital Corporation of America (HCA) to develop health care education programs to combat staffing shortages. Soon after, three more health care corporations — Cedars-Sinai, Kaiser Permanente, and Tenet Healthcare — partnered with WGU to advise on the standards and practices essential for skilled employees to master.

The collaboration led to a focus on nursing degrees, including master's degrees in leadership and education and an RN-to-BSN degree in 2007. Following grants from the Robert Wood Johnson Foundation, the state of California, and the U.S. Department of Labor, in 2009 the school launched the nation's first competency-based BSN Prelicensure program to provide a path to licensure for aspiring nurses. Just as mastery is required for certification in fields like law and aviation, WGU's competency-based model requires learners to demonstrate mastery of the module or specific subject matter before they can advance through their coursework. Critically, students may progress through their initial coursework as quickly as they are able, often

---

155 American Association of Colleges of Nursing, "The Impact of Education on Nursing Practice," fact sheet, https://www.aacnnursing.org/news-data/fact-sheets/impact-of-education-on-nursing-practice#:~:text=There%20is%20a%20growing%20body,Quality%20and%20Patient%20Safety%2C%20Dr.

156 National Institute of Nursing Research, "Evidence that Reducing Patient-to-Nurse Staffing Ratios Can Save Lives and Money," October 29, 2021, https://www.ninr.nih.gov/newsandevents/featured-research/evidence-reducing-patient-nurse-staffing-ratios-can-save-lives-and#:~:text=Having%20more%20nurses%20can%20increase,determining%20ways%20to%20improve%20healthcare.

157 Matthew D. McHugh, Linda H. Aiken, Douglas M. Sloane, Carol Windsor, Clint Douglas, and Patsy Yates, "Effects of Nurse-to-Patient Ratio Legislation on Nurse Staffing and Patient Mortality, Readmissions, and Length of Stay: A Prospective Study in a Panel of Hospitals," *Lancet* 397, no. 10288 (May 22, 2021): 1905–1913, https://pmc.ncbi.nlm.nih.gov/articles/PMC8408834/#:~:text=Studying%20outcomes%20of%20nearly%20half,act%2C%20we%20are%20going%20backwards. doi: 10.1016/S0140-6736(21)00768-6.

helping them complete their education more quickly and contribute to their career of choice.[158]

Since its founding, the Leavitt School of Health has focused on expanding access to nursing education by scaling its prelicensure program across states while meeting the requirements of state boards of nursing. Now offered in 24 states, the program is designed to be flexible and accessible: The first two or so years are fully online and self-paced, allowing students to learn on their own schedules. In the final two years, students apply their knowledge through clinical rotations in local health care facilities and attend two in-person sessions at one of WGU's Clinical Learning and Simulation Labs. This hybrid model not only meets students where they are but also removes many of the traditional barriers to entering the nursing profession.

Yet even with WGU's innovative approach, financial obstacles persist, especially for learners in underserved communities. To meet the growing demand for nurses and build a stronger health care workforce, a new funding model is essential — one that aligns the interests of students, universities, and employers to eliminate financial barriers and empower more individuals to pursue impactful careers that improve their lives and the communities in which they serve.

MEETING THE CHALLENGE IN TRAVIS COUNTY, TEXAS

In Travis County, Texas, the population continues to grow amid the same hiring challenges faced by other health care networks around the country. Researchers project that the demand for nurses in Texas will outstrip supply at a 16% deficit by 2032.[159] While Texas' state legislature has proposed additional funding to help close the gap,[160] addressing the state's nursing shortage will require more than just money; it will also require stakeholders working together.

Central Health — also known as the Travis County Hospital District, which includes the capital city of Austin — is among those stakeholders working toward change with the University of Texas at Austin, including with partners at Dell Medical School at UT Austin.[161] In 2023, the Travis

158 Carrie B. Lenburg, "The Framework, Concepts and Methods of the Competency Outcomes and Performance Assessment (COPA) Model," *Online Journal of Issues in Nursing* 4, no. 2, manuscript 2, September 30, 1999, https://ojin.nursingworld.org/table-of-contents/volume-4-1999/number-2-september-1999/copa-model. doi: 10.3912/OJIN.Vol4No02Man02.

159 Texas Nurses Association, "Press Release: 27 Organizations Join to Announce Nursing Shortage Reduction Coalition," February 14, 2023,
https://www.texasnurses.org/news/631976/Press-Release-27-Organizations-Join-to-Announce-Nursing-Shortage-Reduction-Coalition.htm#:~:text=Lieutenant%20Governor%20Dan%20Patrick%20identified,and%20Perry%20as%20Joint%20Authors.

160 Texas Hospital Association, "The Workforce Pipeline," https://www.tha.org/issues/workforce/#:~:text=In%202023%2C%20more%20than%2060,among%20them%20Senate%20Bill%2025.

161 University of Texas System, "Collaboration Is Key to Addressing Texas Nursing Shortage," August 8, 2024, https://www.utsystem.edu/news/2024/08/08/collaboration-key-addressing-texas-nursing-shortage#:~:text=In%20Texas%2C%20the%20demand%20for,our%20state's%20rapidly%20growing%20population.

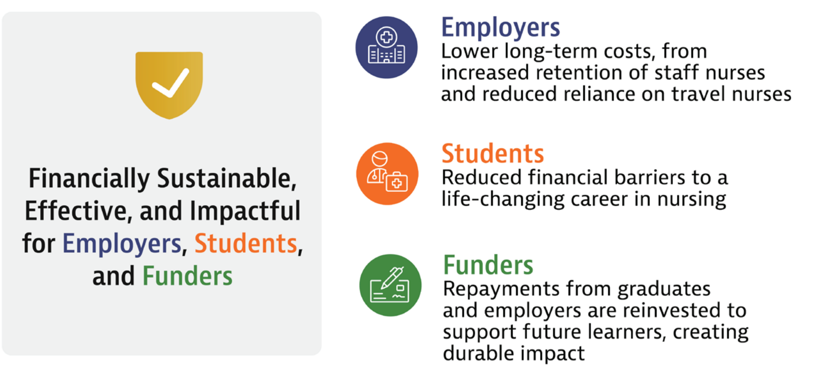
County Hospital District served more than 150,000 people, or about one in nine of the county's residents.[162] Many are at great risk of falling through the cracks: They may be low income, unhoused, or experiencing other crises. That is why it is critical that health care services go beyond safety net health care to build a comprehensive, high-quality system that can help tackle these complex health disparities. Central Health's medical team is regularly in the field, enrolling individuals who are unsheltered, uninsured, or underserved in our Medical Access Program (MAP) or MAP BASIC, two health care options for low-income residents of Travis County, to ensure they can receive high-quality care.[163] In 2024, Central Health launched 16 specialty and diagnostic medical lines, making significant strides to reduce gaps in care by offering critical medical services to patients who need it most.[164]

A BETTER WAY TO FINANCE PATHWAYS TO EDUCATION: LAUNCHING THE RENEW FUND™

To further address critical workforce shortages like those experienced in health care, WGU and Social Finance launched the Reinvesting in Nursing Education and Workforce (ReNEW) Fund in July 2024. The ReNEW Fund is a national nursing fund designed to address America's health care talent crisis and create economic opportunity for aspiring nurses by working in partnership with employers. When Central Health joined the ReNEW Fund as an employer partner in early 2025, it set the stage for a new talent pipeline of nurses to serve Travis County, Texas, residents with low income.

/ **FIGURE 2** /

KEY BENEFITS OF THE RENEW FUND MODEL



162 Central Health, "About Us," https://www.centralhealth.net/about-central-health/.

163 Central Health, "Central Health's Work Helps Unhoused Residents Achieve Better Health as They Move Out of Homelessness," February 5, 2025, https://www.centralhealth.net/homelessness-crisis-response/.

164 Central Health, "Central Health's 2024 Annual Report Highlights 2024 Expansion and New Services," April 9, 2025, https://www.centralhealth.net/central-healths-2024-annual-report-highlights-2024-expansion-and-new-services/.

The innovative financing model provides an opportunity to identify talent and help them overcome the financial barriers preventing them from a career in nursing, while partnering with health care employers in their community who need local nurses. The ReNEW Fund not only addresses workforce needs in health care but also provides a model that could be replicated in other industries to enable economic mobility and a qualified workforce for the future.

It works like this: The ReNEW Fund helps cover the final two years of WGU's BSN Prelicensure program, including direct costs (tuition and fees) and indirect costs (e.g., travel-related expenses for two in-person nursing lab simulations and child care and living expenses during seven clinical rotations). These costs are covered through zero-interest, outcomes-based loans. Pell-eligible students, identified through their Free Application for Federal Student Aid (FAFSA), are invited to apply for this support as part of their financial aid package.

The ReNEW Fund not only addresses workforce needs in health care but also provides a model that could be replicated in other industries to enable economic mobility and a qualified workforce for the future.

While pursuing the final courses of their degree, student borrowers funded through the ReNEW Fund are connected with health care employers like Central Health, who may offer them nursing positions upon graduation and passage of the RN licensure exam. Once a graduate begins working for the ReNEW Fund employer partner, that employer pays into the Fund at key milestones during the nurse's first three years on the job. These payments into the Fund are tied to the employer's benefit from retaining a skilled nurse and relieve the nurse of the obligation to repay the zero-interest loan. If a ReNEW borrower leaves the employer prior to the three-year work commitment or opts for work for a different employer, the individual is responsible for repaying the loan's remaining principal balance — though only if they earn at least $60,000 annually.[165] This structure encourages long-term employment and protects graduates from repayment unless they're earning more than a minimum income threshold.

As an employer partner, Central Health's payments into the ReNEW Fund covering the graduates they employ will be used to cover costs for future nursing students — creating a sustainable model that transforms the investment made in each individual student into lasting impact by

165 Western Governors University, "WGU and Social Finance Announce New Fund to Prepare Historically Underserved Students for Careers in Nursing," press release, https://www.wgu.edu/newsroom/press-release/2024/07/wgu-social-finance-fund-underserved-students-nursing.html.

broadening access to education and strengthening the future of the nursing workforce.

For health care employers like Central Health, ReNEW offers a smarter investment: The cost of supporting a full-time nurse through the Fund is far lower over time than relying on expensive travel nurses or the replacement cost of filling nurse vacancies. For students, it removes financial barriers to a life-changing career. And for funders, it creates a durable impact — because every repayment from graduates or employers is reinvested to support future learners. This cycle of reinvestment makes the ReNEW Fund not only effective but also financially sustainable — designed to serve today's nursing needs and those of generations to come.

Central Health chose to partner with WGU and the ReNEW Fund because of their shared commitment to expanding access, advancing equity, and strengthening the health care workforce in the communities we serve. This partnership reflects a shared belief that when education, health care, community, and employers come together, we can create meaningful pathways for individuals to grow, serve, and thrive. By removing barriers for aspiring nurses in the final stages of their education, we strengthen the pipeline of future caregivers and hire talent that reflects the area where we operate.

For health care employers like Central Health, ReNEW offers a smarter investment: The cost of supporting a full-time nurse through the Fund is far lower over time than relying on expensive travel nurses or the replacement cost of filling nurse vacancies.

The goal is bold: $100 million to create a self-sustaining engine for nursing talent. Seeded by an initial $10 million grant from WGU, the Fund began supporting students in the summer of 2024. More employers and philanthropic partners are on the horizon.

CONCLUSION

There is no single, silver-bullet solution to workforce shortages like we're seeing with nursing, but one thing is for certain: Partnerships are critical.

Educating and placing qualified nurses will require stakeholders to work together in a multitude of ways to realign incentives. Only when we collaborate can we offer individuals who want to be a nurse the access they need to training, financing, and stable employment — which in turn enables hospitals to have enough well-trained nurses to offer the best possible care to their patients without worrying about turnover or paying for expensive alternatives.

The goal is bold: $100 million to create a self-sustaining engine for nursing talent. Seeded by an initial $10 million grant from WGU, the Fund began supporting students in the summer of 2024. More employers and philanthropic partners are on the horizon.

Over the next five years, the ReNEW Fund aims to connect 3,500 nurses with well-paying careers in communities urgently in need of health care professionals. We're optimistic this momentum will grow as more institutions recognize the power of WGU's innovative, outcomes-based approach — aligning aspiring nurses with employers like Central Health through ReNEW's forward-thinking, shared-commitment model designed to strengthen and retain the workforce.

ReNEW offers a collaborative approach to talent development that helps address staffing shortages while expanding access to career advancement. By aligning the interests of students, universities, employers, and funders, the ReNEW Fund demonstrates how shared responsibility can solve deep-rooted challenges — expanding economic opportunity, strengthening local health care systems, and creating a replicable model for talent development across sectors.

Scott Pulsipher serves as President of nonprofit Western Governors University (WGU), the nation's first and largest competency-based university.

Jeannie Virden serves as Chief People Officer for Central Health.

8

THE GOOGLE CAREER CERTIFICATES FUND

INVESTING IN THE NEXT GENERATION OF TECH WORKERS

/ **LISA GEVELBER** GROW WITH GOOGLE

At Google, we aim to help solve some of humanity's biggest challenges by combining products, our technical expertise, and funding to help create opportunity for everyone. One such challenge, which led us to launch the Google Career Certificates Fund, is America's skills gap. We know that millions of workers are often overlooked for great jobs because they lack a four-year college degree. And we know that better credentials or access to upskilling or training is not a standalone solution — services like career coaching, job placement support, and stipends are often key to helping individuals overcome barriers in their pursuit of economic mobility.

We first launched the Google Career Certificates program in 2018 to help more people access great jobs and attain economic security, regardless of their education level. In the United States, nearly 74% of job postings say they require a college degree, but less than 40% of people have one, leaving good jobs out of reach for 70 million Americans.[166] Employers also struggle to find people with specific skills for some of their most urgent needs. Through the Google Career Certificates program, we help people build the skills needed to succeed in several well-paying career fields including data analytics, cybersecurity, IT support, project management, and digital marketing.

166 Blair, Peter, Tomas Castagnino, Erica Groshen, Papia Debroy, Byron Auguste, Shad Ahmed, Fernando Garcia Diaz, and Cristian Bonavida. 2020. "Searching for STARs: Work Experience as a Job Market Signal for Workers Without Bachelor's Degrees." https://doi.org/10.3386/w26844.

As of 2024, over 1 million people have completed the Google Career Certificates program globally, and over 70% of graduates report a positive career impact — such as a new job, promotion, or raise — within six months of completion.

/ FIGURE 1 /

PRINCIPLES TO GUIDE GOOGLE CAREER CERTIFICATES FUND (GCCF) PROGRAM DESIGN

From the beginning, we took an ecosystem approach. Partnering closely with employers, educational institutions, and best-in-class workforce development organizations, Google.org, Google's philanthropy program, gave more than $80 million to support more than 30 nonprofits in offering the certificate programs.

By implementing certificate programs with best-in-class workforce development nonprofits, Google.org learned that pairing the training with wraparound supports — including services like living stipends, light touch coaching, and job search assistance — can be very useful. But it would be hard for traditional philanthropy to scale up enough to deliver on the opportunity.

This ushered in the question: How could we use philanthropy as risk capital to invite nontraditional pools of capital into the workforce development arena and reach scale sustainably?

One option was blended financing models. This was not our first experiment with them: Previously, Google.org partnered with Opportunity Finance Network to blend both philanthropic grants and balance sheet capital to support small businesses receiving loans through community development financial institutions (CDFIs). Inspired by the success of that project, we partnered with Social Finance to design what would become the Google Career Certificates Fund (GCCF).

A USER-CENTRIC DESIGN PROCESS

The first step was to clearly define what we were trying to accomplish, along with the key principles needed to shape our program's design, impact, and long-term financial sustainability:

- Enroll learners from underserved, low-income communities.
- Partner with best-in-class nonprofit education and training partners with a track record of success.
- Offer an accessible education financing tool designed for those who face barriers such as limited financing options, high interest rates, or the need to cover living expenses while studying.
- Provide learner-friendly repayment terms that minimize financial risk, with affordable monthly payments linked to post-training income and strong safeguards in case of unexpected outcomes.
- Prioritize sustainability and accountability, given the program's reliance on an impact investment from the company's balance sheet.
- Create a sustainable funding model by reinvesting loan repayments from successful graduates to support future cohorts.
- Leverage the collective assets, capabilities, and expertise of Google.

As the coordinator of funding for this project, Google Treasury deployed a portion of its balance sheet in a catalytic investment aligned with our company's mission and impact goals and in partnership with Google.org. As a result, the $100 million GCCF was capitalized with a mix of grant dollars from Google.org and debt capital from Google Treasury. We worked with Social Finance to manage the Fund because of their experience designing and operating similar blended finance funds for impact. As Fund manager, Social Finance is responsible for shaping strategy with Google, selecting training provider partners and deploying capital, monitoring the impact and financial return of investments, and providing regular updates to the Google team on Fund performance.

This ushered in the question: How could we use philanthropy as risk capital to invite nontraditional pools of capital into the workforce development arena and reach scale sustainably?

The $100 million Fund is designed to help drive over $1 billion of wage gains for 20,000 Americans.

HOW THE FUND WORKS

We sought to make the Google Career Certificates Fund responsive to student needs while providing clear incentives for success. The result is an innovative, outcomes-based approach.

As Fund manager, Social Finance sources and conducts diligence on potential training provider partners. Social Finance confirms that each selected training provider has a history or current capability of offering the Google Career Certificates to the populations the Fund aims to serve, along with a track record of high program completion rates, job placement outcomes, and wage gains. Google.org has a curated portfolio of historical grantees going back to 2019 that provide a baseline for outcome forecasting and a foundation for the GCCF pipeline and portfolio.

The Social Finance team also analyzes the financial health of the training provider, their mission statement and strategy, their current partnerships, and their legal, financial, data, and human resources processes. Throughout the diligence process, we also coordinate with other Fund partners, such as the loan originator, the loan servicer, and our third-party evaluation partner, to ensure the loan offering appropriately meets learner needs and that learner outcomes are independently evaluated.

Based on this information, Social Finance designs a loan product that meets the needs of both the training provider and the learners they serve. They determine the loan amount, the purpose of the loan — for instance, whether it is intended to finance learners' tuition or living expenses while enrolled in the program — and the loan terms, such as the minimum income threshold above which learners are obligated to pay their monthly loan payment amount. Once the loan amount is determined, Social Finance also works with the training provider partner to determine the outcomes-based fee structure that outlines when and how the training provider will be paid.

Since the Fund is focused on outcomes, a percentage of the direct training fees promised to training providers are withheld until the students are successfully placed in jobs above a minimum income threshold. This requires a balancing act to ensure that training providers receive sufficient up-front funds to maintain their operations and meet their financial needs while also ensuring that a portion of funding is tied to the achievement of positive economic results for program completers. This fee structure also offers downside protection for the Fund, helps align incentives between the training providers and the Fund, and keeps the financial objectives of the Fund on track.

After people benefit from the training and if they reach a specific earning level, they repay the costs of the program to the Fund. The Google Career Certificates Fund is then able to deploy those resources to pay for training for future learners. In this way, the Fund is better able to self-sustain.

/ **FIGURE 2** /

GCCF PROGRAM COMPLETION RATE

A VIRTUOUS CYCLE OF LEARNING

The Fund is off to a strong start. Since launching in October 2022, we have enrolled thousands of learners in the training programs. Among the enrolled learners, 89% have completed the program, and many have achieved their planned employment outcomes. Most learners have been successfully placed in occupations such as data analysts, IT support specialists, technical support representatives, customer service representatives, and business analysts. Of these learners earning an income above $40,000 — the Fund's definition of job placement — 50% have salaries that range from $44,000 to $60,000. As a result, GCCF borrowers have repaid $1.4 million to the loan providers, on track with the Fund's target.[167]

---

167 Based on data available as of September 30, 2024.

Since the Fund is focused on outcomes, a percentage of the direct training fees promised to training providers are withheld until the students are successfully placed in jobs above a minimum income threshold.

The training providers provide wraparound support services, such as career coaches that offer job search advice, help creating resumes and cover letters, help finding open jobs, and counseling on interview prep and follow-up. A few offer internships as part of the program; these internships offer real work experience for learners and often convert to full-time employment.

We've learned a few things along the way which are worth sharing.

LOAN EDUCATION MATERIALS

The loan provider needed to make the loan education materials more approachable. Along with our loan origination partner, we created two loan education courses — one focused on loan origination and onboarding and the other focused on program completion and loan repayment. These courses leverage videos and knowledge checks to break down the loan features into easy-to-understand pieces, including step-by-step instructions on how to apply for the loan and how to request deferment in cases of unemployment or underemployment.

LEVERAGING AI FOR IMPACT

Social Finance leveraged additional Google.org funding to partner with AdeptID, a mission-aligned artificial intelligence (AI) solution provider with a model that matches learners to jobs and vice versa, based on a variety of factors including work history, skills (both direct and transferrable), education, seniority, commute times, and more. The tool also produces a "match narrative" — a natural language summary of the job matching assessment using generative AI capabilities.

AdeptID's work with GCCF will leverage their job matching tool and narrative recommendations to improve three key areas: job placement quality for learners, matching process efficiency for provider scalability, and the fairness and suitability of matches by reducing bias and human error. AdeptID and the GCCF training providers developed models to meet the specific challenges of each training provider:

- Optimizing the internship matching process for learners (Year Up)
- Providing a shortlist of job recommendations for Merit's career coaches to share with learners (Merit America)

- Providing both a shortlist of job recommendations to learners and a shortlist of learners to employers (Per Scholas).

Initial implementation of the solution has been successful, and AdeptID will roll out progressively more advanced versions of their model that build on the feedback they receive from training providers. The full launch is expected in the fall of 2025.

ENGAGING EMPLOYERS

A critical element of the GCCF is successful job placement. To further support the placement efforts of training providers, all Google Career Certificate graduates have no-cost access to tools and resources from CareerCircle[168] to advance their job search. Those resources include career pathing, resume building, interview prep, and access to a job platform that features open jobs across our certificate fields. The platform provides learners with the opportunity to connect directly with Google Career Certificates Employer Consortium partners like Lowe's, Verizon, Google, and more, as well as access to 80% of Fortune 500 companies through job boards and Allegis[169] offices nationwide.

LEARNING AND EVALUATION

To objectively measure results, we engaged MDRC — a well-known program evaluator — to study the program, rigorously measure results, and help build a learning agenda that can be shared with other employers, service providers, and tech platforms.

Through our work with MDRC, we hope to understand the following questions:

- What are the effects of the GCCF on employment and earnings? How do these effects vary based on learner characteristics?
- Which wraparound services are most highly correlated with program completion, employment, and job retention?
- How do outcomes-based loans contribute to program affordability, scalability, sustainability, and effectiveness?
- How cost effective is the Google Career Certificates Fund?
- What level of wage gains were delivered?

---

168 CareerCircle is a platform that helps individuals with disabilities, military, and other underrepresented communities find and access job training: www.careercircle.com

169 Allegis is a network of specialized companies that provide staffing, recruiting, search, talent advisory, managed delivery, and workforce management solutions: www.allegisgroup.com

To objectively measure results, we engaged MDRC — a well-known program evaluator — to study the program, rigorously measure results, and help build a learning agenda that can be shared with other employers, service providers, and tech platforms.

MDRC is currently conducting a rigorous impact evaluation of Merit America, Per Scholas, and the San Diego Workforce Partnership (SDWP) to measure the effect of the GCCF on learners' economic outcomes. MDRC is also leveraging administrative data sources on earnings, employment, and course completion. This rigorous approach will help us understand the economic impacts of the program, including what aspects are the most effective at improving outcomes.

We're eager to continue working with training providers to understand and respond to needs and engage in an iterative process.

Lisa Gevelber founded and leads Grow with Google, the company's $1 billion commitment to create economic opportunity for all.

9

PAYING IT FORWARD IN NEW JERSEY

DESIGNING AND IMPLEMENTING A NEW FUND FOR TALENT DEVELOPMENT

/ **TARA COLTON** NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY

INTRODUCTION

Governor Phil Murphy often describes New Jersey as "the medicine chest to the world." Home to the nation's highest concentration of scientists and engineers[170] as well as world-class health care providers and innovators, the state also faces a daunting challenge to delivering care: By 2036, New Jersey is projected to have a shortage of 24,450 registered nurses (RNs), one of the largest shortages of any state.[171] The New Jersey Collaborating Center for Nursing stresses that "enrollments in [nursing] schools need to be increased to meet the demand if we are going to have enough providers for NJ residents."[172]

Across the Garden State, New Jersey's training providers are working to bridge that gap and develop the next generation of RNs. However, the same training providers that report stellar licensure pass rates, employment rates, and earnings for their graduates boast *completion*

---

170 Choose New Jersey, "2024 New Jersey Life Sciences Report," https://thisisnewjersey.choosenj.com/nj-life-sciences-report-guide/.

171 Health Resources and Services Administration (HRSA), Health Workforce Projections, "Technical Documentation for HRSA's Health Workforce Simulation Model," https://bhw.hrsa.gov/data-research/projecting-health-workforce-supply-demand/technical-documentation/introduction.

172 New Jersey Collaborating Center for Nursing, "Nurse Workforce Projections, 2021-2036," October 4, 2024, https://njccn.org/2024/10/04/nurse-workforce-projections-2021-2036/.

rates that may not even top 60%.[173] In some of New Jersey's RN training programs, 85% to 100% of graduates secure employment after completing the training.[174] Similarly, graduates taking the nursing licensure test generally have pass rates above 90%.[175] For those that graduate, a newly minted RN can receive competing job offers with starting salaries around $80,000.[176] New Jersey's nursing students are positioning themselves for a path to the middle class in a field where employers urgently need skilled workers. But they must make it to graduation first.

Consider this true story: A couple years ago, a nursing student dropped out of an RN training program in New Jersey where graduates earn an average of $79,000. The curriculum wasn't too challenging. She didn't balk at the sight of blood. She simply couldn't afford the train fare to get to class. Think of the opportunity cost: New Jersey lost a future nurse, the student gave up her dream, and the money that had been invested in her training slipped away with her. While a train ticket might not be the deal-breaker for all prospective nurses, this story reinforces the financial fragility of so many members of the current and future health care workforce.

To address these issues, the State of New Jersey developed an innovative new model called the New Jersey Pay It Forward (NJ PIF) program, an outcomes-based loan led and funded by Governor Phil Murphy and the New Jersey CEO Council and built in partnership with program manager Social Finance. NJ PIF has three primary goals. The first is to expand access to high-quality training for students who typically could not or would not enroll because of cost. The second goal is to provide a backstop to improve student retention while in the program, allowing students to reduce their work hours or weather financial challenges without dropping out. And finally, the third goal is to have a multiplier effect by testing an outcomes-based approach where funds are recycled and redeployed to train future students, to "pay it forward."

Consider this true story: A couple years ago, a nursing student dropped out of an RN training program in New Jersey where graduates earn an average of $79,000. The curriculum wasn't too challenging. She didn't balk at the sight of blood. She simply couldn't afford the train fare to get to class.

173 Social Finance due diligence, based on four-semester completion rate reported by training providers.

174 Social Finance due diligence, based on completion and employment rates reported by training providers.

175 New Jersey Division of Consumer Affairs, New Jersey Board of Nursing, National Council Licensure Examination (NCLEX), "Report 4 — Jurisdiction Program Summary of all First-Time Candidates Licensed in All Jurisdictions," https://www.njconsumeraffairs.gov/nur/Documents/NCLEX/2024-NCLEX-RN-Q3.pdf.

176 Social Finance due diligence, based on student earnings reported by training providers.

NJ PIF is supported by more than $24 million in public and private funding with an additional $4.3 million expected from student repayments, creating a 1.2x fund multiplier. Based on current projections, New Jersey officials expect more than 800 students enrolled in nursing or related health care training programs will receive NJ PIF loans by 2029. New Jersey's hypothesis is that some of those students would not have pursued the training at all without NJ PIF downside protection, and others would have pursued the training — and taken on personal debt — but would not have made it to graduation without the supports offered through NJ PIF. While this program is still in its relatively early stages, New Jersey officials believe the learnings from NJ PIF can help narrow the access and opportunity gap in high-demand industries, particularly in health care, and could serve as a replicable model for other states and cities around the country.

New Jersey's hypothesis is that some of those students would not have pursued the training at all without NJ PIF downside protection, and others would have pursued the training — and taken on personal debt — but would not have made it to graduation without the supports offered through NJ PIF.

HOW NEW JERSEY GOT HERE: PROPOSING A BOLD SOLUTION

In the summer of 2020, as New Jersey began to emerge from the darkest days of COVID but with a very long road ahead, Governor Murphy convened the New Jersey Restart and Recovery Commission. Charged with preparing New Jersey for a resilient economy forever changed by the pandemic, these leaders were urged to think big and propose bold solutions. Heading the call to action to the private sector alongside Governor Murphy were commission members Kenneth Frazier (chairman and CEO of Merck & Co.) and Charles Lowrey (chairman and CEO of Prudential Financial, Inc.), who created an offshoot of the commission called the New Jersey CEO Council. Together, they convened a group of leaders that ultimately included the CEOs of eight of New Jersey's largest employers: BD, Campbell's, Johnson & Johnson, Merck & Co., Prudential Financial, PSEG, RWJBarnabas Health, and Verizon.

Governor Murphy espouses a "whole of government approach," and he charged the Governor's Office and NJ CEO Council to work closely with multiple state government entities including the New Jersey Economic Development Authority (NJEDA), NJ Higher Education Student Assistance Authority (HESAA), Office of the Secretary of

Higher Education (OSHE), NJ Department of Labor and Workforce Development (DOLWD), and the NJ Department of Banking and Insurance (DOBI).

> **Ultimately, the steering committee focused on six program design elements: (1) repayment salary threshold, (2) repayment income share, (3) repayment length, (4) repayment cap, (5) repayment coverage, and (6) population and training focus.**

Together, this alphabet soup of state agencies began to design a funding mechanism that aligned with the governor's policy priorities around a "stronger and fairer" New Jersey.[177] The state steering committee's broad vision was to bridge a financing gap in New Jersey's training and higher education landscape. Since taking office in 2018, Governor Murphy's administration had prioritized the creation of two major programs — the Community College Opportunity Grant (CCOG) and Garden State Guarantee (GSG) — to make tuition free at community colleges and public four-year colleges for low- and middle-income students. However, while tuition was covered, many *fees* for associate degree programs at community colleges — such as clinical lab fees, uniforms, and other costs unique to health care degree programs[178] — could total upwards of $20,000 and were not covered under CCOG or GSG.[179]

As a result, even if the training offered six-figure earning potential, training providers reported that some students were simply choosing not to enroll at all, because they could not afford the out-of-pocket cost for fees and did not want to (or were not able to) assume significant personal debt.[180] Others — like the nursing student mentioned in the introduction — decided to embark on training, including the debt that comes with it. Students took out high-interest private loans, burned through their limited savings, and worked to make ends meet while in full-time training. They encountered day-

---

177 The process of developing the New Jersey Pay It Forward model drew from many of the core principles and values outlined in three reports that laid out the Murphy administration's vision and goals:
• New Jersey Economic Development Authority, "The State of Innovation: Building a Stronger and Fairer Economy in New Jersey," October 2018, https://www.njeda.gov/wp-content/uploads/2021/02/StrongerAndFairerNewJerseyEconomyReport.pdf.
• New Jersey Economic Development Authority, "Jobs NJ: Developing Talent to Grow Business in the Garden State," 2020, https://www.njeda.gov/jobsnj/.
• Office of the Secretary of Higher Education, "NJ State Plan for Higher Education: Where Opportunity Meets Innovation," February 2019, https://www.nj.gov/highereducation/stateplan.shtml.

178 Hudson County Community College, "Schedule of Fees, 2024-2025," https://www.hccc.edu/programs-courses/resources/documents/schedule-of-fees-2024-2025.pdf.

179 Estimated total financing gap for the Associate Nursing Program without NJ Pay It Forward loans: Hudson County Community College: $20,000; Rowan College at Burlington County: $14,000; Brookdale Community College: $15,000 (Social Finance due diligence).

180 In late 2021, among training providers that submitted a detailed data form (n=44) for the NJ Pay It Forward program, 82% said they "frequently encounter low-income students unable to enroll due to a lack of funding," and 52% said that "low-income students frequently pay out-of-pocket or through private loans."

to-day financial obstacles, like emergency dental surgery and fender benders. They fell behind on their bills and faced eviction or utility shutoffs. In some cases, they incurred substantial debt yet did not even graduate.

The New Jersey team began to develop a program framework to help address barriers to successful enrollment, graduation, and employment, particularly in the health care sector. Governor Murphy and the NJ CEO Council pledged an initial $10 million for an innovative model to achieve these goals. The first task was to determine how the funds could have the most impact.

GUIDING PRINCIPLES

In late 2020, the NJ PIF steering committee began wrestling with foundational design principles. The group discussed questions like "How do we ensure that we are appropriately leveraging and braiding all other public and private sources to reduce the balance a student is obligated to repay?" and "How do we balance the 'evergreen' nature of the Fund and ability to serve more students against providing the most student-friendly terms?"

Ultimately, the steering committee focused on six program design elements: (1) repayment salary threshold, (2) repayment income share, (3) repayment length, (4) repayment cap, (5) repayment coverage, and (6) population and training focus. The group weighed various trade-offs and pressure-tested the design against multiple examples of student scenarios. One central focus was how to design NJ PIF to serve as "last-dollar" funding, so these resources were only deployed after all other available funding was exhausted, including CCOG, GSG, Pell grants, and Individual Training Account vouchers.

The group reached consensus on several key principles, and in June 2021, the NJ Higher Education Student Assistance Authority (HESAA) issued a request for proposal (RFP) for a program manager, laying out the core program parameters.[181] These included the following:

- Borrowers would not be asked to pay anything above the cost of training, meaning these loans would be free of interest and fees.
- Students would not be required to repay the costs of the wraparound services or living stipends they received.
- NJ PIF borrowers would have the same consumer protections offered by traditional student loan products, and the funds would be subject to the same regulations that exist for traditional student loans in New Jersey.

181 New Jersey Higher Education Assistance Authority, "RFP Pay It Forward Program," June 4, 2021, https://www.hesaa.org/Pages/RFPPayItForward.aspx.

- The monthly repayment amount would be determined through an income-based repayment calculation of 10% of discretionary income, calculated as the difference between participants' adjusted gross income and 150% of the federal poverty guideline.
- Repayment terms would end five years after participants completed the training, and any remaining balance on a PIF loan in good standing would be forgiven.

> **Many providers confirmed the state's hypotheses that students either were choosing not to enroll in training within high-growth sectors because of the cost or were incurring risky personal debt to pursue these programs of study.**

HESAA ultimately selected the national nonprofit Social Finance, an organization that has pioneered innovative outcomes-based financing all over the country, to serve as program manager on behalf of the state of New Jersey beginning in 2021. After finalizing the repayment terms and regulatory structure for the fund and procuring the fund manager, the state steering committee and Social Finance turned to identifying targeted industry sectors and occupations while conducting due diligence on potential training providers.

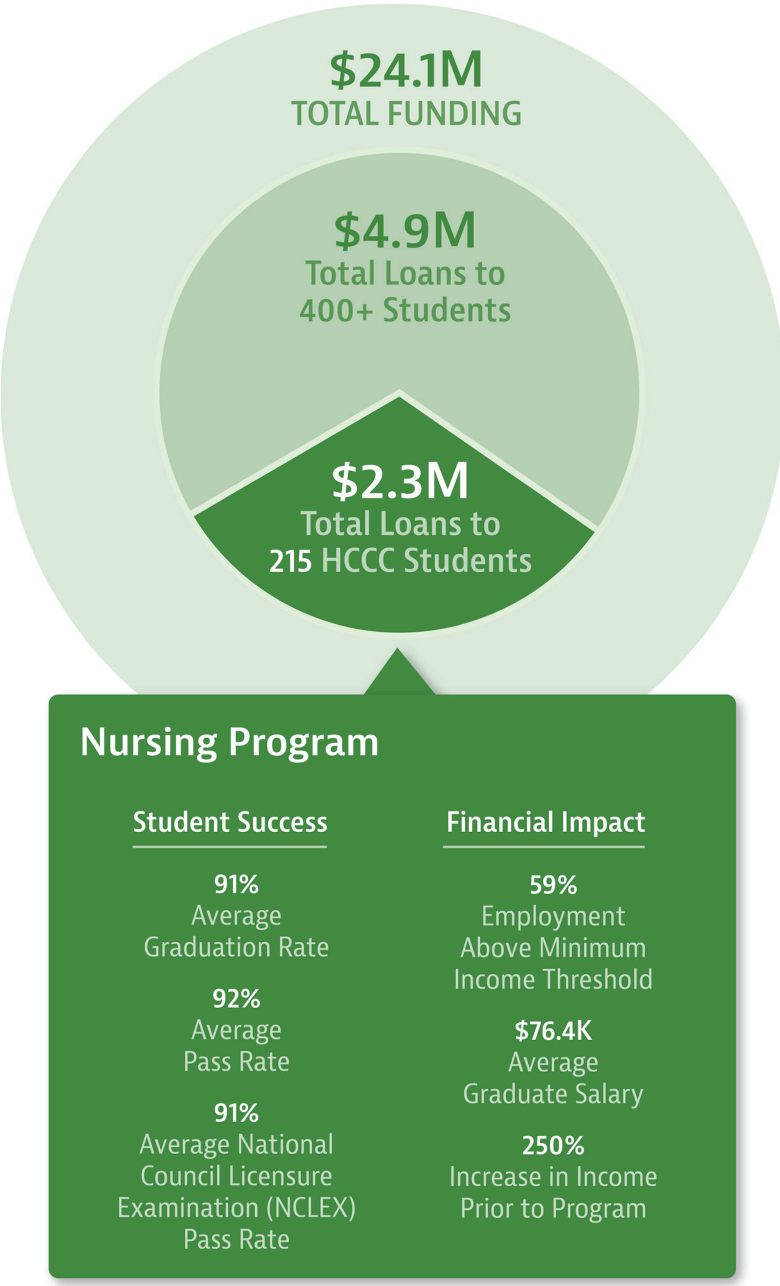
TARGETING HIGH-GROWTH INDUSTRIES AND HIGH-QUALITY TRAINING PROVIDERS

In advance of the program's launch in fall 2022, the steering committee partnered with Social Finance to conduct a comprehensive search for high-quality job training programs to serve as the initial partners for NJ PIF. Nearly 100 providers expressed interest in taking part in the program, and dozens submitted detailed data requests. Many providers confirmed the state's hypotheses that students either were choosing not to enroll in training within high-growth sectors because of the cost or were incurring risky personal debt to pursue these programs of study.

The state established parameters for in-depth due diligence with programs and providers that met multiple levels of criteria. As a pilot program, the NJ PIF focused on programs in three of Governor Murphy's priority sectors: health care, technology, and clean energy. The initial screening criteria were programs with strong track records of placing participants in jobs that typically paid starting annual wages of at least $45,000. Earnings outcomes at or above that level would be essential for borrowers of NJ PIF loans to have a reasonable chance of repaying their tuition costs through affordable repayments based

/ **FIGURE 1** /

RESULTS FROM NEW JERSEY PAY IT FORWARD FUND AND HUDSON COUNTY COMMUNITY COLLEGE (HCCC) AS OF DECEMBER 2024



Note: Data provided by Social Finance to New Jersey Pay It Forward Executive Steering Committee.

on their discretionary incomes. Working with the New Jersey Department of Labor and Workforce Development labor market data team, the state and Social Finance dug into NAICS occupational codes, evaluating long-term labor market demand and earning potential.

The state established parameters for in-depth due diligence with programs and providers that met multiple levels of criteria. As a pilot program, the NJ PIF focused on programs in three of Governor Murphy's priority sectors: health care, technology, and clean energy. The initial screening criteria were programs with strong track records of placing participants in jobs that typically paid starting annual wages of at least $45,000. Earnings outcomes at or above that level would be essential for borrowers of NJ PIF loans to have a reasonable chance of repaying their tuition costs through affordable repayments based on their discretionary incomes. Working with the New Jersey Department of Labor and Workforce Development labor market data team, the state and Social Finance dug into NAICS occupational codes, evaluating long-term labor market demand and earning potential.

After an extensive process, the state selected four initial training programs offered at three public higher education institutions: an accredited program at Hudson County Community College that prepares students to become RNs by earning a two-year Associate of Science-Nursing degree; Camden County College's noncredit, nine-month career and technical skills training programs in welding and heating, ventilation, and air conditioning (HVAC); and a noncredit, 10-month, online Cybersecurity Professional Bootcamp offered through the New Jersey Institute of Technology (NJIT) in partnership with ThriveDX.

NJ PIF was originally envisioned as a funding mechanism for short-term credential and certificate programs, but the team broadened the model to include associate degree programs focused on the health care sector. This shift occurred for several reasons. First, as noted above, the employer demand and earning potential for nursing and related occupations continues to rise.[182] Two of the eight founding New Jersey CEO Council members — RWJBarnabas and Johnson & Johnson — emphasized the health care sector's urgent needs for new nurses. With over 40,000 staff — including 11,000 nurses — across nearly 20 hospitals throughout New Jersey, RWJBarnabas is by far the largest employer of nurses in the state of New Jersey.[183] RWJBarnabas provided

182 New Jersey Collaborating Center on Nursing, "New Jersey Nursing Data and Analysis Report," 2025, https://njccn.org/wp-content/uploads/2025/02/NJCCN_New_Jersey_Nursing_Data_and_Analysis__2025_-Final_website-rev.pdf.

183 As of March 2025, RWJBarnabas had job postings for more than 1,000 open RN positions throughout their health care system (RWJ Barnabas Health, https://www.rwjbarnabasnursingjobs.org/). The 2025 "New Jersey Nursing Data and Analysis Report," at https://njccn.org/wp-content/uploads/2025/02/NJCCN_New_Jersey_Nursing_Data_and_Analysis__2025_-Final_website-rev.pdf, shows that RWJBarnabas had 1,357 of the 7,539 unique RN job postings across the 25 largest employers, representing 18% of all open RN positions statewide.

invaluable insight to the state about on-the-ground hiring needs, wage potential, and growth trends. In 2020, Johnson & Johnson partnered with Social Finance and the Aspen Institute to issue a brief about student-centered financing models to support nursing education.[184]

Second, as the team began examining the fund economics, data revealed that the fees for nursing training programs that could not be covered by CCOG were higher than many other associate degree programs.[185] This reinforced the mismatch between employer demand for graduates of these programs compared to the number of New Jerseyans who could afford to enroll.

Third, the RN program at Hudson County Community College (HCCC) in Jersey City was the first NJ PIF site to launch and quickly showed positive engagement among both staff and students, including graduating the first cohort of NJ PIF borrowers in June 2023. One graduate who was hired as an intensive care unit nurse at a nearby hospital shared that "the New Jersey Pay It Forward stipend and emergency funds helped me focus on my classes and worry less. ... The no-interest loan helps me stay in the here and now, instead of worrying too much about compounding interest that I would have to pay in the future."[186]

At the same time, while NJ PIF had launched at the two other training providers, they were slower to roll out, and the initial outcomes lagged behind HCCC's nursing program. The strong start at HCCC, coupled with the robust demand for nurses across the state, reinforced the planning team's belief that the health care sector was the most strongly aligned with the NJ PIF model. While the state continues to monitor results and gain learnings about the impact in the other sectors, officials believe the greatest promise and replicability both within New Jersey and across the country lies within the design and evolution of its health care training portfolio. NJ PIF loans are now available or coming soon to students in five health care training programs at three public colleges in New Jersey, including two new training providers (Rowan College at Burlington County and Brookdale Community College). The state has also expanded NJ PIF loans beyond associate degree programs in nursing to include associate degree programs in radiography that prepare students to become radiologic technicians.

---

184 Social Finance, "Increasing Access to Nursing Education: Student-Centered Income Share Agreements as a Potential Solution," May 28, 2020, https://socialfinance.org/insight/access-to-nursing-training/.

185 Social Finance due diligence.

186 Hudson County Community College, "Hudson County Community College Students Are First to Complete Nursing Degrees in New Jersey's Pay It Forward Program," June 30, 2023, https://www.hccc.edu/news-media/news/06302023.html.

FUND DESIGN

From the outset, NJ PIF was designed as a revolving fund with no return to investors. All contributions to the fund are from state appropriations and corporate donations and are used to fund workforce training and associated services. Participants' loan repayments are recycled back into the fund — "paid forward" — to fund training and services for future cohorts. This multiplier effect enables each dollar in the program to help more participants than would have been possible if those training costs were instead covered through grants that could not be recouped. While the NJ PIF program is designed to stretch money further than a typical grant program, the fund is not self-sustaining. Some expenditures will be returned to the fund through borrower repayments, and these recoveries will support additional future trainees. Initial seed funding was $5 million in state funding and $4.8 million from the CEO Council members. Since 2021, Governor Murphy has dedicated another $14.3 million in state funds to NJ PIF, bringing total investment to $24.1 million. The governor's fiscal year 2026 budget proposal includes an additional $1 million in state funds for NJ Pay It Forward, which would bring total state funding to over $20 million.[187] Current projections are that student repayment will add another $4.3 million to the available fund, with an estimated 1.2x multiplier on initial investment.

PUTTING STUDENTS AT THE CENTER OF THE LENDING MODEL

NJ PIF's lending differs in several ways from other private student loans. The program provides zero-interest, no-fee loans to individuals from underserved, low-income communities, who often lack the credit history for a traditional loan. Students with NJ PIF loans only repay the costs of their training if they are hired for a job in which they earn more than a defined minimum salary based on household size (e.g., $50,730 for workers from a three-person household), through affordable monthly payments capped at no more than 10% of their discretionary income for up to five years.[188] If they earn under the income threshold, borrowers can apply for an income-based deferment, with no payment due during the deferment period — effectively, paying nothing if they do not earn more than the minimum salary. This income-based repayment mechanism requires borrowers to keep in touch with the program's loan servicing partner to adjust their payment amounts as necessary based on changes in their income.

187 NJ.gov, "The State of New Jersey Governor's Budget Message," 2026, https://www.nj.gov/treasury/omb/publications/26budget/FY2026-Budget-Detail-Full.pdf.

188 NJ Pay It Forward defines "discretionary income" as the worker's income after subtracting 150% of the federal poverty level amount for their household size.

NJ PIF's loans are explicitly defined as private education loans subject to federal and state consumer protections for borrowers. For instance, the loan repayment terms are transparently displayed to borrowers through plain language disclosures compliant with the standards of the federal Truth in Lending Act. The program's last-dollar policy also requires that, before offering NJ PIF financing to students, training providers counsel enrollees to first exhaust all other funding sources that do not require debt (e.g. Pell grants, CCOG, Individual Training Account vouchers, etc.). Through financial counseling prior to the loan application, participants can understand the repayment terms and assess for themselves whether acquiring this outcomes-based loan is in their best interests.

Because these loans carry zero interest, students never repay more than the cost of training itself, and under the terms of the program, any remaining balance is forgiven after five years. In addition, participants do not have to pay back the living stipends and supportive services described below, as these program expenses are excluded from the loan balance.

LIVING STIPENDS AND SUPPORTIVE SERVICES FOR PROGRAM PARTICIPANTS

To supplement the program's outcomes-based loans for direct tuition costs, participants in NJ PIF also receive grants — which do not need to be repaid — for living stipends and supportive services as part of their enrollment, including access to emergency aid funds and mental health counseling. Supportive services can help participants succeed during training and after completion and are a recognized best practice for education and training programs that serve low-income populations.[189]

Because these loans carry zero interest, students never repay more than the cost of training itself, and under the terms of the program, any remaining balance is forgiven after five years.

In 2022-24, during the first two years of NJ PIF implementation, participants received living stipends of $500 per month if they were enrolled in training programs with durations exceeding one year, and $375 per month for shorter duration programs. The stipends do not aim to fully cover an individual's total monthly living costs, which would be prohibitively expensive. Rather, they are intended to give students some additional breathing room to, for example, reduce their hours of

189 Cynthia Hess, Yana Mayayeva, Lindsey Reichlin, and Mala Thakur, "Supportive Services in Job Training and Education: A Research Review," Institute for Women's Policy Research, 2020, https://iwpr.org/wp-content/uploads/2020/08/Supportive-Services-in-Job-Training-Education-C434.pdf. "For some individuals … challenging life circumstances — such as a lack of access to affordable child care or transportation, financial strain, or health issues — make it difficult to complete training programs. Life challenges that hinder program completion point to the importance of supportive services."

part-time work during training or — like the former nursing student mentioned above — help with some of the costs of transportation, child care, or other basic needs, so they can focus more time and energy on learning.

These supportive services are often cited by NJ PIF students as critical to their success in completing their respective programs. One student shared that "the living stipend has been a blessing to pick up food, fill my car with gas, and purchase books for the semester." Virtually all NJ PIF students (95% across all training providers) have opted to receive a living stipend, with total expenditures to date of $1.4 million. The funds are provided on a debit card, and according to spending data, not including cash withdrawals, the largest share of funds (43%) are used at grocery stores and restaurants, followed by transportation-related services (14%). Among the students Social Finance spoke with, two-thirds reported they were able to reduce their work hours during training to focus on their studies thanks to the living stipend.

NJ PIF also offers grants to help participants cope with unexpected financial emergencies, as well as mental health counseling sessions via telemedicine at no cost to the participant. Nearly half of all NJ PIF students (43%) have utilized emergency financial assistance with total expenditures to date of $373K (average of $2,408 per student). The primary reasons emergency aid is needed are food insecurity (43%), transportation expenses (14%) and health care (5%). Emergency aid can prevent someone from dropping out of training because they are being evicted or cannot afford to feed their family or are unable to replace a broken laptop. As noted in the beginning of this chapter, something as small as a train fare can stop students from completing a program. Additionally, 33% of students have requested access to the virtual mental health services platform. One student said that having access to a licensed therapist "has a lot to do with how well I'm doing in class right now," and without NJ PIF offering the support, they "couldn't afford to pay for a therapist out of pocket."

Among the students Social Finance spoke with, two-thirds reported they were able to reduce their work hours during training to focus on their studies thanks to the living stipend.

INITIAL RESULTS DRIVING EXPANSION WITHIN THE HEALTH CARE SECTOR

As referenced above, New Jersey officials have seen the strongest initial student outcomes and employer engagement in the RN program at HCCC in Jersey City. While NJ PIF was launched in two other sectors

— technology and clean energy at NJIT and Camden County College, respectively — results have lagged the health care programs.

As of December 2024, the New Jersey Pay It Forward fund has certified a total of $4.9 million in loans to finance training for more than 400 students, with the largest share — $2.3 million — supporting 215 NJ PIF learners in the Associate Nursing Program at HCCC with an average loan size of $10,627. Of those students, about a third (*n*=61) have entered into repayment, and 59% of the students in that group are employed with earnings above the minimum income threshold (MIT). The graduation rates for the first two cohorts of HCCC students were 90% and 92%, respectively, and the average National Council Licensure Examination (NCLEX) licensing pass rate for HCCC graduates was also 92%. Among those reporting salaries, HCCC graduates that passed the NCLEX licensure exam were earning an average of $76,400, a 250% increase in their income prior to starting the program. HCCC borrowers have repaid $118,000 of their outstanding NJ PIF loans, comprising 5% of total lending certified.[190]

These promising results drove the state to expand NJ PIF funding to HCCC's radiography program, where they have now certified NJ PIF loans for 16 students enrolled in training. NJ PIF also began supporting nursing and radiography at two new training providers. Rowan College at Burlington County began enrolling RN students with NJ PIF loans in the fall of 2024 and plans to expand NJ PIF to their radiography program. In the fall of 2025, Brookdale Community College will begin NJ PIF loans for 60 RN students per year, with potential expansion to their radiography program in the future as well. The New Jersey team is conducting due diligence on additional training providers that offer associate degrees in nursing, as well as exploring support for other health care programs within the existing training providers.

FUNDING DEPLOYMENT AND PROJECTIONS

As of December 2024, NJ PIF had deployed $5.6 million, or approximately 23% of the $24.1 million in committed funds. Of that $5.6 million, nearly two-thirds — $3.45 million or 62% of deployed funds — was for loan disbursements at training providers. Slightly over $1 million (18% of deployed funds) has been used for nonrepayable living stipends, with another $280,000 (5% of deployed funds) and $12,000 (0.2% of deployed funds) for emergency aid and mental health services, respectively. Approximately $855,000 (15% of deployed funds) were for administrative expenses, including up-front design and origination fees that were focused on the program's development and rollout period.

190 Data provided by Social Finance to New Jersey Pay It Forward Executive Steering Committee.

To date, a total of $24.1 million has been contributed to the New Jersey Pay It Forward fund, comprising $4.8 million from eight corporate donations and $19.3 million in state appropriations over four years: $5 million in state fiscal year 2022 (FY22), $2.5 million in FY23, $2.5 million in FY24, and $9.3 million in FY25. Governor Murphy's proposed fiscal year 2026 budget would add an additional $1 million, bringing total state funding to $20.3 million if enacted.

Over a five-year span, even if the NJ PIF fund were to receive no additional donations or appropriations beyond its current funding, the program is projected to recoup $4.3 million from borrower repayments. As a result, the program would be projected to have overall available funding of $28.4 million ($24.1 million in corporate donations and state appropriations, plus $4.3 million in recouped funds). This total funding level will allow NJ Pay It Forward to support approximately 1,030 students over five years throughout the Garden State, including more than 800 students in nursing and health care training programs.

Over a five-year span, even if the NJ PIF fund were to receive no additional donations or appropriations beyond its current funding, the program is projected to recoup $4.3 million from borrower repayments.

CONCLUSION

New Jersey officials believe that Pay It Forward is a promising model to finance valuable skills training for the benefit of individual workers, employers, and the broader economy. The program's financing structure stretches dollars to get more bang for the buck — serving more workers than would be possible with grants alone. The repayment mechanism serves as an accountability signal to direct dollars to focus on high-quality training with a good chance of helping workers get hired into well-paying jobs. And the funding model shares risk and aligns incentives across multiple stakeholders — students, employers, training providers, and government.

The repayment mechanism serves as an accountability signal to direct dollars to focus on high-quality training with a good chance of helping workers get hired into well-paying jobs.

While New Jersey has one of the largest projected nursing shortages in the country, many other states face similar challenges. The national projections are a 10% shortage of RNs by 2027 and 6% by 2037, translating into a shortage of 207,980 RNs across the country.[191] The initial results of NJ PIF show promise in widening the pipeline of prospective nurses by making training more affordable, testing strategic investments to improve nursing student retention, and, crucially, expanding funding beyond what is available through traditional grants. Based on the preliminary outcomes and lessons learned, New Jersey officials believe that other states should consider adapting this model to meet their local workforce needs, particularly in the health care sector.

Tara Colton serves as Chief Economic Security Officer at the New Jersey Economic Development Authority (NJEDA).

191 Health Resources and Services Administration, "Nurse Workforce Projections, 2022-2037," fact sheet, November 2024, https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/nursing-projections-factsheet.pdf.

THE PROMISE OF OUTCOMES FUNDS FOR ECONOMIC MOBILITY

/ **SIR RONALD COHEN** GSG IMPACT

An earlier version of this chapter appeared in the first volume of Workforce Realigned *in 2021.*

When it comes to tackling the urgent problems we face today, there is no time — or money — to waste. Governments have a leading role to play in the emerging Impact Revolution. They have tremendous power to drive change and steer progress.

That is why it is so important that governments shift their focus from inputs to outcomes. In this era of accelerating public sector sophistication, outcomes funding strategies will help to identify effective interventions and bring them to scale. These Pay for Success strategies allow policymakers to pay only for what works, to the extent that it works. Instead of buying services and hoping they will be successful, governments pay for measured results.

Complex social issues, though, often don't fit neatly into one agency's purview. Consider a workforce program for veterans with post-traumatic stress disorder. Such a program could help achieve the goals of one agency (say, a county's behavioral health department) while also contributing toward another's policy objectives (say, a state's economic development agency). Looked at through the lens of just one agency, perhaps one might believe the program isn't worth it; looked at holistically, however, it may be a blockbuster.

> **In this era of accelerating public sector sophistication, outcomes funding strategies will help to identify effective interventions and bring them to scale.**

Each individual project can bring together multiple partners to contribute outcomes funding. As my colleague Nirav Shah relates in *Investing in America's Workforce*, the veterans-focused project I just described was launched by drawing together commitments from the U.S. Department of Veterans Affairs, the Commonwealth of Massachusetts, and the cities of Boston and New York.[192]

But weaving that customized tapestry took four years. Overcoming institutional silos one at a time is hugely time intensive as well as hugely challenging.

SOLVING THE WRONG POCKETS PROBLEM

Outcomes funds drastically reduce the time and cost it takes to put together outcomes-based contracts. They set up the infrastructure for cooperative, cross-agency funding, in advance of a specific project, by aggregating a pool of capital. Then they actively develop new projects focused on a set of priority outcomes.

Outcomes funds can centralize expertise in building outcomes-based funding strategies within government. This feature should not be underrated. Centers of excellence lead to more effective and efficient contracting, smarter project designs, and better collaborations (just one example is the Executive Office for Administration and Finance in Massachusetts, which has become the national leader in these contracts). Rather than building artisanal projects, administrators of an outcomes fund can proactively create lasting, mutually reinforcing Outcomes Partnerships that engage all the necessary stakeholders — and continue to learn about the most cost-efficient mechanisms for achieving their target outcomes.

Jurisdictions around the globe have begun to cultivate pools of funding earmarked for outcomes contracts that cut across agencies and levels of government.[193] The global Education Outcomes Fund (EOF), which

---

192 Nirav Shah, "Improving Workforce Outcomes with Pay for Success," in *Investing in America's Workforce: Improving Outcomes for Workers and Employers*, ed. Stuart Andreason, Todd Greene, Heath Prince, and Carl E. Van Horn (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2018), 63–74, www.investinwork.org/-/media/68AAA0BA542445508B3CAE88EAFC233D.ashx.

193 The U.K. is home to four outcomes funds: the Innovation Fund (£30 million) for youth workforce development, the Fair Chance Fund (£10 million) for displaced youth, the Commissioning Better Outcomes Fund (£40 million), and the Life Chances Fund (£80 million) focused on upstream interventions outside the purview of a single jurisdiction. Donor agencies, such as the U.K.'s FCDO, the U.S.'s CDF, Switzerland's SECO, and others are increasingly engaging in developing outcomes funds, such as the $1 billion EOF for Africa and the Middle East catalyzed by GSG Impact, which aim to bring systemic improvement to educational attainment levels.

first launched in 2018, is one such example. Its goal is to pool at least $1 billion in aid and philanthropic funds by 2030, transforming the lives of over 10 million children and youth around the world. An independent trust fund hosted by the United Nations Children's Fund (UNICEF), the EOF's approach brings together governments, donors, implementing partners, and investors in countries like Ghana, Sierra Leone, Kenya, Rwanda, South Africa, Tunisia, India, and Colombia to achieve concrete targets for learning, skill development, and employment in countries around the world.

Rather than building artisanal projects, administrators of an outcomes fund can proactively create lasting, mutually reinforcing Outcomes Partnerships that engage all the necessary stakeholders — and continue to learn about the most cost-efficient mechanisms for achieving their target outcomes.

In the United States, the federal government has two such funds. Congress created the Social Impact Partnerships to Pay for Results Act (SIPPRA) as part of the Bipartisan Budget Act of 2018, which allocated $100 million to account for the federal portion of state and local Pay for Success initiatives — including the cost of rigorous evaluations to help policymakers better understand what works. To date, the funding has supported evidence-based projects and their evaluations in four U.S. jurisdictions, with more to be announced.

More recently, the Advanced Research Projects Agency for Health (ARPA-H), a new research funding agency dedicated to breakthrough advances in health, launched the most ambitious outcomes fund to date: a competition among regional health partnerships to achieve dramatic, population-level health goals. The agency has committed up to $15 million for each selected partnership (up to $99 million total) while asking for $30 million in other outcomes buyer commitments (from health plans, corporations, and/or state and local governments that might also stand to benefit from major health improvements). ARPA-H will make payments over three years provided that regions achieve one of three predefined goals (for example, a 20% reduction in severe obstetric complications within a geographically contiguous population of 5 million people).

This kind of structure sets a clear outcomes target, pulls together outcomes funding from other "pockets," and then gives communities the flexibility to think outside the typical compliance structures that hold them back, promoting big ideas and adaptive delivery. The model is one we should replicate across the globe.

USING OUTCOMES FUNDS TO ACCELERATE ECONOMIC MOBILITY

The United States has a remarkable opportunity to demonstrate leadership in outcomes-based funding. As the federal government begins aggregating outcomes funds across its agencies, U.S. states could do the same, creating their own state-level economic mobility outcomes funds, as illustrated in Figure 1.

> **This kind of structure sets a clear outcomes target, pulls together outcomes funding from other "pockets," and then gives communities the flexibility to think outside the typical compliance structures that hold them back, promoting big ideas and adaptive delivery. The model is one we should replicate across the globe.**

These funds would give states an advantage in securing federal awards by developing outcomes-contracting expertise and creating a pipeline of promising opportunities. More importantly, they would enable states to build muscle around outcomes contracting, at a time when making the most of public money has never been more essential. By aggregating money from across agencies, state economic mobility outcomes funds would solve "horizontal" wrong pockets problems, finding opportunities that might otherwise fall through the cracks between agencies. In some instances, we expect that economic mobility funds would also attract the notice of the philanthropic and corporate communities, further bolstering their potential for impact.

Funds themselves would identify a set of priority target populations — for example, transition-aged youth living on the street; American Indians and Alaska Natives receiving unemployment benefits; and refugees and recent immigrants who are English language learners — and then define priority outcomes for each group. In only paying for the achievement of those outcomes, the funds will help accelerate the uptake of effective practices.

TOWARD MORE AGILE GOVERNMENTS

The scale of our problems requires powerful new mechanisms. We are facing a moment in which governments everywhere need to maximize the impact of every dollar they spend. Fortunately, we're entering that moment armed with more information and stronger analytical tools than ever before. Sophisticated budgeting and spending tools, like outcomes funding, are not enough on their own to overcome the structural challenges we face. But they can serve as a compass, helping to guide states and counties toward what works.

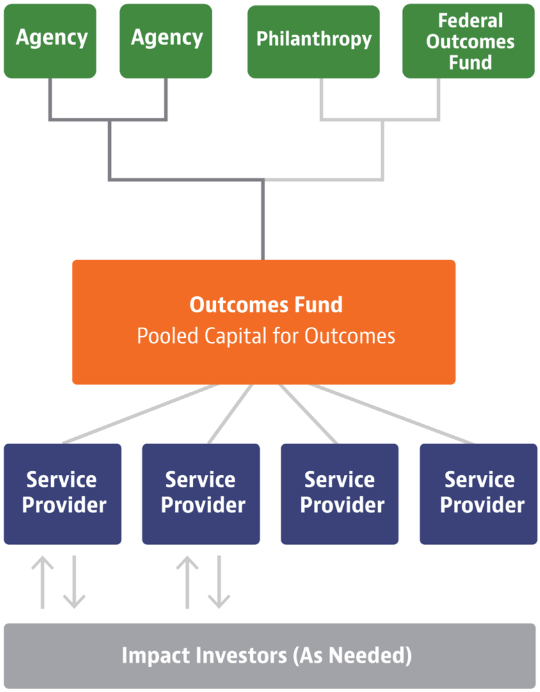
/ FIGURE 1 /

OUTCOMES FUNDS ALLOW JURISDICTIONS TO ACHIEVE BETTER OUTCOMES BY CENTRALIZING KNOWLEDGE AND STRATEGY AROUND OUTCOMES CONTRACTING

1 Aggregate Capital
Funding agencies (sometimes in partnership with philanthropy) come together to **jointly contribute to an outcomes fund**. In some instances, federal outcomes funds may match.

2 Centralize Expertise
The fund develops **outcomes-based contracts** to achieve key policy goals under a common framework.

3 Contract for Outcomes
As needed, service providers may draw on impact investors for the **upfront capital needed** to provide services to the target population; investors are repaid if outcomes are achieved.



Outcomes funds are how we accelerate that journey. They are how the public sector brings these powerful tools into the mainstream. Their capability lies in attracting private capital to fund the delivery organizations while strengthening the forces of smart government in building collaborative, cross-sectoral Outcomes Partnerships to boost economic mobility.

Sir Ronald Cohen is Co-Founder and President of GSG Impact, The Portland Trust, and the recently-created International Foundation for Valuing Impacts (IFVI).

11

BUYING OUTCOMES

LESSONS FROM THE PAST

/ **PAUL RYAN** FORMER SPEAKER OF THE HOUSE

An earlier version of this chapter appeared in the first volume of Workforce Realigned *in 2021.*

America is at a moment of great need and great opportunity in the fight against poverty. With so many events and innovations shaping our economy, the importance of disrupting the stale institutions in place to tackle these challenges has become clearer than ever before.

I've been concerned for years by our country's approach to reigniting upward mobility. Our efforts have too often originated in Washington, D.C., with little input from those with lived experience and from the individuals working on the ground to expand opportunity. This effort has led to approaches that further displace and marginalize those living in poverty. It's when we innovate together to solve this problem — combining the vibrancy of community-based solutions, the know-how of the private sector, and the scale of government policy — that we have the greatest potential to make a difference.

Pay-for-success programs bring together the best of the public and private sectors to address the most critical issues our country is facing. The goal of a social public good — a world in which far fewer Americans live in poverty — is central to their execution. So too is the expertise and capital of the private sector, which can provide funding, strategic thinking, and energy to deploy resources where most needed. When executed properly, programs like these offer enormous promise.

Unfortunately, the long history of performance-based contracting in American civic life includes frequent examples of programs that have not achieved their desired results. Over the past four decades, the government has attempted to structure several programs that offer payouts to impact investors based on provider performance to drive better outcomes. Although these programs were created with the best intentions, they have driven little improvement to the status quo. Identifying and addressing the challenges they have faced will be critical to designing the next generation of performance-based contracts.

For example, a common shortcoming of performance-based contracts is that many fail to differentiate payouts according to the level of need of the target populations. Without adjusting payments to account for different levels of risk and vulnerability among participants, service providers are penalized for serving people with greater needs. Initiatives across workforce development, education, and health care have made this same mistake, creating incentives that work against delivering services to the populations most in need of support.

When performance-based contracts are set up well, shortfalls are mitigated, and the programs have significant potential to improve lives. Well-executed performance-based contracting offers benefits for all parties involved by shifting spending risk away from governments, creating positive feedback loops based on provider effectiveness, and facilitating the collection of data on intervention outcomes.

...a common shortcoming of performance-based contracts is that many fail to differentiate payouts according to the level of need of the target populations. Without adjusting payments to account for different levels of risk and vulnerability among participants, service providers are penalized for serving people with greater needs.

As the next generation of performance-based contracts takes hold, it is essential that we learn from past challenges. Historical examples from workforce development and health care offer lessons on how to mitigate typical shortcomings and fully unlock the potential of performance-based contracting.

JOB TRAINING PARTNERSHIP ACT (1982)

Going back to the 1980s, federal legislation has tied payments to employment outcomes achieved by program participants. The ’60s and ’70s saw the rise of several federal training programs but few that led to positive results.[194]

/ FIGURE 1 /

KEY MILESTONES OF PERFORMANCE-BASED CONTRACTING

1982
Job Training Partnership Act

1999
Ticket to Work Act

2005 - 2018
Piloting Physician Pay for Performance Programs

2017 - 2019
Foundation for Evidence-Based Policymaking Act

2018 - present
Social Impact Partnerships to Pay for Results Act

Unemployment rates continued to increase among groups targeted by government workforce development funding, and even large-scale programs like Job Corps failed to show significant sustained impacts.[195]

In an effort to support higher-quality job training initiatives, the federal government, through multiple programs, began allocating dollars to local jurisdictions partially based on participants’ employment outcomes. The Job Training Partnership Act (JTPA) of 1982 was one such program. Developed through a bipartisan effort led by former Sens.

194 James Bovard, “The Failure of Federal Job Training,” Cato Institute, Policy Analysis no. 77, August 28, 1986, www.cato.org/policy-analysis/failure-federal-job-training.

195 U.S. Department of Labor, Office of Inspector General — Office of Audit, “Report to the Employment and Training Administration: Job Corps Could Not Demonstrate Beneficial Job Training Outcomes,” March 30, 2018, www.oig.dol.gov/public/reports/oa/2018/04-18-001-03-370.pdf.

Dan Quayle, Edward Kennedy, Paula Hawkins, and Claiborne Pell and by former Reps. Augustus Hawkins and James Jeffords, it was signed into law by then-President Reagan. The bill aimed to improve employment rates for low-income Americans by providing budgetary rewards and sanctions to jurisdictions based on the near-term labor market outcome levels achieved by participants.

Well-executed performance-based contracting offers benefits for all parties involved by shifting spending risk away from governments, creating positive feedback loops based on provider effectiveness, and facilitating the collection of data on intervention outcomes.

To carry out its purpose, the JTPA established federal assistance for adult and youth programs, federally administered programs (such as training for migrant workers and veterans), summer youth employment and training programs, and training assistance for workers affected by layoffs. The program established a performance management system that provided rankings of 620 service delivery areas (SDAs) and set aside funding to reward SDAs that performed particularly well relative to the overall labor market.

To evaluate outcomes, the JTPA originally considered four performance measures: rate of entering employment, average wage at placement, cost per participant who entered employment, and rate of entering employment among welfare recipients. However, states were given considerable flexibility to select comparison data and define favorable terms. Where improved results existed, it became clear that they had been driven by the selection of participants who had fewer needs and, therefore, were easier to serve.[196]

By the early 1990s, the JTPA was spending $1.5 billion annually in federal and state funds to provide employment and training services.[197]

However, a 1991 report from the U.S. Government Accountability Office revealed discrepancies in the services offered to women and minorities, affirming the limitations to the program's results and reach.[198]

196 Patrick Lester, "The Promise and Peril of an 'Outcomes Mindset,'" *Stanford Social Innovation Review*, January 13, 2016, www.ssir.org/articles/entry/the_promise_and_peril_of_an_outcomes_mindset.

197 U.S. Government Accountability Office, "JOBS and JTPA: Tracking Spending, Outcomes, and Program Performance," July 26, 1994, https://www.gao.gov/products/hehs-94-177.

198 U.S. Government Accountability Office, "Job Training Partnership Act: Racial and Gender Disparities in Services," July 17, 1991, https://www.gao.gov/products/t-hrd-91-42.

The JTPA suffered from several common challenges, as identified in an analysis by Burt Barnow and Jeffrey Smith:[199]

- **The program provided stronger incentives to serve less vulnerable populations:** JTPA incentives treated all program participants equally, which led to higher margins for service providers who chose to serve lower-need individuals. The program did not serve groups such as women and people of color in proportion to their share of the eligible population, while individuals who would likely have achieved high post-training earnings regardless of the quality of the training were disproportionately represented. An outcomes-measurement structure assigning different levels of value based on the specific population's needs might have addressed this challenge.
- **The timing of performance incentives skewed the services provided:** In some cases, the length of the training programs was influenced by program managers' desire to count participants in their data for a particular program year. These arbitrary timing changes were found to reduce the overall mean impact of the training services the program provided. Updates to monitoring and reporting systems may limit the extent to which programs are able to manipulate data in this way.
- **Supportive evidence that incentives improved individual performance was limited:** It is unclear that the project improved the individual efficiency of employees in the absence of incentives at the individual employee level. Future performance-based contracts may explore how service providers can pass on incentive payments to their employees and how they can track individual performance without adding significant overhead costs.
- **Some providers gamed the compensation system:** There is strong evidence that JTPA service providers developed strategies to earn higher payments by gaming the performance system. A common gaming strategy involved formally enrolling participants in the program only after they had found jobs and then quickly terminating them from the program to increase the reported proportion of employed individuals. Adjusting reporting requirements and improving metrics and evaluation systems could help reduce the extent to which gaming can yield higher payments.

As a result of its structural challenges and the limited improvement to participants' employment outcomes, the JTPA was repealed in 1998. The program's failure to segment target populations, its focus on measurements that were not linked to individual performance, and its

199 Burt S. Barnow and Jeffrey A. Smith, "Performance Management of U.S. Job Training Programs," in *Job Training Policy in the United States*, ed. Christopher J. O'Leary, Robert A. Straits, and Stephen A. Wandner (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2004), 21–56, https://doi.org/10.17848/9781417549993.ch2.

lack of safeguards to avoid gaming the system are valuable reminders of the potential risks of performance-based contracting in workforce development. However, these mistakes also offer lessons regarding critical areas of focus for other pay-for-performance programs to succeed in the future.

TICKET TO WORK (1999)

In 1999, another performance-based workforce development program emerged that aimed to increase the number of low-income Americans achieving economic self-sufficiency. At the time, only 0.5% of Social Security Disability beneficiaries were leaving the benefit rolls because they secured jobs. Legislators hoped to create a better market to meet the diverse return-to-work service needs of beneficiaries, with the goal of doubling the rate of those exiting the program for work opportunities.[200]

The Ticket to Work and Work Incentives Improvement Act of 1999 was designed to support this mission by promoting flexible, customizable services to help disability insurance beneficiaries secure self-supporting jobs. The program incentivized private organizations and state agencies to deliver quality services by providing large payments for each client who secured a job and retained it for a long enough time to stop receiving Social Security Disability benefits. Beyond these financial incentives, the act was designed to support creativity and personalization by allowing organizations and beneficiaries to customize the programming available to each participant.

The Ticket to Work (TTW) program mailed "Tickets" to Social Security Disability recipients, which they could bring to a participating employer network to negotiate a set of services. For an employer network to receive payments, the participant was required to submit salary documentation. The program tied payment to long-term performance by requiring a beneficiary to stop receiving Social Security Disability benefits due to increased earnings for 60 months before the provider could earn full payment.

Despite the program's intent to reach a broad group of beneficiaries, its early success was limited: By 2005, only 2% of individuals who received Tickets in the mail had used them, and only 45% of the 1,300 enrolled employer networks had accepted a Ticket.[201]

Like the JTPA, TTW's outcomes suffered from a range of shortfalls:

---

200 Craig Thornton et al., "Evaluation of the Ticket to Work Program: Initial Evaluation Report," Mathematica Policy Research, Inc., February 2004, www.ssa.gov/disabilityresearch/ttw/ttw_report.pdf.

201 Craig Thornton et al., "Evaluation of the Ticket to Work Program: Assessment of Post-Rollout Implementation and Early Impacts, Volume 1," Mathematica Policy Research, Inc., May 2007, www.ssa.gov/disabilityresearch/ttw3/ttw_report3.pdf.

- **Providers perceived the system as too financially risky:** TTW tied 100% of provider compensation to outcomes, which caused significant uncertainty as to whether payouts would be achieved. Research showed that after the first two years of program operations, employer networks relying on TTW payments as their sole source of revenue would have lost money: The cost-of-service delivery far exceeded TTW revenues for most providers. Offering up-front operating funding to providers in addition to subsequent outcomes-based payments, as many pay-for-success contracts now do, might have helped to mitigate this challenge.
- **The program provided higher payouts to providers serving less vulnerable populations:** Like other unsuccessful performance-based contracts, TTW created selection bias against harder-to-serve individuals and services less likely to lead to quick employment. Providers could refuse to serve individuals they thought were unlikely to maintain high enough earnings to stop receiving benefits and, therefore, unlikely to trigger outcome payments. They could also choose to offer services that aligned only with the outcomes payments they were likely to receive. Differentiating payment amounts based on participants' level of need could have helped avoid rewarding providers for serving clients with the lowest needs.
- **The benefits structure discouraged some beneficiaries from returning to work:** The program did nothing to address the "cliff" faced by participants who would lose 100% of their Social Security Disability benefits once their monthly earnings exceeded a certain threshold, which created a significant barrier for returning to work. Structuring the program with a sliding scale that reduced benefits more gradually might have increased the value proposition of returning to the workforce for participants.
- **Reporting and administrative burdens fell on service providers and participants:** Finally, significant administrative challenges delayed outcomes measurement and provider repayment. Beneficiaries were expected to submit salary documentation to employer networks but were given no incentive to do so, which made it difficult for employer networks to demonstrate that monthly earnings had reached the designated threshold. Establishing data-sharing provisions up front might have minimized administrative burdens and streamlined the system for triggering repayment.

From 2004 to 2007, TTW experienced a gradual decline in terms of provider interest and the number of Tickets assigned.[202] During that time, the program collected feedback from service providers, which suggested that TTW shorten the length of the payment period and offer larger payments earlier in the period. Providers also requested that the program award payouts for partial success and simplify the requirements for documenting participant salary levels.

In response to provider feedback, a set of revisions passed in 2008 that increased the number and total value of provider payments, shortened the period of participant employment for employer networks to receive full payment from 60 to 36 months, and revamped payment procedures to reduce the administrative burden. The revised system was significantly more attractive to providers, and the number of employer networks that accepted at least one Ticket doubled from 2007 to 2010.[203]

The increase in participation in TTW following the 2008 legislation reform affirms the importance of seeking service provider input to mitigate unforeseen barriers to entry. Things have certainly improved for TTW, which now benefits hundreds of thousands of Americans each year, but perverse incentives continue to be a challenge. Lessons from the program have demonstrated that getting performance-based contracts right takes consistent management and flexibility.

PHYSICIAN PAY FOR PERFORMANCE (2005–2018)

Health care is another area in which performance-based contracting offers both the potential to improve service quality and the risk of gaming and poorly structured incentives. The U.S. spends more on doctors, pharmaceuticals, and health administration as a percentage of gross domestic product than any other high-income nation, yet Americans do not enjoy better health outcomes.[204] To combat rising costs and improve quality, states, health care systems, insurance companies, and federal agencies have piloted pay-for-performance (PFP) programs for physicians and hospitals across the country. The success of these programs, however, has been largely uneven.

In 2018, researchers from the University of Pittsburgh and Harvard University published a study reporting that Medicare PFP programs

---

202 Jody Schimmel et al., “Participant and Provider Outcomes Since the Inception of Ticket to Work and the Effects of the 2008 Regulatory Changes: Final Report,” Mathematica Policy Research: Center for Studying Disability Policy, July 25, 2013, ssa.gov/disabilityresearch/documents/TTWNSTW%20Report-Final-072513.pdf.

203 Schimmel et al., “Participant and Provider Outcomes.”

204 Irene Papanicolas, Liana R. Woskie, and Ashish K. Jha, “Health Care Spending in the United States and Other High-Income Countries,” The Commonwealth Fund, March 13, 2018, www.commonwealthfund.org/publications/journal-article/2018/mar/healthcare-spending-united-states-and-other-high-income.

failed to improve health care quality or reduce costs.[205] Rather than promote better outcomes, the program penalized physicians who cared for lower-income and sicker patients because the doctors' "quality scores," and therefore payments, decreased. The program's structure emphasized health outputs over baseline improvement, creating financial disincentives for doctors to treat patients who were less healthy.

As we've seen, performance-based contracts can fall victim to predictable design errors. But when structured well, these programs have the potential for impressive results.

Providing higher payouts to those who serve healthier patients is a key concern about physician PFP programs, in which financial incentives often fail to promote health improvements over specific health outputs. While physician skill is an important component of health quality, factors such as the patient's baseline health, socioeconomic status, access to insurance, and exercise habits all contribute to health outcomes and are largely outside of the doctor's control. PFP programs that exclusively target physician pay without supporting other interventions draw a direct link from individual clinician skill to patient health that can create financial disincentives to treat the sickest patients.

Health care is another area in which performance-based contracting offers both the potential to improve service quality and the risk of gaming and poorly structured incentives.

In one example of how a poorly designed PFP program created perverse incentives, a rural Veterans Affairs (VA) hospital turned away an ill 81-year-old veteran, even though the medical staff asserted that the veteran was too sick to return home. The hospital denied admission to the veteran with the understanding that, by limiting the number of sick patients admitted, the hospital would produce fewer bad outcomes. Rather than paying for success, the program's failed measurement standards enabled the hospital to improve its quality rating, receive greater funding, and earn a bonus payment for the hospital's director without driving real improvement in veterans' health outcomes.[206]

The lack of success of physician and hospital PFP programs has led many critics to call for an end to PFP in health care. However, it's

205 Kip Sullivan and Stephen Soumerai, "Pay for Performance: A Dangerous Health Policy Fad That Won't Die," STAT, January 30, 2018, www.statnews.com/2018/01/30/pay-forperformance-doctors-hospitals.

206 Dave Philipps, "At Veterans Hospital in Oregon, a Push for Better Ratings Puts Patients at Risk, Doctors Say," *New York Times*, January 1, 2018, www.nytimes.com/2018/01/01/us/at-veterans-hospital-in-oregon-a-push-for-better-ratings-putspatients-at-risk-doctors-say.html.

possible that an outcomes-based funding system could be effective in the absence of poor project design, weak measurement, incorrect outcome criteria, and flawed linkages between the intervention and outcomes. Past PFP programs struggled because they were structured around the underlying concept that financial rewards to physicians could improve outcomes in a vacuum. A stronger design could rescue the core concept.

FOUNDATION FOR EVIDENCE-BASED POLICYMAKING ACT (2017–2019) AND THE SOCIAL IMPACT PARTNERSHIPS TO PAY FOR RESULTS ACT (2018)

FOUNDATIONS FOR EVIDENCE-BASED POLICYMAKING ACT

A number of years back — before the COVID pandemic — we were getting frustrated in Congress about the lack of evidence in policymaking. At that time, we were stuck in ideological arguments on how best to fix problems and fight poverty through programs that were already implemented because we had very little data to prove what was working and what was not. We saw the positive impact in cases where we actually had measurements, and we were committed to bringing this approach to more programs in the future.

Past PFP programs struggled because they were structured around the underlying concept that financial rewards to physicians could improve outcomes in a vacuum. A stronger design could rescue the core concept.

In 2017, Sen. Patty Murray and I introduced the Foundations for Evidence-Based Policymaking Act ("the Evidence Act"), which was intended to improve the ability of researchers, evaluators, and statisticians both inside and outside government to securely use the data that the government already collects to better inform important policy decisions. The Evidence Act, signed into law in January 2019, included 10 of the recommendations offered to Congress by the bipartisan U.S. Commission on Evidence-Based Policymaking, which was tasked with drafting a strategy for ensuring that rigorous evidence is created efficiently and as a routine part of government operations that could, in turn, be used to construct effective public policy. Key recommendations included improving data access, strengthening privacy protections, and enhancing the government's capacity for evidence building.

SOCIAL IMPACT PARTNERSHIPS TO PAY FOR RESULTS ACT

As we've seen, performance-based contracts can fall victim to predictable design errors. But when structured well, these programs have the potential for impressive results. In support of improving the effectiveness of social services, Congress passed the Social Impact Partnerships to Pay for Results Act (SIPPRA), which was signed into law in 2018.

SIPPRA offers great promise for the next generation of performance-based contracts. The act appropriates $100 million to the U.S. Department of the Treasury, $15 million of which is set aside for evaluation costs to support state and local governments in building a foundation for outcomes-based decision making. Following initial delays related to the COVID-19 pandemic, in 2021 the Treasury Department announced more than $19 million in funding for four jurisdictions to implement the first SIPPRA projects to address challenges from homelessness to job training[207] and create opportunities to address the country's most pressing needs. The most recent round of SIPPRA funding is focused on projects that directly benefit children, with nearly $41 million available for project awards and $6 million for independent evaluations.[208]

This evidence-based approach to lifting Americans out of poverty is directing funding to flow to programs whose methods have been evaluated using data, supporting real-world efforts that achieve positive results.

I'm personally incredibly proud of the Evidence Act, SIPPRA, and the principles reinforced by both of these complementary laws. This evidence-based approach to lifting Americans out of poverty is directing funding to flow to programs whose methods have been evaluated using data, supporting real-world efforts that achieve positive results.

In building programs based on evidence of what works, SIPPRA has the potential to finance the most effective solutions for fighting poverty, which originate not from Washington, D.C., but from leaders on the ground in communities across the country. SIPPRA funding will continue to support individuals and organizations that have been making a difference in their communities for decades while bringing their ideas to policymakers to expand their reach. This intersection of community-

207 U.S. Department of the Treasury, "SIPPRA — Pay for Results," https://home.treasury.gov/services/treasury-financial-assistance/other-major-programs/sippra-pay-for-results/sippra-awards.

208 U.S. Department of the Treasury, Office of Economic Policy, "Social Impact Partnerships Pay for Results Act: Differences Between FY19 NOFA and FY24 NOFA," https://home.treasury.gov/system/files/226/FY19-NOFA-vs-FY24-NOFA.pdf.

based approaches and government support is what will ultimately most improve the lives of Americans in need.

In building programs based on evidence of what works, SIPPRA has the potential to finance the most effective solutions for fighting poverty, which originate not from Washington, D.C., but from leaders on the ground in communities across the country.

SIPPRA's evaluation requirement represents progress in the federal government's use of evaluations. However, too often the issue is not a lack of data collection — it's figuring out how to effectively use the data already collected. Detailed guidance on implementation of the Evidence Act, issued by both the Trump and Biden administrations, has helped identify and standardize best practices.[209] Recommendations from the 2022 final report of the Advisory Committee on Data for Evidence Building (ACDEB) — created as part of the Evidence Act — are helping the Office of Management and Budget and other federal agencies share data in ways that address or ameliorate appropriate privacy and security concerns.[210] The National Secure Data Service, a bold new pilot project reauthorized by the bipartisan CHIPS and Science Act (2022), has a mandate to strengthen data linkage and data access infrastructure in service of evidence-based decision making across government.[211]

With a better federal system of evaluation — like the one mandated in SIPPRA — we can identify programs that work. But we also need to have a better understanding of how to properly scale programs that have proven effective. This effort will require partnerships that go beyond government — partnerships with philanthropies, employers, community organizations, and more.

It's time we carried forward these lessons to implement solutions that work for our communities, by educating policymakers, trusting the power of evidence, and incorporating the ideas of Americans who have confronted barriers to upward mobility for too long and deserve a voice in this fight.

With a new generation of performance-based contracts on the horizon, I'm hopeful we can learn from the challenges of past programs and continue to harness their momentum. It's time we carried forward

209 "Program Evaluation Standards — OMB M-20-12, Phase 4 Implementation of the Foundations for Evidence Based Policymaking Act of 2018: Program Evaluation Standards and Practices," Evaluation.gov, https://www.evaluation.gov/assets/resources/Program-Evaluation-Standards.pdf.

210 ACDEB, "Advisory Committee on Data for Evidence Building: Year 2 Report," October 14, 2022, https://www.bea.gov/system/files/2022-10/acdeb-year-2-report.pdf.

211 National Center for Science and Engineering Statistics, "The National Secure Data Service Demonstration," https://ncses.nsf.gov/initiatives/national-secure-data-service-demo.

these lessons to implement solutions that work for our communities, by educating policymakers, trusting the power of evidence, and incorporating the ideas of Americans who have confronted barriers to upward mobility for too long and deserve a voice in this fight.

Paul Ryan is the President of the American Idea Foundation and served as the 54th Speaker of the U.S. House of Representatives. In office from October 2015 to January 2019, he was the youngest speaker in nearly 150 years.

STRENGTHENING FAMILIES' ECONOMIC WELLBEING

LESSONS FROM CONNECTICUT'S OUTCOMES RATE CARD

/ **BETH BYE** CONNECTICUT OFFICE OF EARLY CHILDHOOD

An earlier version of this chapter, authored by former Commissioner David Wilkinson, appeared in the first volume of Workforce Realigned *in 2021.*

Having a child is an immense responsibility. Every new parent could benefit from receiving help in raising a baby and becoming a good parent — and to provide economic stability for their families, parents need support so they may pursue work and education to their fullest extent. Yet most governments do not connect their programs in workforce development with those in early childhood support.

At the Connecticut Office of Early Childhood (OEC), we are dedicated to funding and overseeing programs that help families care for their children from birth until grade school. We oversee high-quality child care and offer preventative services to support families. We also offer home visiting programs, which foster healthy and happy families by delivering parenting support, early education, and referrals to resources for families during their pregnancies and for children ages 0–5. Families enroll in home visiting for help with wellness and infant care as well as other identified needs. These issues could be those that affect parents, such as maternal depression or substance use, or those that affect children, such as early behavior or developmental concerns. Home visiting is voluntary and free of charge and can span several years, depending on the program. Visits take place in the family's home, in a community space, or virtually when needed — all to ensure that families get the support they need.

As the commissioner of the OEC, I ask myself: How can the OEC best set up families for success? And how do we know whether success for families has been achieved? To answer these questions, in 2018 former OEC Commissioner Dave Wilkinson launched one of the country's earliest outcomes rate cards. A rate card is a set of metrics describing desired outcomes and specifying how providers can earn a payment for each achievement. Since then, the OEC has used the rate card as a tool to predefine operational and performance priorities and paired it with monetary incentives to reward strong provider performance. Rate cards can include any number of outcomes depending on the context: an unemployed individual obtaining a quality job, a person experiencing homelessness attaining stable housing, or a new mother having a healthy birthing experience.

The Connecticut home visiting system was an ideal place to pilot a rate card approach. First, home visiting providers offer programs that the U.S. Department of Health and Human Services deems "evidence based" given the measurable impacts of these services on positive outcomes ranging from improved child development to better maternal health.[212] Second, many providers delivering home visiting services in Connecticut are funded by the Maternal, Infant, and Early Childhood Home Visiting Program, a federally funded program that requires providers to report on metrics, including preterm birth, postpartum care, and intimate partner violence screening.[213,214] As a result, even prior to the rate card implementation, Connecticut providers — from community-based organizations to hospitals — had experience in delivering high-quality services and reporting on meaningful outcomes.

The OEC launched the first outcomes rate card in January 2018, followed by a subsequent rate card in July 2018. In January 2019, Governor Ned Lamont appointed me as the commissioner of the Connecticut Office of Early Childhood, and in 2019 and 2020, I oversaw three additional rate cards that built on the knowledge acquired from the prior initiatives, including improved processes to design and implement them.

---

212 U.S. Department of Health and Human Services, "Models Eligible for Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Funding," https://homvee.acf.hhs.gov/HRSA-Models-Eligible-MIECHV-Grantees.

213 Health Resources and Services Administration, "Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program," https://mchb.hrsa.gov/programs-impact/programs/home-visiting/maternal-infant-early-childhood-home-visiting-miechv-program.

214 Health Resources and Services Administration, "Maternal, Infant, and Early Childhood Home Visiting Program," https://mchb.hrsa.gov/sites/default/files/mchb/programs-impact/performance-indicators-sys-outcomes-summary.pdf.

/ FIGURE 1 /
RATE CARD DESIGN SINCE JULY 1, 2021

Metric	Definition	Price Per Achievement
Key Population Enrollment	Enroll any mother, father, or other caregiver who identifies as Black/African American, Puerto Rican, and/or Native American and/or less than 20 years of age at enrollment.	$320
Prenatal Enrollment	Enroll any caregiver prenatally before 32 gestation weeks.	$640
Caregiver Education/ Training or Employment	Each quarter, the caregiver: • Enrolls or maintains enrollment in an education and training program (e.g., high school, job training, or English as a second language), or • Attains or is retained in employment working at least 20 hours a week, or • Graduates from an education and training program.	$160
Prenatal and Postpartum Care	For any mother, father, or other caregiver enrolled before 32 gestation weeks, completion of at least three prenatal visits with any health care provider after enrollment and at least one postpartum visit and one well-child visit within eight weeks after delivery.	$730

Each of the rate cards had a combination of the following metrics: safe children, caregiver employment, full-term birth, family stability, parent-child wellness, and caseload maintenance. For new contracts starting on July 1, 2021, we implemented the version of the rate card that is still in effect today. This rate card has four metrics: Key Population Enrollment, Prenatal Enrollment, Caregiver Education/Training or Employment, and Prenatal and Postpartum Care (see Figure 1).

Several years later, we can assess the current rate card's progress by reflecting on the goals that we developed when the first outcomes rate card launched in 2018: (1) fund outcomes, not inputs; (2) listen to providers' feedback and center goals on families' needs; and (3) use rate card data to improve performance.

We will focus on the Caregiver Education/Training or Employment metric, as the inclusion of this metric is significant to our mandate, which is inclusive of supporting families' economic stability, defined as educational attainment and full-time employment in quality jobs. Ultimately, the OEC's investment in home visiting is an investment in Connecticut's economic future: Only with a robust family support system can families pursue work and education to their fullest extent. With economic stability, children can lead healthy and happy lives.

FUND OUTCOMES, NOT INPUTS.

Rate cards began as an effort to address a challenge with traditional government contracts: They distribute funding based on services rendered rather than results achieved. Before we implemented rate cards, the OEC paid home visiting providers based on the number of staff hired to serve families, as opposed to whether those families completed their home visiting programs, met their near-term goals, and/or achieved long-term outcomes after receiving services.

A rate card addresses this problem by linking funding to results; a government agency pays providers for each metric achieved. In the OEC's current rate card, providers earn up to 4% of their contract amount in bonus payments added to existing contracts if they achieve metric targets (see Table 1). By funding outcomes achieved, the rate card tool creates incentives for home visiting providers to focus their efforts on activities that improve those outcomes.

Before we implemented rate cards, the OEC paid home visiting providers based on the number of staff hired to serve families, as opposed to whether those families completed their home visiting programs, met their near-term goals, and/or achieved long-term outcomes after receiving services.

Making the transition to funding outcomes instead of inputs raises operational considerations for providers. For instance, the Caregiver Education/Training or Employment metric elevates several questions: Will providers be tempted to enroll families who are already employed or enrolled in an educational program, rather than serving families with higher needs, such as those with disabilities or diagnoses that prevent them from working full-time? Should providers encourage families to work, even if those families hold cultural beliefs that prioritize bonding with their babies? How should providers weigh the OEC's policy priorities against the preferences of parents who may want to stay at home with their children?

These considerations are not hypothetical. They are real and valid concerns from several home visiting providers who find the Caregiver Education/Training or Employment metric to be both challenging to achieve — for instance, if the metric is at odds with a family's goals — and beyond their scope of work, which is more focused on strengthening parent-child interactions than connecting families to jobs. Other providers have not offered significant negative feedback on the Caregiver Education/Training or Employment metric, as they recognize the link between family economic well-being and flourishing children. Regardless, at the OEC, we understand that tying funding to outcomes may lead to operational questions from providers.

We should also take care to avoid equating correlation with causation: Funding outcomes does not mean attributing outcomes achievements to the actions of providers alone. Home visiting providers' effort is but one component of whether an outcome is achieved for a given family. Families may reside in towns with few job openings that align with their interests, they could be interested in participating in a job training program but cannot afford to forgo wages during training, or they may be unable to afford child care (a cost burden that many families find challenging). Home visiting providers may also simply not receive enough funding, from the OEC or their other funders, to invest in the staff and resources needed to identify employment opportunities for the families in their care.

By including the Caregiver Education/Training or Employment metric in our rate card, we created a structure to answer these questions. The metric has also facilitated conversations with home visiting providers on how to improve education and employment outcomes for families. And, to the extent that providers achieve this outcome, we leverage our role as a funder to reward strong service delivery by disbursing bonus payments to home visiting providers. In tracking this outcome's performance and offering bonus payments for outcomes achievements, the rate card serves as an accountability mechanism for the OEC's policy priorities.

Despite these challenges, one thing remains clear: The rate card's ability to fund outcomes holds us accountable to our policy priorities. We are interested in improving families' economic conditions through home visiting, and we seek to track improvements over time. The last formal articulation of the OEC's home visiting strategy was in our 2020 Request for Proposals (RFP),[215] which stated that the "OEC seeks to cultivate the physical, social, emotional, psychological, and economic conditions that promote family wellbeing."

215 Office of Early Childhood, Request for Proposals (RFP) for Home Visiting Programs," RFP Name: OEC-21-CT Home Visiting System, November 24, 2020, https://www.ctoec.org/wp-content/uploads/2020/09/OEC-HV-RFP-November-24-Updated.pdf.

LISTEN TO PROVIDERS' FEEDBACK AND CENTER GOALS ON THE NEEDS OF FAMILIES.

Families receiving home visiting services often struggle to meet even basic needs, such as accessing transportation, paying electricity bills, and buying diapers for their children — challenges that all stem from low income.[216] And yet home visiting providers have not traditionally focused on employment and education, despite this being a likely solution for families to meet these core needs.

> **Despite these challenges, one thing remains clear: The rate card's ability to fund outcomes holds us accountable to our policy priorities.**

This is just one example of a common challenge across government programs: They often operate in siloes, addressing one concern at a time without necessarily coordinating with other publicly funded resources, such as those offered by pediatricians, preschools, and job training organizations. This coordination is critical since a parent is likely not to be present with their children if they endure, for instance, financial stress from being under- or unemployed.

The Caregiver Education/Training or Employment metric was included in the rate card to address the lack of cohesion between home visiting and other services supporting families' economic security. Since then, we have opened a new dialogue with providers regarding their strategies to support families' economic security. Some providers have actively worked with families to set goals regarding education and employment. Others have proactively referred families to educational programs, such as English as a second language (ESL) courses at public libraries, and employment programs through partners like AmeriCorps, Building One Community, Goodwill, and the Kennedy Collective. Others offer direct support to teenage parents to ensure they stay enrolled in high school, such as purchasing backpacks or arranging access to child care.[217] The metric has prompted real action from home visiting providers to support families' goals.

---

216 Focus groups and interviews with caregivers in 2023.

217 Conversations with home visiting providers.

> **This is just one example of a common challenge across government programs: They often operate in siloes, addressing one concern at a time without necessarily coordinating with other publicly funded resources, such as those offered by pediatricians, preschools, and job training organizations.**

While the Caregiver Education/Training or Employment metric was selected with families' goals in mind, we could take it a step further. Currently, the metric is broadly defined to award bonus payments if families are employed or in an education program, regardless of whether these goals are sustained. The metric also does not include measures of job quality, such as retention, career advancement, or wage growth. Additionally, the achievement rate is calculated based on all families served in home visiting; we could refine eligibility to exclude families who may not be interested in pursuing education or employment, or who are unable to pursue these goals. In the future, we will likely incorporate home visiting providers' and families' feedback to further build upon this metric.

USE RATE CARD DATA TO IMPROVE PERFORMANCE.

While we at the OEC collect information about families served in home visiting, developing strategies based on this information can be challenging. Typical questions that we ask ourselves include: Which metrics should we prioritize? How is the system performing on those metrics? How has that performance changed over time?

The rate card provides us with a much better understanding of state-level performance on our systemwide priorities. Results from the rate card from July 1, 2021, through June 30, 2024, show some improvement (Figure 2). For the Caregiver Education/Training or Employment metric, we see that the achievement rate has largely stayed the same over time: 43%, 43%, and 41% in each of the three years. Unlike the other four metrics, for which providers are awarded bonus payments on a one-time basis for each caregiver who achieves the metric, the Caregiver Education/Training or Employment metric generates bonuses to providers for each quarter that it is achieved. The number of caregiver achievements increased: approximately 2,700, 3,230, and 3,580, totaling the number of quarterly achievements in each year. However, the number of caregivers eligible, totaling the number of caregivers eligible each quarter (i.e., double-counting caregivers enrolled in home visiting over multiple quarters), increased at a higher rate: approximately 6,340, 7,460, and 8,770. Similarly, the Key Population Enrollment and Prenatal Enrollment metrics' achievements stayed largely consistent over time, with an achievement rate of 57% in the third year.

/ FIGURE 2 /

RATE CARD ACHIEVEMENT RATES FROM JULY 1, 2021 THROUGH JUNE 30, 2024

Metric	July 1, 2021 – June 30, 2022	July 1, 2022 – June 30, 2023	July 1, 2023 – June 30, 2024
Key Population Enrollment	**58%** 710 achievements out of 1,230 eligible	**55%** 730 out of 1,320	**54%** 750 out of 1,390
Prenatal Enrollment	**32%** 390 out of 1,240	**38%** 500 out of 1,330	**34%** 470 out of 1,400
Caregiver Education/ Training or Employment	**43%** 2,700 out of 6,340	**43%** 3,230 out of 7,460	**41%** 3,580 out of 8,770
Prenatal and Postpartum Care	**39%** 60 out of 160	**51%** 180 out of 340	**57%** 220 out of 400

Access to the data has also prompted additional analyses that have informed our understanding of the system. For instance, we were interested in understanding the relationship between employment status and retention in home visiting services. After conducting this analysis, we found that families who are unemployed exit home visiting services at a higher rate than caregivers who are employed. While we intuitively understand that families who are unemployed are likely families with higher needs who may be more challenging to engage in services, we were only able to validate this understanding through data collected for the Caregiver Education/Training or Employment metric.

Reviewing the data is helpful, but the knowledge gained and insights generated through the process of discussing the results with home visiting providers are perhaps even more valuable. At the OEC, we meet monthly with home visiting providers to discuss their successes and challenges and have convened meetings over the years to review rate card results. These conversations have elevated the varying needs of families served by home visiting; some are actively seeking employment or education, whereas others have higher needs and cannot focus on those activities yet.

While we intuitively understand that families who are unemployed are likely families with higher needs who may be more challenging to engage in services, we were only able to validate this understanding through data collected for the Caregiver Education/Training or Employment metric.

Ultimately, the limited improvement in the Caregiver Education/Training or Employment metric at the statewide level indicates that improving families' economic security requires a coordinated effort by Connecticut agencies, beyond the actions of home visiting providers alone. For instance, we could better market the Connecticut Department of Labor workforce development programs to families enrolled in home visiting. We could partner with the Connecticut State Department of Education to ensure that all teenage parents are enrolled in home visiting. We could strengthen the coordination with the Connecticut Department of Social Services and the Department of Public Health to ensure that families receive government assistance that they are eligible for, such as Medicaid, the Special Supplemental Nutrition Program for Women, Infants, and Children, and Temporary Assistance for Needy Families. Ultimately, we can leverage the rate card to improve the home visiting system — ensuring healthy and happy families across Connecticut.

Over the past six years, we have learned much about the home visiting system through the rate card. These lessons include the necessary resources and time needed to execute an initiative that ties payment to performance — from design to implementation to action.

At the design stage, developing metrics based on home visiting providers' and families' goals is critical. Going forward, we expect to engage community participants — through surveys, focus groups, or interviews — to better understand the priorities of families served and ensure that our policies reflect those needs. At the implementation stage, we understand the need to accompany each metric with a performance standard, such as an achievement rate that the system should aim toward, which will target our efforts. Additionally, rate card implementation requires sufficient staff support across programmatic, fiscal, data, grants and contracts, and legal teams. For other jurisdictions interested in piloting similar initiatives, we recommend aligning with internal teams and establishing corresponding accountability mechanisms.

For other jurisdictions interested in piloting similar initiatives, we recommend aligning with internal teams and establishing corresponding accountability mechanisms.

Lastly, we recommend that rate card insights be used to prompt action, not only for providers offering services but also at the funder level. We plan to use results from the rate card to inform broader policy decisions for home visiting, such as in our next home visiting RFP. We look forward to implementing this rate card in the years to come and leveraging its lessons learned for other outcomes-based initiatives that we implement at the OEC.

Beth Bye was appointed as Commissioner for the Connecticut Office of Early Childhood (OEC) by Governor Ned Lamont in January 2019.

13

GOVERNING FOR RESULTS

CASE STUDIES FROM MASSACHUSETTS

/ **ROSALIN ACOSTA** FORMER MASSACHUSETTS SECRETARY OF LABOR & WORKFORCE DEVELOPMENT
MARK ATTIA FORMER MASSACHUSETTS ASSISTANT SECRETARY OF FINANCE & PERFORMANCE MANAGEMENT
CHARLIE BAKER FORMER MASSACHUSETTS GOVERNOR
JAMES PEYSER FORMER MASSACHUSETTS SECRETARY OF EDUCATION

This chapter is reprinted in full from the first volume of Workforce Realigned *(2021).*

INTRODUCTION

FORMER GOVERNOR CHARLIE BAKER

My father always said that life is not just about doing the right thing; it is also about doing the right thing well. Too often in government, I have seen people prioritize the former while neglecting the latter. They mistake their motives as results. This approach commonly leads to Band-Aid solutions that will require expensive and time-intensive emergency procedures in the future. Instead, good governance calls for research-based strategies with data-driven execution. This is how we do the right thing well.

Using data to inform service delivery and policy is the North Star for government — a continual cycle of data collection and analysis to update what we believe positions government to be reliable, agile, and effective. Not only are we able to track progress toward our original objectives, but we are also better equipped to respond to unforeseen situations.

> **... good governance calls for research-based strategies with data-driven execution. This is how we do the right thing well.**

Advancing the government ethos from recording outputs to measuring outcomes is imperative. Good data should tell us not only the volume of services but also the benefit to the community. By procuring results — not just activities — agencies can drive a significant cultural change that transforms the relationship between constituents, service providers, and lawmakers.

This makes way for collaborative partnerships that can unlock entrepreneurial approaches to achieve desired outcomes. Moreover, it can serve as a decompressor for many political issues by introducing clear and objective metrics. More importantly, it helps all stakeholders focus on what matters most — how we realize common goals.

I say all the time, "Figure out what works and do more of it." Our administration works hard not only to take heed of our accomplishments but also to understand what it took to succeed. When policymakers are successful at delivering for their constituents and constituents have faith in the quality of our service, there is real, lasting impact.

> **... Good data should tell us not only the volume of services but also the benefit to the community.**

One of the areas where our administration has exemplified doing the right thing well is expanding workforce development opportunities throughout the Commonwealth. As one of the administration's top priorities, bridging the skills gap between workers and the needs of employers in the 21st century economy comes with many challenges. Our administration has embraced those challenges using sound research, consistent data analysis, and interdisciplinary coordination through the Workforce Skills Cabinet, which was created in 2015 to reorient goals from exclusive, program-specific outputs to community-enhancing outcomes.[218]

218 The Workforce Skills Cabinet brings together the secretariats of Education, Labor and Workforce Development, and Housing and Economic Development to align education, economic development, and workforce policies and to strategize around how to meet employers' demand for skilled workers in each region of the state.

CASE STUDY

EXPANDING ECONOMIC MOBILITY FOR IMMIGRANTS AND REFUGEES

FORMER SECRETARY JAMES PEYSER + FORMER ASSISTANT SECRETARY MARK ATTIA

Immigrants and refugees are important drivers of the economy in Massachusetts. Given the nature of our economy and our changing demographics — an aging workforce and growing diversity — adult education is not only essential to creating opportunity for low-income individuals and families but also an economic imperative. As a key segment of our workforce, new Americans offer a historically untapped talent pipeline that can be part of a viable solution to the growing skills gap. English language acquisition, married to marketable skills and complemented by career readiness and job search supports, can help to unlock better opportunities for tens of thousands of immigrants who have the potential to build their careers and contribute to our state's growth.

In the U.S., foreign-born workers who are proficient in English have higher median wages than those who are not — $45,954 compared to $29,185. English proficiency is a key factor in predicting employment rate, earnings, achievement of managerial roles, as well as home ownership and household self-sufficiency.

While Massachusetts has long had some of the highest educational performance in the country, the state recognized challenges in supporting the employment and career success of English language learners and those who have not achieved high school credentials. The Greater Boston area is home to about 230,000 adult English language learners.[219] Studies estimate that limited English speakers in Massachusetts earn roughly $24,000 less annually than immigrants who speak English fluently.[220] A significant portion of residents do not hold a high school diploma or equivalent (approximately 11%) and/or earn less than $15,000 per year (approximately 12%).[221] In addition, roughly 10% of the adult population lacks proficiency in English.[222]

---

219 Commonwealth of Massachusetts Executive Office for Administration and Finance, "Social Innovation Financing for Adult Basic Education — Intermediaries," February 2014.

220 Lisa Soricone et al., "Breaking the Language Barrier: A Report on English Language Services in Greater Boston," Boston Foundation, March 2011, www.tbf.org/~/ media/TBFOrg/Files/Reports/ESOL_Report_Final18.pdf.

221 Commonwealth of Massachusetts Executive Office for Administration and Finance, 2014.

222 Boston Planning & Development Agency Research Division, "Demographic Profile of Adult Limited English Speakers in Massachusetts," February 2019, www.bostonplans. org/getattachment/dfe1117a-af16-4257-b0f5-1d95dbd575fe.

English language acquisition, married to marketable skills and complemented by career readiness and job search supports, can help to unlock better opportunities for tens of thousands of immigrants who have the potential to build their careers and contribute to our state's growth.

Although considerable resources have been devoted to providing workforce initiatives and basic adult education to aid these individuals in gaining competitive employment in the labor market, demand for services remains high as the majority of new jobs are projected to require at least some postsecondary education. Access to the right services can be especially important in helping those with limited English skills increase their earnings and make successful transitions to higher education.

While English fluency on its own has clear employment benefits for workers and for the economy, it is often not enough to help people attain good jobs or advance their careers. Research and practitioner experience indicate that the vast majority of English for Speakers of Other Languages (ESOL) programs are not well designed to meet the employment needs of the population it serves.[223] Enrollment and "seat time" in narrowly crafted language acquisition programs are not always a clear proxy for future earnings.

Instead of paying for hours that students spend in classrooms, we built a mechanism that paid for outcomes: releasing funding to the *extent* that programs are successful at getting English language learners into stable, well-paying jobs after training.

This can help to tap into new sources of talent. The Commonwealth, like the nation, faces a skills gap: a disconnect between available jobs employers want to fill and the readiness of the labor market to fill those jobs.[224] Nationally, this gap leaves 4.4 million jobs unfilled.[225] Immigrants may arrive in the Bay State with in-demand technical knowledge, but without strong language skills or industry credentials and career readiness, they may not secure jobs that draw on their full potential.

223 Soricone et al., "Breaking the Language Barrier."

224 Elizabeth Mann Levesque, "Understanding the Skills Gap — And What Employers Can Do About It," Brookings Institution, December 2019, www.brookings.edu/research/understanding-the-skills-gap-and-what-employers-can-do-about-it.

225 Dan Restuccia, Bledi Taska, and Scott Bittle, "Different Skills, Different Gaps: Measuring and Closing the Skills Gap," Burning Glass Technologies, March 2018, www.burning-glass. com/wp-content/uploads/Skills_Gap_Different_Skills_Different_Gaps_FINAL.pdf.

LEADING THE WAY IN PAY FOR SUCCESS

Massachusetts has been the nation's leader in developing a new set of outcomes-based public funding tools. Since 2012, the Commonwealth has innovated with contracting strategies that link payment to results (often referred to as Pay for Success).[226] These tools have funded programs across a wide range of issues, such as improving outcomes for young men exiting the juvenile justice system, creating stronger supports for people experiencing chronic homelessness, and expanding job services for veterans.

Tools like these let the state pay only for successful results achieved, rather than for program delivery. Taxpayer money is released only to programs that are effective. Meanwhile, programs are given a mandate to move beyond the compliance mindset of many service-focused contracts and be more adaptive and responsive in their delivery.

MASSACHUSETTS PATHWAYS TO ECONOMIC ADVANCEMENT

Recognizing that vocational training for adult English language learners can help address the skills gap in the Massachusetts economy, in 2017 the Commonwealth partnered with JVS Boston and Social Finance to launch Massachusetts Pathways to Economic Advancement, aimed at increasing employment opportunities for those with limited English skills and helping them move up the economic ladder.[227]

The three-year program is designed to serve 2,000 adults in Greater Boston. Vocational English classes, integrated with job search assistance and coaching, help limited English speakers in making successful transitions to employment, higher wage jobs, and higher education. Programs are conducted by JVS, one of Boston's oldest and largest community-based workforce and adult education providers. The project intermediary, Social Finance, raised $12.43 million from over 40 investors — including financial institutions, donor-advised funds, individuals, and foundations — to fund JVS' services. Meanwhile, an independent evaluator, Economic Mobility Corporation, is measuring outcomes among project participants: postprogram earnings, successful transitions to higher education, and program engagement.

At the center of all of this work is a contract: The Commonwealth has agreed to release funds on the basis of the evaluator's findings — that

---

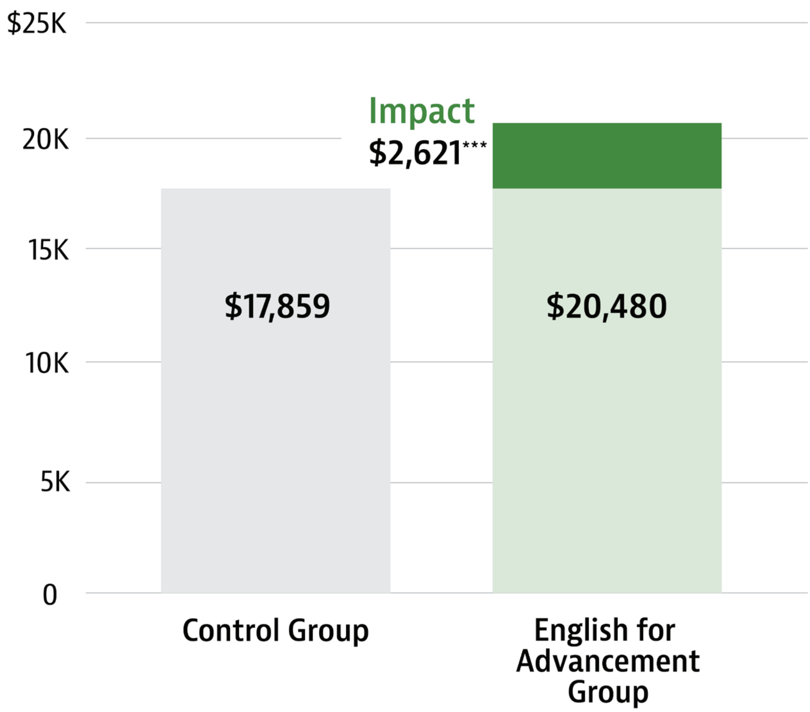
226 In 2012 the Commonwealth authorized the secretary of administration and finance to enter into "Pay for Success contracts," pledging its full faith and credit to payments made under such contract up to $50 million in the aggregate. Massachusetts General Laws, Part I, Title II, Chapter 10, Section 35VV: Social Innovation Financing Trust Fund, https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter10/Section35VV.

227 The Harvard Kennedy School Government Performance Lab provided technical assistance to the Commonwealth in setting up this initiative.

is, to pay to the *extent* that JVS successfully achieves positive outcomes for participants.

/ FIGURE 1 /

AVERAGE ANNUAL EARNINGS IN THE SECOND YEAR



Note: Figures are for all study participants, including those with zero earnings during the period. English for Advancement group (N=408); Control group (N=382). Statistical significance level: ***p<.001.

One of the Commonwealth's goals in spearheading this project is to better understand what works in the adult education and workforce development space. The robust data collection and evaluation elements of this project support the partners' objective to drive resources toward programs that achieve positive results for participants. Learnings from the evaluation results of this project can inform program design as well as our state's public policy.

One of the Commonwealth's goals in spearheading this project is to better understand what works in the adult education and workforce development space. The robust data collection and evaluation elements of this project support the partners' objective to drive resources toward programs that achieve positive results for participants.

WHAT WE HAVE LEARNED SO FAR

According to the first results of Economic Mobility Corporation's independent randomized controlled trial, people in the English for Advancement track of the program increased their earnings by $3,505 over the first two years as compared with those in the control group. Participants who were unemployed when they first enrolled with prior U.S. work experience earned $7,100 more in the second year after enrollment as compared with the control group.[228] The program has now engaged more than 1,000 immigrants and refugees across four cities.

- Testing innovation: While they are sometimes complex to structure and implement, outcomes-based contracts can provide flexibility and space to innovate. In Massachusetts Pathways, JVS was able to expand English for Advancement, a relatively new program, and carefully measure its effectiveness through an experiment — the results of which will inform the state's policies and the national workforce literature.
- Data-driven insights: Massachusetts Pathways was able to make use of a rich state dataset to measure project outcomes. Project partners created a novel data-sharing mechanism to use the state's Department of Unemployment Assistance data to track participant earnings, enabling reliable measurement of program impact for far longer than would be possible using service provider or self-reported data.
- Collaborative, adaptive governance: Three secretariats of the Commonwealth — the Executive Office for Administration and Finance, the Executive Office of Labor and Workforce Development, and the Executive Office of Education — meet regularly with JVS and Social Finance to review project progress, troubleshoot challenges, and adapt to changing realities. This governance structure provides regular channels of communication between project partners, enabling us to realize greater impact through real-time, continual improvement efforts and close cooperation.

228 Anne Order and Mark Elliott, "Stepping Up: Interim Findings on JVS Boston's English for Advancement Show Large Earnings Gains," Economic Mobility Corporation, November 2020, https://economicmobilitycorp.org/stepping-interim-findings-jvsbostons-english-advancement-show-large-earnings-gains.

WHAT'S NEXT?

Models like Massachusetts Pathways are more important than ever in the wake of the pandemic.

Having built evidence around what works, we've begun to bring these kinds of successful practices to scale. In 2020, the Commonwealth's Adult and Community Learning Services division built on the Massachusetts Pathways model by launching a new outcomes-based procurement focused on funding client assessments, adult education training, and job placement services to people with limited education and job history and challenges such as housing insecurity, criminal justice involvement, and physical or behavioral health needs. Also in 2020, the Workforce Skills Cabinet launched the Career Technical Initiative, a program aimed at training an additional 10,000 skilled trade workers over the next four years by leveraging the underutilized capacity of the state's network of vocational-technical schools in partnership with local employers, using a performance-based funding model that pays for successful program completion and sustained postgraduate employment. In the initiative's launch year, 10 regional vocational-technical schools have been approved to host evening programs for adult learners pursuing industry-recognized credentials in transportation, construction, and manufacturing.

As we structure broad procurements to shape the future of workforce development, we will use these lessons to shape the ecosystem of services, ensuring that powerful programs like those funded through Massachusetts Pathways will continue to be available to the community as we face the hard work of recovery.

Looking ahead, we will continue innovating by tying funding to results, using administrative data to validate progress and guide adaptation, and building collaborative partnerships with education and training providers to get better outcomes for participants across the Commonwealth.

Project partners created a novel data-sharing mechanism to use the state's Department of Unemployment Assistance data to track participant earnings, enabling reliable measurement of program impact for far longer than would be possible using service provider or self-reported data.

CASE STUDY

VETERANS CARE: IMPROVING EMPLOYMENT AND HEALTH OUTCOMES FOR VETERANS WITH SERVICE-CONNECTED PTSD

FORMER SECRETARY ROSALIN ACOSTA + FORMER ASSISTANT SECRETARY MARK ATTIA

Massachusetts has long been committed to caring for our veterans. Over 325,000 Bay Staters have served in the active military, naval, or air service.[229] The U.S. Department of Veterans Affairs' (VA) National Center for PTSD estimates that between 11% and 20% of veterans who served in Iraq and Afghanistan experience post-traumatic stress disorder (PTSD) in a given year.[230] Some face significant challenges in transitioning back to civilian life and securing stable jobs while living with symptoms such as anxiety, depression, and difficulty concentrating; and persistent unemployment can exacerbate symptoms, creating a negative feedback cycle. Although the VA, the U.S. Department of Labor, and others have programs to help veterans find jobs after their service, there was no employment program that focused specifically and solely on veterans with PTSD until 2018.

In 2018, we launched the Veterans Coordinated Approach to Recovery and Employment (Veterans CARE) Pay for Success project. The effort seeks to improve outcomes for veterans by scaling Individual Placement and Support (IPS) — an evidence-based intervention that has demonstrated increased competitive employment — for veterans with service-connected PTSD through rapid skills development and integration with existing veterans' mental health care programs.

PROJECT GOALS AND STRUCTURE

Veterans CARE is a chance to collaborate closely with partners at the VA and the city of Boston to help close gaps in our service delivery ecosystem.

To launch the program, the VA Innovation Center committed $3 million, with funds matched by the Commonwealth of Massachusetts, the city of Boston, and New York City. In total, $6 million in outcomes funds can be unlocked through achieving success metrics: veteran earnings and sustained competitive employment, degree of job satisfaction, and high-quality program implementation. An independent evaluator, Westat, is assessing the project's impact; the program is coordinated by the

229 National Center for Veterans Analysis and Statistics, "Veterans as a Percent of County Population," September 2018, www.va.gov/vetdata/docs/SpecialReports/State_ Summaries_Massachusetts.pdf.

230 U.S. Department of Veterans Affairs, "How Common is PTSD in Veterans?" accessed April 5, 2021, www.ptsd.va.gov/understand/common/common_veterans.asp.

Tuscaloosa Research and Education Advancement Corporation; and Social Finance supports project governance and performance management.

/ FIGURE 2 /
DEMOGRAPHICS AND EMPLOYMENT OUTCOMES

41
Average Age (Years)

75%
Average Service-Connected PTSD Rating

8.9
Average Years of Service

3.6
Average Years of Unemployment

156 Veterans competitively employed
(~55% of total veterans enrolled)

True to the IPS model, there is tremendous diversity in employment opportunities:

- Accounting
- Food + Beverage
- Manufacturing
- Retail
- Health Care
- Technology

Demographics are representative of all people in the program. Data as of 3/12/2021.
Original chart: Social Finance

Veterans CARE is the first Pay for Success project to bring together each level of the public sector. It is a powerful example of federal, state, and city governments working together to support veterans in need, and we have already seen the operational partnerships between the Commonwealth and the VA result in better outcomes for the people we are serving.

RESULTS TO DATE

At the point of enrollment, eligible veterans had, on average, been unemployed for over three years. Despite unprecedented disruptions to service delivery presented by COVID-19, as of December 2020, 55% of participants were employed. The average participant had earned approximately $14,000 over the past year and had worked 87 days. Participants report improved management of PTSD symptoms, even following the shift to remote delivery of services.

Veterans CARE is the first Pay for Success project to bring together each level of the public sector. It is a powerful example of federal, state, and city governments working together to support veterans in need, and we have already seen the operational partnerships between the Commonwealth and the VA result in better outcomes for the people we are serving.

The stories of individual participants make these numbers come alive. Christine (name changed to protect her privacy) is a veteran who was struggling with substance use and living in a transitional housing program at the time of enrollment. She worked with her IPS specialist to draft a resume, begin building her credit score, and secure a volunteer opportunity in her field, which did not pay but helped her regain her confidence. She then found a part-time job with UPS, used earnings from that job to buy a car, and secured an apartment. Her IPS specialist continues to meet with her to provide ongoing coaching.

What we have heard is that veterans appreciate the individualized approach, the integration of rehabilitation and mental health services, and the systemic yet customized approach to job development. In the words of one participant, “I don’t feel like a number within a large bureaucracy; it’s more personalized.”

We have also begun to learn more about — and adapt faster to — the needs of the people that Veterans CARE is serving. As COVID-19 began to ripple through the nation, the magnitude and diversity of issues participants faced expanded far beyond employment to food insecurity, housing stability, and access to mental health care. IPS specialists were able to adjust their role to emphasize both job search help and social support services, drawing on the program’s core principles to integrate mental health, rehabilitation care, and individualized support.

What we have heard is that veterans appreciate the individualized approach, the integration of rehabilitation and mental health services, and the systemic yet customized approach to job development. In the words of one participant, “I don’t feel like a number within a large bureaucracy; it’s more personalized.”

We continue to learn about the priorities and the challenges of those being served by Veterans CARE, and we know there is more to be done. Veterans with military sexual trauma made up an important segment of participants; we can do more to design care tailored to their needs, such as ensuring veterans can select their paired specialist based on gender identity, if desired. As the pandemic recedes, we will need to adapt programming to a changed world: doubling down on new, remote, accessible channels of care when they are working and making a concerted and long-term effort to mitigate the impact of the pandemic on participants' basic needs. Continuing to get good outcomes begins with listening and learning, and then meeting each veteran where they are to serve their unique needs and bolster their unique strengths.

LOOKING AHEAD

Veterans CARE continues to serve veterans today, and we are committed to scaling these effective and crucial services to where they are needed most. Despite COVID-19, we have been able to maintain continual support for participants and ongoing collection and analysis of the program's outcome data. At the time of this book's publication, we are planning to extend the program from a pilot into a two-year sustained service offering to improve accessibility, strengthen the model, and continue testing the model's efficacy in new contexts, including fully remote service delivery. For us, this is the power of outcomes funding: It lets us test new ways of getting results and then use those lessons to strengthen and scale effective programs.

For us, this is the power of outcomes funding: It lets us test new ways of getting results and then use those lessons to strengthen and scale effective programs.

Rosalin Acosta served as Massachusetts' Secretary of Labor and Workforce Development from 2017-2023.

Mark Attia is the Director of MassHousing and served as Massachusetts' Assistant Secretary for Finance & Performance Management from 2015-2022.

Charlie Baker served as Governor of the Commonwealth of Massachusetts from 2015-2023.

James Peyser served as Massachusetts Secretary of Education under Governor Charlie Baker from 2015-2022.

14

A GOOD JOB AT THE END OF TRAINING

RHODE ISLAND'S OUTCOMES-FOCUSED APPROACH TO WORKFORCE DEVELOPMENT

/ **JEFFREY LIEBMAN** HARVARD KENNEDY SCHOOL
GINA RAIMONDO FORMER GOVERNOR OF RHODE ISLAND AND FORMER US SECRETARY OF COMMERCE

NOTE: This chapter is reprinted in full from the first volume of Workforce Realigned (2021).

Americans acquire skills to succeed in the labor market from a wide range of sources. Educational institutions, including our K-12 schools, community colleges, four-year colleges, and universities, play an important part. So do businesses that provide on-the-job training and private sector training programs such as union apprenticeships, trade schools, and technology credentialing programs. Within this broad skill-acquisition ecosystem, public sector employment and training programs play a critical role, particularly for dislocated workers, English language learners, recipients of public assistance, workers in need of vocational rehabilitation services, justice-involved individuals, workers in recovery, and youth who are entering the job market for the first time.

At their best, public sector workforce programs transform lives while providing local businesses with the talent they need to expand. But too often these programs fall short. Programs fail to engage many of the people who need them the most. Services are often insufficient to help program participants overcome underlying barriers to employment, including mental health issues, substance use, lack of child care, or unstable housing. Program completion rates can be low. And those who complete training programs may find that there is no job available on the other end. The way government agencies have traditionally managed workforce programs — with too much focus on compliance and too little focus on performance — is a major contributor to these shortfalls.

Between 2015 and 2021, the state of Rhode Island has made fundamental changes to its workforce programs with the aim of helping all Rhode Islanders, especially the 67% without a bachelor's degree, earn a good wage.

This chapter describes the thinking behind Rhode Island's changes and presents case studies of two key initiatives: Real Jobs Rhode Island and Rhode Island TANF (Temporary Assistance for Needy Families) Work Supports.

Over the past six years, the state of Rhode Island has made fundamental changes to its workforce programs with the aim of helping all Rhode Islanders, especially the 67% without a bachelor's degree, earn a good wage.

RHODE ISLAND'S APPROACH TO WORKFORCE DEVELOPMENT

There are three fundamental problems with the traditional approach to managing public sector workforce programs, problems we call "train and pray," "fund and done," and "compliance over performance." Rhode Island has been working to overcome each of these problems by focusing on the outcomes it is trying to achieve: good wages for workers and a steady supply of talent for businesses.

REPLACING "TRAIN AND PRAY" WITH EMPLOYER-FOCUSED PARTNERSHIPS

State agencies and local workforce boards have too often followed a "train and pray" model in which training programs are designed without sufficient input from employers or anticipation of changing labor market needs. The problem with the "train and pray" approach is that there is no guarantee that individuals who successfully complete training programs will be able to find jobs.[231]

Rhode Island has flipped the traditional model on its head. The new model starts by bringing employers to the table to identify the talent they need. From there, the state supports sectoral partnerships in

231 Gene Sperling describes two trust gaps in conventional skills training programs: Workers do not trust that training programs will provide valuable skills and employers do not trust that workers will be adequately trained. *Economic Dignity* (New York: Penguin Press, 2020), 289.

tailor-making training programs to meet those needs. As we describe in further detail below, the state has funded more than 40 partnerships between employers and training programs. These programs are designed to provide participants with pathways to careers and businesses with a trained and talented workforce.

SHIFTING FROM "FUND AND DONE" TO ACTIVE CONTRACT MANAGEMENT

Agencies have traditionally followed a "fund and done" model in which they consider their mission accomplished once they sign a contract with a training provider and renew contracts year after year without assessing the success of the services. The problem with this approach is that it misses opportunities to improve service delivery during the life of the contract or to reallocate funds to more successful providers. In simply renewing contracts year after year, it also fails to adapt programming when there are service needs in the community that are not being met.

Rhode Island's new outcomes-focused approach to contracting for employment and training services has three key components. First, the state is purposeful about the mix of services that it purchases.

By analyzing data, talking to unemployed workers, and collaborating closely with service providers who know their customers and communities, Rhode Island now procures the right mix of services. This is a big change from simply "buying the same thing we bought last year."

Second, the state now monitors the performance of high-priority employment and training contracts in real time to assess whether they are meeting their intake, retention, and employment goals — something we call active contract management. By spotting issues early, the state is able to collaborate with providers to improve outcomes during the life of their contracts. Third, the state is measuring the long-term employment and wage outcomes of participants so that future funding decisions can be based on prior success.

By analyzing data, talking to unemployed workers, and collaborating closely with service providers who know their customers and communities, Rhode Island now procures the right mix of services. This is a big change from simply "buying the same thing we bought last year."

REFOCUSING ON PERFORMANCE

Workforce programs, especially federally funded ones, focus too much on compliance and too little on performance. Most of the $14 billion the federal government spends on workforce programs is administered by states. But federal restrictions can get in the way of state innovation.[232] A few years ago, a community in Tennessee wanted to spend federal funding for opportunity youth on a local initiative connecting high school students to careers. But the federal government refused to permit this use, stating that the fund could be spent only on youth who were unemployed and out of school. When Rhode Island's Department of Labor and Training (DLT) wanted to blend several federal funding streams together to create the Real Jobs Rhode Island initiative, it eventually received permission from the U.S. Department of Labor to do so, but the process and uncertainty consumed agency resources for more than a year. The countless hours that state workforce agencies dedicate to documenting eligibility for federal reimbursement would be much better spent monitoring and improving program performance.[233]

Moreover, the data needed to meet federal reporting requirements is often too delayed to allow for real-time course corrections and rarely covers a long enough period to determine the lasting impact of programs. To gauge program performance and guide policy decisions, DLT developed a new strategy for data collection and performance management that tracks success at the participant, training program, and sector level. This approach helped the state align program goals with performance metrics and allowed DLT to monitor progress, detect and address performance issues in real time, and take advantage of administrative data to track long-term employment and wage outcomes. DLT then set up dashboards that show progress for each partnership in Real Jobs Rhode Island, and DLT staff met regularly with providers to discuss the data.

> **The countless hours that state workforce agencies dedicate to documenting eligibility for federal reimbursement would be much better spent monitoring and improving program performance.**

In assessing the overall effectiveness of different training initiatives, the state now compares training participants' employment and

232 The federal government funds 43 different employment and training programs, each with its own rules and regulations. See U.S. Government Accountability Office, "Employment and Training Programs: Department of Labor Should Assess Efforts to Coordinate Services across Programs," March 2019, www.gao.gov/assets/gao-19-200.pdf.

233 While the 2014 Workforce Innovation and Opportunity Act (WIOA) was a step in the right direction in that it encouraged more focus on outcomes, it is still heavily bureaucratic. Two weeks after the regulations to implement WIOA came out in August 2016, Liebman was scheduled to speak in Washington as part of a panel on government innovation. Expecting a question on WIOA, he asked a Government Performance Lab team member for a two-page summary of the implications of the new regulations. The team member came back and said the new regulations were more than 900 pages long, and it was going to take months to figure out the implications.

earnings outcomes two years after training to earnings two years before, both to see if earnings gains persist and to avoid being misled by the temporary earnings dips that typically happen in the calendar quarters just before and after enrolling in a job training program.[234] The state has also added a small performance-based payment to some employment and training contracts managed by the Department of Human Services (DHS); these payments ensure regular measurement of performance, locking in a focus on outcomes both by the agency and by the provider for the period of the contract.

CASE STUDIES

Two initiatives, Real Jobs Rhode Island and Rhode Island TANF Work Supports, illustrate how the state has revitalized its approach to job training and workforce development. Both of these initiatives received technical assistance from the Harvard Kennedy School Government Performance Lab.[235]

CASE STUDY:

REAL JOBS RHODE ISLAND

In 2015, Rhode Island rolled out Real Jobs Rhode Island, a $14 million workforce development program that provides grants to industry-led partnerships — collaborations of employers, educators, and training providers — to create innovative training programs tailored to the current and anticipated workforce needs of employers. In setting up these partnerships, the state targeted industries with strong growth potential such as biomedical innovation, data analytics, shipbuilding, advanced business services, health care, and logistics. The partnerships could train potential new hires, upskill incumbent workers, or do both.

In the initial round of grants, 25 partnerships were funded. For example, the Marine Trades and Composites Partnership was formed by the Rhode Island Marine Trades Association — in conjunction with companies such as Bristol Marine and New England Boatworks and training entities such as the New England Institute of Technology and the IYRS School of Technology and Trades — to prepare workers for jobs in the marine trades and composites industry. The Health Care Training Collaborative was formed by several elder care providers — including Saint Antoine Residence, Genesis Center, and CareLink and educational institutions such as the University of Rhode Island

234 Orley Ashenfelter, "Estimating the Effect of Training Programs on Earnings," *Review of Economics and Statistics* 60, no. 1 (February 1978): 47–57.

235 More information about the Harvard Kennedy School Government Performance Lab's work in Rhode Island is available at https://govlab.hks.harvard.edu/rhode-island.

and Rhode Island College — to tackle shortages of certified nursing assistants. The Residential Construction Workforce Partnership was assembled by the Rhode Island Builders Association in conjunction with career and technical education centers within Rhode Island high schools to align classroom curriculum with industry needs and address labor shortages.

As of November 2020, Real Jobs Rhode Island had placed nearly 4,600 new hires and upskilled more than 6,000 incumbent workers, with new hires earning an average annual wage of $33,170

A process evaluation of the program by scholars at the University of Rhode Island found that 17 of the partnerships resulted in fundamental changes in how training was delivered, while eight "modified existing programming to better meet employer needs."[236]

Setting up this initiative required a heroic effort by DLT Director Scott Jensen and his team to overcome barriers created by siloed federal funding streams. Most federal workforce programs have narrow eligibility requirements, such as restricting federal reimbursements to dislocated workers or veterans. These eligibility restrictions can create barriers to program enrollment and make it challenging to design programs that simultaneously serve multiple priority groups. The state's hypothesis was that, by reducing the burden of eligibility screening, the enrollment and employment outcomes of individuals from priority groups would actually increase.

As of November 2020, Real Jobs Rhode Island had placed nearly 4,600 new hires and upskilled more than 6,000 incumbent workers, with new hires earning an average annual wage of $33,170

The state, therefore, needed a way to receive reimbursement from multiple federal programs and braid in state funds for workers who did not meet any of the federal requirements. Traditionally, the state had required program participants to fill out lengthy intake forms and provide extensive documentation so that it could seek federal reimbursement. This approach imposed significant burdens on prospective trainees, training organizations, and employers — burdens that discouraged participation. In setting up Real Jobs Rhode Island, DLT decided to reduce the intake form to the bare minimum necessary for the state to administer the program, eliminating 66 questions and reducing the number of pages from three to one. The state then supplemented the information in the abridged form with data it already had access to, such as a person's wage, unemployment

236 Shanna Pearson-Merkowitz, Skye Leedahl, Aaron Ley, Bridget Hall, Kristin Sodhi, and Marissa DeOliveira, "Real Jobs Rhode Island: Case Studies and Process Evaluation," University of Rhode Island Social Science Institute for Research, Education and Policy, April 2018, https://web.uri.edu/ssirep/files/RJRI-final-report-August-2018-reduced.pdf.

history, and engagement with other state supports. By tapping into the state's existing information network, DLT was able to gather relevant data without requiring applicants to fill out time-consuming and unnecessary forms, allowing for faster placement into training programs and job pipelines

By tapping into the state's existing information network, DLT was able to gather relevant data without requiring applicants to fill out time-consuming and unnecessary forms, allowing for faster placement into training programs and job pipelines.

As part of its increased emphasis on performance, DLT built the capacity to actively manage Real Jobs Rhode Island contracts in real time.[237] It created a dashboard for high-priority partnerships, tracking enrollment, progress within the training program, program completion, and subsequent employment placements against targets set at the beginning of the grant. These dashboards are reviewed quarterly both internally by DLT and in meetings between DLT staff and partnership leaders. Both the data reporting and participation in regular performance meetings are specified up front as requirements for grant receipt. This process has enabled DLT and its grantees to collaborate in troubleshooting problems — such as insufficient enrollment or failure to reach targeted demographic groups — while there is still time to fix them, thereby contributing to improved service delivery and better job placements for participants. Finally, DLT didn't view program completion, or even initial job placement, as the final measure of Real Jobs Rhode Island's success. Instead, the goal of the program was to meet employer demand and connect individuals to well-paying jobs with career pathways. DLT therefore set up a process for using the state's quarterly unemployment insurance data to track the long-term improvements in participants' employment status and wages, comparing changes from two years prior to enrollment to two years after program completion. This long-term view allows the state to assess whether participants are receiving the targeted training they need to improve their career trajectories.

CASE STUDY:

RHODE ISLAND TANF WORK SUPPORTS

Rhode Island Works (RIW) provides cash assistance and job search services as part of the state's TANF program. Before 2015, RIW consistently underperformed in long-term self-sufficiency outcomes

237 More information about active contract management is available through the Government Performance Lab's website at https://govlab.hks.harvard.edu/activecontract-management.

of clients — few individuals achieved high-quality jobs or sustained employment for more than one year.

Poor performance was driven by a mismatch between RIW's service array and client needs. The RIW service array focused on educational and training resources, but the population it served faced significant barriers to utilizing those services, including challenges with housing, behavioral health, and intimate partner violence.

/ FIGURE 1 /
NEW TANF SERVICE ARRAY REFLECTED IN RFP

Support Services

- Behavioral Health Services
- Substance Use Services
- Housing Stabilization
- Intimate Partner Violence Support

Teen + Family Development

- Services for Pregnant Teens + Teen Parents
- Services for Youth Needing to Acquire a High School Diploma or GED

Vocational Training

- Short-term Industry-Specific Training
- Credential + Certificate Programming

Work Readiness

- Job Readiness Activities
- Job Search Supports
- Work Experience + Community Service Activities
- Transitional Jobs and On-the-Job Training

To support low-income families in achieving greater economic self-sufficiency, DHS decided to redesign and reprocure RIW's $7 million array of services to offer a wider mix of individualized supports that addressed clients' underlying barriers to employment. When the initial procurement resulted in submissions of business-as-usual bids, DHS canceled the Request for Proposals (RFP) and embarked on an extensive campaign to engage and educate community providers about the state's desire for new solutions.

> **To support low-income families in achieving greater economic self-sufficiency, DHS decided to redesign and reprocure RIW's $7 million array of services to offer a wider mix of individualized supports that addressed clients' underlying barriers to employment.**

A second RFP produced several innovative proposals and resulted in the addition of a new set of supportive services focused on mitigating nonemployment barriers, including services for behavioral health, substance use treatment, housing stabilization, and domestic violence support. The procurement also consolidated the number of contractors, decreasing the need for clients to switch providers to access additional resources and leading to more consistent case management experiences. As Figure 1 illustrates, this combination of changes enabled DHS to offer clients individualized service plans that more logically progress to meet needs: first removing barriers and stabilizing families, then increasing client education levels and skills, and finally moving clients into sustainable employment to help families move off benefits.

As part of the new contracts, DHS incorporated performance-based bonus payments to focus provider attention on a prioritized set of client outcomes. Each provider has at least two performance payments enumerated in its contract: one payment specific to each service component category and one payment linked to client earnings that applies to all providers.

The category-specific payments were linked to client results that, if achieved, would position that client to progress to the next set of supports necessary for employment:

- Supportive service providers earn a bonus payment of up to $25 per month when a client maintains a minimum level of participation.
- Teen and family development providers earn a $500 bonus payment when a youth client achieves a high school diploma.
- Vocational training providers earn a $500 bonus payment when a client completes a training program.
- Work readiness providers earn a bonus payment of $500 when a client is employed six months after starting services. This bonus payment is $750 for clients who have been receiving RIW benefits the longest.

To incentivize vendor collaboration for clients' overall success in reaching unsubsidized employment, vendors earn a $1,000 bonus payment for any client with wages of $4,000 or more in the fifth quarter after program enrollment.

The composition of these performance-based payments reinforces the sequencing of services for clients while simultaneously creating a feedback loop for providers and DHS to regularly review long-term outcomes and monitor program success. Previously, providers had little information about client employment outcomes after services were completed, making it difficult to understand how programming might be improved. DHS has also implemented active contract management strategies across RIW services — monthly face-to-face meetings with contracted service providers to monitor key indicators and develop strategies to improve program implementation.

CONCLUSION

A steady, well-paying job is the lifeblood of a healthy and thriving family. Public sector workforce programs play a critical role in helping individuals obtain the skills they need to succeed and in helping businesses attract the talent necessary to grow. It should be possible to hold state workforce programs accountable for results. Unlike many other government activities that have complex and sometimes conflicting objectives, it is straightforward to specify what workforce programs are trying to achieve: increases in employment and increases in earnings. Moreover, the data necessary to assess progress against these objectives is collected automatically as part of state unemployment insurance systems. Yet too many programs continue to "train and pray" and focus on compliance rather than performance.

It's time to flip the old workforce model on its head. By focusing on outcomes, states can build programs designed to get people into good jobs with strong career trajectories.

It's time to flip the old workforce model on its head. By focusing on outcomes, states can build programs designed to get people into good jobs with strong career trajectories.

By establishing collaborative, data-driven meetings with providers, states can drive continuous improvements during the life of these critical contracts. And by leveraging existing data to track long-term outcomes, states can compare performance across providers to inform future funding decisions. The Rhode Island experience has demonstrated that all of these steps are feasible. As the needs of workers and companies continue to evolve, state approaches to workforce training need to do so as well.

As the needs of workers and companies continue to evolve, state approaches to workforce training need to do so as well.

Jeffrey Liebman is the Robert W. Scrivner Professor of Public Policy at Harvard Kennedy School, where he also leads the Government Performance Lab.

Gina Raimondo served as Governor of Rhode Island from 2015-2021, and as U.S. Secretary of Commerce from 2021-2025.

The authors are grateful to Sarah Allin, Danielle Cerny, Kevin Gallagher, Scott Jensen, Scott Kleiman, and many other members of their teams who developed the initiatives and ideas discussed in this chapter.

15

EMPLOYER PAY-FOR-SUCCESS

TAKING THE RISK OUT OF WORKFORCE PARTNERSHIPS IN PHILADELPHIA

/ **CAIT GAROZZO** THE SKILLS INITIATIVE
TYRONE HAMPTON, JR. PHILADELPHIA WORKS
ASHLEY PUTNAM FEDERAL RESERVE BANK OF PHILADELPHIA

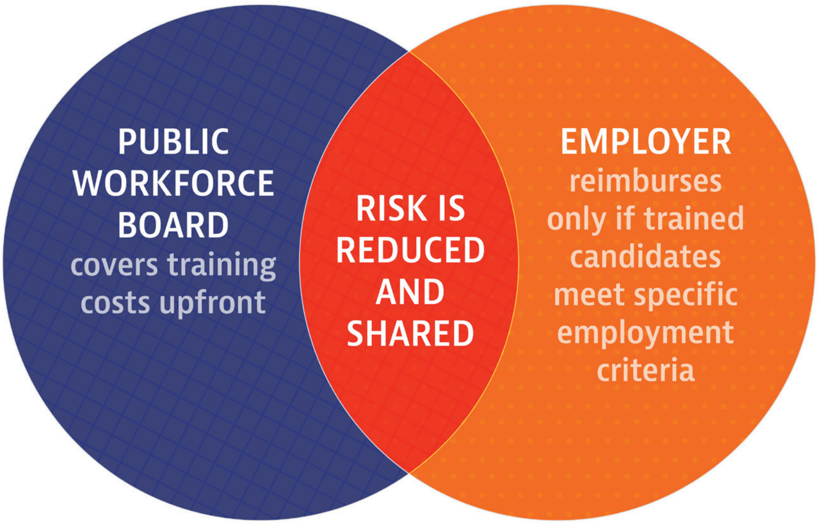
INTRODUCTION

In the current workforce development system, employers are often considered partners and advisers but not investors. What would it look like if employers were equally invested in the outcomes of workforce training programs external to their own organization? We profiled one such innovation in a previous edition of this book, exploring the role of the employer as an investor in traditionally publicly funded workforce development. Five years have passed since the initial creation of the pilot employer pay-for-success model. This chapter will review lessons learned from the initial pilot, how the model has been shared, and why employers should consider these types of partnerships in developing and retraining skilled talent.

Although employers offer input into workforce programming — they sit on workforce boards, provide insight into industry needs, and participate in industry partnerships — they are not frequently financially invested. In the partnerships discussed in this chapter, the employers act as investors in workforce programs, paying back the provider at mutually agreed-upon milestones like six months or one year of job retention. This model is unique in that all parties have a stake in the outcomes of the training program and make investments to achieve those goals. The result is that employers in Philadelphia continue to be engaged as investors in workforce programming, helping create more customized training programs, creating feedback loops for the workforce organizations, and reducing the risk of turnover through stronger partnerships.

/ FIGURE 1 /

HOW PAY-FOR-SUCCESS (PFS) BRIDGES PUBLIC AND PRIVATE INVESTMENT IN WORKFORCE TRAINING



THE PAY FOR SUCCESS PILOT: PHILADELPHIA WORKS

In focus groups leading up to this pilot, Philadelphia employers reported two significant workforce challenges: a shortage of workers with digital skills and limited understanding of the workforce training ecosystem. Employers also struggled with high turnover costs, which made investments in workforce development riskier. To address these issues, an innovative workforce partnership was piloted to address the skills gap through employer-driven pay-for-success training.

Social Finance initially developed this funding model in partnership with the Federal Reserve Bank of Philadelphia and Philadelphia Works, with Comcast serving as the employer partner. Comcast agreed to reimburse Philadelphia Works based on hiring and retention outcomes, much like they would a staffing agency. Unlike traditional workforce programs that receive up-front employer funding or philanthropic grants, this model links public workforce investments to private sector employment outcomes. Comcast's HR department (rather than its philanthropy division) funded the payments, demonstrating a shift in employer investment from charity to talent development. The model created a feedback loop in which training programs can be adjusted based on hiring needs and retention.

> **In focus groups leading up to this pilot, Philadelphia employers reported two significant workforce challenges: a shortage of workers with digital skills and limited understanding of the workforce training ecosystem.**

After 12 months of project design, funding structure technical assistance, and subject matter expertise from Social Finance and the Sorenson Impact Center, Philadelphia Works signed a master service agreement (MSA) with Comcast during the fall of 2019. The signed MSA outlined shared performance outcomes, including payment of up to 40% ($2,600) for employment at Comcast and 60% ($3,900) for a six-month retention. Using Workforce Innovation and Opportunity Act (WIOA) funding, the program enabled Philadelphia residents to receive customized customer service training from an external provider, Educational Data Systems, Inc. (EDSI), for in-demand sales roles at Comcast that pay above the local median wage. Once hired at Comcast, individuals earned a family-sustaining hourly wage and had the potential to boost earnings through a commission-based salary structure. The PFS or outcomes-based funding model was the first of its kind implemented at Philadelphia Works.

PILOT RESULTS AND LESSONS LEARNED

Owing to the impact of COVID-19, the PFS pilot faced challenges launching. While the initial pilot had identified one subset of jobs, the partners had to revise the project timeline and rethink needed skills based on Comcast's fast-changing hiring needs in a pandemic. This included shifting to virtual work and training, updating the training curriculum, finalizing invoicing, and navigating a new remote working environment. To ensure training met labor market demands, the partners collaborated to broaden the sales roles to include remote opportunities, strengthening the talent pool and expanding the accessibility of the positions.

Throughout 2021 and 2022, Philadelphia Works, Comcast, and EDSI (the training provider) met regularly to plan, strategize, and resolve project challenges. Candidates from cohorts in August and September 2022 began employment in October 2022 (see Figure 2).

/ FIGURE 2 /
COHORT OUTCOMES, AUGUST 2022-MARCH 2023

Cohort	Info Session Attend-ees	No. of Cohorts	Partic-ipants Enrolled	Gradu-ates	Offered	Hired	Retained at Six Months	Dollar Amount Paid to Date
Aug. 2022	21	3	11	9	4	4	2	$18,200
Sept. 2022	28	2	8	5	1	1	0	$6,500
Dec. 2022	40	1	3	2	0	0	0	-
March 2023	23	1	2	2	0	0	0	-
April 2023	22	1	8	7	0	0	0	-
Total	174	9	35	28	5	5	2	$24,700

The contract between Comcast and Philadelphia Works expired at the end of December 2022, with Comcast paying Philadelphia Works a total of $24,700. While the initial numbers were low, the pilot provided several valuable lessons that have been shared with other workforce providers to help inform and adapt to improve performance outcomes:

1. **Aligning Timing and Hiring Needs:** As outlined previously, a critical challenge of this initial pilot was the impact of the COVID-19 pandemic on jobs and training. While the partners did pivot and adjust curriculum, ultimately targeting remote jobs, the pandemic did impact the pace of hiring at the employer. To best align workforce programs and employer needs, it is important to assess hiring changes as business needs often shift faster than training. Timing is also important with a cohort model to ensure graduates at different times have access to opportunity.
2. **Maintaining Consistency of Leadership and Staff:** One critical element of an employer workforce partnership is the buy-in from leadership. In a larger corporation like Comcast, the individual in charge of hiring graduates shifted several

times during the pilot. That said, Comcast's leadership remained committed to the pilot program and partnership with Philadelphia Works. For others looking to create similar partnerships, employers need to be committed at several levels of the organization for a PFS partnership to work.

3. **Prioritizing Retention:** To shift a typical workforce partnership from a train-and-place model to a PFS model takes time and organizational shifts for both employers and training providers. Most workforce training focuses on hiring as the sole measure of success, but the PFS model is a major departure from this. Shifting to a retention payment model requires accountability and communication beyond the hiring event. Creating a feedback loop between workforce training providers and employers is important to ensure that employees are supported beyond hire.

The PFS partnership with Comcast is a testament to how this funding model can work when workforce boards and employers have the dedicated staff, organizational trust, and patience to achieve a return on investment. The flexibility of the funding model allows employers and organizations to create successful program design across sectors and organizational sizes.

Ultimately, the success of the pilot can be understood through the lens of individual lives impacted by this partnership. Shaynise, who enrolled in the program in August 2022 after a period of unemployment, completed the short training and was hired as an outbound sales representative for Comcast. She started off earning $14 per hour, augmented by uncapped commissions. "I would say that my experience was nothing but success," she said. "It allowed me to provide for my son and move out of my mother's home into our own apartment. It made me hungry for more." Shaynise's success demonstrates the power of public-private partnership models that increase economic mobility potential and community impact.

Shaynise's Story

Shaynise, who enrolled in the program in August 2022 after a period of unemployment, completed the short training and was hired as an outbound sales representative for Comcast. She started off earning $14 per hour, augmented by uncapped commissions. "I would say that my experience was nothing but success," she said. "It allowed me to provide for my son and move out of my mother's home into our own apartment. It made me hungry for more." Shaynise's success demonstrates the power of public-private partnership models that increase economic mobility potential and community impact.

EXPANDING AND ITERATING THE PFS MODEL: THE SKILLS INITIATIVE

This innovative model piloted by Philadelphia Works and Comcast informed work that has continued in the city of Philadelphia. Building on the lessons learned from the pilot, The Skills Initiative, a community-based workforce training nonprofit, launched its own PFS programs tying a service fee for employers to employee retention benchmarks. This model ensures that training programs are tailored to the employer's specific operational, cultural, and strategic needs and that The Skills Initiative builds a sustainable funding stream that is not dependent entirely on philanthropic and public dollars.

In an effort to further minimize the risk of onboarding new hires, The Skills Initiative iterated two components of the Philadelphia Works model. First, the retention payments were shifted to six months and 12 months. Rather than commodifying the hiring of an individual, this payment schedule commodifies the value the employee drives to the firm. The clearest signal of an employee's value to a firm is their wage. To that end, Skills Initiative PFS contracts are based on a percentage of the employee's annual wage. This approach strengthens the shared commitment to long-term success between the employer and The Skills Initiative.

This model also pushes workforce training providers to be accountable for substantial outcomes. Traditional funding approaches often incentivize training completion or job placement without focusing on the broader impact. By contrast, PFS realigns incentives to prioritize meaningful career connections, using retention as a proxy for success. This shift ensures that training providers like The Skills Initiative deliver holistic solutions that benefit both the job seeker and the employer for a longer term.

Traditional funding approaches often incentivize training completion or job placement without focusing on the broader impact. By contrast, PFS realigns incentives to prioritize meaningful career connections, using retention as a proxy for success.

The Skills Initiative first engaged with the PFS model through insights gained from the Philadelphia Works and Comcast pilot, introduced via the Federal Reserve Bank of Philadelphia. As The Skills Initiative broadens its work across different sectors, expands partnerships with additional technical training providers, and collaborates with a greater number of employers, ensuring program sustainability has become a central focus. While philanthropy and public funds remain critical to operations, addressing systemic workforce challenges requires diversifying funding models to support long-term growth.

An investment in The Skills Initiative from The Pew Charitable Trusts included specific funds for business planning, and The Skills Initiative chose to direct a portion of those funds to developing a robust and consequential PFS strategy. By working directly with Social Finance, The Skills Initiative team was able to build off what was learned from the Philadelphia Works pilot. As a smaller and more nimble entity, The Skills Initiative was able to apply lessons from this pilot and refine the approach across multiple training programs and employers.

Now, as The Skills Initiative continues its PFS engagements, it is sharing these insights with Philadelphia Works to drive systems-level change and inform future workforce development strategies.

ADDRESSING EMPLOYER CONCERNS: THE VALUE PROPOSITION

As The Skills Initiative transitions to a model that leverages employer contributions, some employers could express concerns about paying for services that were previously supported entirely by philanthropic and public dollars. The Skills Initiative addresses these reservations through a clear articulation of the model's value proposition of solving real talent needs by providing robust post-hire support and cost savings through retention. Employer contributions ensure that The Skills Initiative can scale its efforts, expanding access to economic mobility for more Philadelphians and solving complex talent needs for employers.

For employers, the PFS model is more than just a workforce investment — it's a strategic hiring approach that generates tangible cost savings, productivity gains, and long-term workforce stability. High turnover rates cost companies thousands of dollars per employee, with expenses tied to recruitment, onboarding, lost productivity, and retraining. The PFS model directly mitigates these costs by delivering pretrained candidates who are already equipped with the necessary skills, reducing the onboarding period and increasing early stage productivity. Additionally, the type of customized training programs The Skills Initiative designs in collaboration with employers improve job fit and employee satisfaction, leading to higher retention rates and lower churn.

For employers, the PFS model is more than just a workforce investment — it's a strategic hiring approach that generates tangible cost savings, productivity gains, and long-term workforce stability.

Beyond direct hiring costs, investing in structured workforce development helps businesses build stronger talent pipelines tailored to their operational, cultural, and strategic needs. Rather than relying on external recruitment firms or reactive hiring strategies, companies using PFS develop a sustainable, long-term approach to workforce planning. Moreover, this model ensures that employers only pay for success — they are not investing in training programs that may not yield results but are instead funding outcomes tied directly to hiring and retention milestones.

For larger corporations, the return on investment of PFS is amplified through scalability — the ability to integrate this approach across multiple departments, regions, or business functions, standardizing talent acquisition and improving workforce diversity. For small and midsized businesses (SMBs), the customizability of the PFS model allows for tailored payment structures that align with financial constraints while still ensuring a steady supply of skilled workers. Ultimately, the PFS model moves workforce training from a cost center to an investment, in which employers see measurable improvements in retention, productivity, and overall business performance, positioning them for long-term success in an evolving labor market.

/ FIGURE 3 /
COHORT OUTCOMES, SEPTEMBER 2022-JANUARY 2025

Cohorts	Applicants	Participants Enrolled	Graduates	Offered	Hired	Retained at Six Months	Retained at 12 Months	Dollar Amount Paid to Date
Sept. 2022	430	17	13	9	8	7	7	$49,950
Sept. 2023	244	18	14	9	9	9	9 Est.	$75,600 Est.; 12-Month Payout in April 2025
June 2024	322	18	14	11	11	July 2025	Jan. 2026	–
Jan. 2025 In Program/Active	602	12	TBD					

PROGRAM RESULTS TO DATE

In 2022, The Skills Initiative launched its first PFS pilot with a single company for one specific role. This marked the first engagement with the employer, and following the success of the initial contract, three additional programs have been completed, with three more scheduled for 2025 (see Figure 3).

Encouraged by these outcomes, The Skills Initiative has expanded efforts to introduce the PFS model to long-standing employer partners. As of February 2025, an additional large health system has committed to the model, funding six training programs throughout the year. This commitment enhances sustainability, allowing The Skills Initiative to plan for a higher volume of programs and trainees that might not have otherwise been possible. The shared risk and mutual commitment embedded in the model are reshaping workforce strategies.

A key lesson learned is that employers are not only willing but able to invest in high-quality talent, moving workforce development beyond public funding and philanthropy into a recognized business strategy. However, a notable challenge has been the extended decision-making timeline: When programs are available at no cost, employer commitments come quickly, but financial investments require more deliberation. As a result, securing agreements at least a year in advance is essential for effective program planning.

CONSIDERATIONS FOR SCALABILITY

Although the PFS model presents a promising innovation in workforce development, its scalability varies across different sizes of employers. Large corporations like Comcast have the financial flexibility to absorb initial workforce investments and operate with long-term strategic hiring plans, making it easier to commit to outcomes-based funding models. Those firms often have dedicated HR and workforce development teams, allowing them to track performance metrics and manage retention-based payments without disrupting business operations. Additionally, their higher hiring volume enables them to spread risk across multiple hires, making the model more cost-effective.

For SMBs with fewer resources, however, investing in PFS partnerships can pose financial and operational challenges. SMBs typically operate on tighter budgets, and workforce investment decisions are often immediate and transactional rather than long term. The up-front training costs and the delayed return on investment in a retention-based model may deter smaller firms. Furthermore, SMBs may lack internal HR capacity to manage workforce training partnerships, making it difficult to track success metrics or adjust hiring strategies in response to workforce program outcomes.

> **Although the PFS model presents a promising innovation in workforce development, its scalability varies across different sizes of employers.**

However, the PFS model is infinitely customizable, allowing businesses to tailor structures to fit their operational constraints. The Skills Initiative demonstrated this adaptability by evolving the original Philadelphia Works pilot, shifting the payment schedule from hiring and six-month retention to six-month and 12-month retention, ensuring greater alignment with employer priorities. Smaller businesses could similarly modify payment structures to reduce the financial strain. For example:

- **Lower up-front training costs:** SMBs could implement tiered reimbursement schedules that tie payments to shorter retention benchmarks, such as three months and nine months, rather than a full year.
- **Shared risk models:** Workforce boards could provide co-funding or staggered payments, where a portion of training costs is covered by public funds or philanthropic grants until the business can assume full investment.
- **Industry-aligned adaptations:** Businesses in high-turnover industries (e.g., retail, hospitality) could structure a PFS program around performance milestones rather than rigid retention periods, rewarding job progression or promotions.
- **Consortium-based models:** Smaller firms could pool resources with industry peers to create collaborative PFS partnerships, distributing costs and risk while still accessing skilled labor.

Ultimately, a PFS program requires flexibility, industry-specific customization, and strong support networks. By leveraging public-private partnerships and innovative funding structures, businesses of all sizes can participate in outcomes-driven workforce development, ensuring both economic sustainability and building a talent pipeline.

> **By leveraging public-private partnerships and innovative funding structures, businesses of all sizes can participate in outcomes-driven workforce development, ensuring both economic sustainability and building a talent pipeline.**

THE FUTURE OF PFS

The PFS model represents a bold step toward sustainable workforce development. The Skills Initiative and Philadelphia Works are committed to refining and expanding this approach, exploring custom solutions that meet the needs of diverse industries and employers. By aligning financial incentives with meaningful outcomes, the model ensures that all stakeholders share in the success of Philadelphia's workforce transformation.

Finding and retaining skilled talent are among the greatest challenges businesses face today. High turnover rates, recruitment inefficiencies, and workforce misalignment can significantly impact a company's bottom line. The PFS model outlined in this case study offers a comprehensive talent solution that goes beyond traditional hiring methods, ensuring employers have access to well-prepared, highly trained individuals who are ready to contribute from the outset. By addressing key workforce challenges, this model provides sustainable benefits to businesses across industries.

TAKEAWAYS FOR EMPLOYERS

- **Solving real talent needs:** The employer PFS model is designed to meet specific employer needs through customized recruitment and training programs. By aligning training with real job requirements, new hires arrive with the skills, knowledge, and confidence needed to perform effectively, reducing ramp-up time and improving productivity.
- **Cost savings through retention:** Turnover is a costly challenge, with average one-year employee turnover costs ranging from 30% to 40% of an employee's salary. This model focuses on long-term retention, significantly reducing replacement costs by ensuring employees are the right fit and prepared to succeed.
- **Sustainability and growth:** Employer contributions to workforce partnerships help sustain and expand the program, allowing more businesses to access high-quality talent while driving economic mobility for the region. This creates a scalable pipeline of skilled employees who are aligned with business needs.
- **Building relationships, not making transactions:** Traditional hiring can often feel like a transactional process, in which candidates are placed without a true understanding of long-term fit. This PFS partnership creates a feedback loop between workforce providers and employers, ensuring a continuous improvement process and better alignment of training with industry needs.

- **Community impact:** Investing in workforce partnerships doesn't just benefit employers — it strengthens the local workforce ecosystem. Participating companies contribute to economic development, creating pathways for individuals who might otherwise face employment barriers. This commitment to corporate social responsibility enhances brand reputation and strengthens ties with the community.
- **Derisking hiring decisions:** Employers often struggle with uncertainty in hiring, particularly in industries with high turnover rates. PFS partnerships mitigate risk by providing prescreened, trained candidates, allowing businesses to quantify the value a candidate brings before hiring.
- **Competitive edge:** Employers that integrate a PFS partnership can gain a competitive edge by securing highly trained talent, reducing turnover costs, and fostering long-term workforce sustainability. By moving beyond traditional hiring approaches, businesses can benefit from a steady pipeline of skilled workers, increased retention rates, and a stronger connection to their local workforce. Investing in structured workforce solutions like the partnerships outlined previously are not just about hiring but also about building a sustainable, high-performing team.

INVESTING IN WORKFORCE NEEDS FOR THE FUTURE

In an era of labor shortages and evolving workforce demands, businesses are rethinking traditional hiring strategies and embracing innovative partnerships that build a sustainable talent pipeline. Macroeconomic trends, such as demographic shifts, an aging workforce, and increasing skills gaps, make it more difficult for companies to find and retain the right talent. At the same time, rapid advancements in technology are reshaping job roles, requiring workers to develop new digital skills to remain competitive. By investing in workforce training programs like The Skills Initiative, employers can take a proactive approach to talent acquisition, creating a steady pipeline of skilled workers while reducing their dependence on reactive hiring practices.

A key advantage of the PFS model is its ability to future-proof businesses against technological change. As automation, AI, and digital tools become more integrated into every industry, companies must ensure their workforce is equipped with the right technical and analytical skills to adapt. The PFS model enables employers to take an active role in shaping workforce development, ensuring new hires are trained not just for today's needs but also for the evolving demands of tomorrow. By strengthening employer investment in workforce training, businesses can stay ahead of industry changes, build a resilient workforce, and reduce long-term hiring costs. This model is not just a solution for filling jobs — it is a strategic investment in long-term growth, innovation, and workforce sustainability.

> **As automation, AI, and digital tools become more integrated into every industry, companies must ensure their workforce is equipped with the right technical and analytical skills to adapt. The PFS model enables employers to take an active role in shaping workforce development, ensuring new hires are trained not just for today's needs but also for the evolving demands of tomorrow.**

Cait Garozzo is the Executive Director of The Skills Initiative.

Tyrone Hampton, Jr. is the Director of Workforce Partnerships at Philadelphia Works.

Ashley Putnam is the Director of the Economic Growth & Mobility Project (EGMP), a strategic initiative of the Federal Reserve Bank of Philadelphia dedicated to promoting equal access to economic opportunity.

16

SUBSIDIZING SUCCESS, NOT ENROLLMENT

THE TEXAS STATE TECHNICAL COLLEGE FUNDING MODEL

/ **MICHAEL BETTERSWORTH** TEXAS STATE TECHNICAL COLLEGE

Under the weight of waning enrollment, constrained budgets, and public doubt, higher education stands at a crossroads that few institutions can ignore. Enrollment in many places is declining, resources are stretched thin, and skepticism about higher education's real-world value is on the rise. The COVID-19 pandemic only magnified these challenges, forcing colleges to shift quickly to online learning and reshaping what students expect from their educational experiences.

The latest data confirms these concerns. Overall, higher education enrollments inched upward in fall 2024. Public and private nonprofit four-year institutions saw the sharpest declines, at -8.5% and -6.5%, respectively.[238] From 2004 to 2020, roughly 2,700 colleges with more than 12,000 campuses closed — most in the for-profit sector[239] — and the pace of closures accelerated from two per month in 2023 to one per week in 2024.[240] Meanwhile, the much-discussed "enrollment cliff"

238 "Fall 2024 SI Dashboard," National Student Clearinghouse Research Center, October 9, 2024, https://public.tableau.com/app/profile/researchcenter/viz/Fall2024SIDashboard/Fall2024StayInformed

239 Jennifer A. Kingson, "Schools Are Bracing for the Looming 'Enrollment Cliff,'" Axios, July 3, 2024, https://www.axios.com/2024/07/03/education-enrollment-cliff-schools.

240 Peace Bransberger, Colleen Falkenstern, and Patrick Lane, "Knocking at the College Door: Projections of High School Graduates," Western Interstate Commission for Higher Education, December 2020.

looming in 2027 (caused by declining birth rates) suggests the situation may only worsen.[241]

If an institution isn't a well-endowed private college or a brand-dominant public university with deep reserves and multiple revenue streams, sticking to the status quo is risky. In this tough environment, innovative, outcomes-based approaches are more important than ever. Fortunately, we at Texas State Technical College (TSTC) found an alternative that focuses on workforce readiness — and it's paying off.

TSTC'S VALUE-ADDED MODEL: A BOLD NEW APPROACH

In 2010, we took a radical step at TSTC. We linked our state funding to the job placement and earnings of our graduates — a first-of-its-kind model in the nation. Instead of basing budget allocations on how many students show up on campus (known as contact-hour-based funding), we now align our funding with actual workforce outcomes. Programs that don't lead to strong employment are re-examined and often closed, ensuring that both our students and the broader Texas economy receive maximum benefit.

> **If an institution isn't a well-endowed private college or a brand-dominant public university with deep reserves and multiple revenue streams, sticking to the status quo is risky. In this tough environment, innovative, outcomes-based approaches are more important than ever.**

This chapter updates our earlier work in the first volume of *Workforce Realigned*, "Going All In: Linking Funding to Outcomes at Texas State Technical College," by exploring how this value-added funding model has transformed our culture, improved job placement, and prepared us to meet the ever-growing demand for well-trained workers. Our story offers a real-world blueprint for how colleges can thrive under pressure when stakeholders demand tangible, measurable results.

HOW THE VALUE-ADDED FUNDING MODEL WORKS

In the early 2010s, many states — Texas included — wanted to move beyond the traditional "enrollment-based" or "contact-hour-based" formulas. We recognized that simply counting how many students start a program doesn't guarantee successful outcomes for graduates, employers, or the economy.

At TSTC, we asked a simple question: Why not tie our funding to the one thing that truly matters: whether our students find good-paying

241 Sarah Wood, "Why Do Colleges Close?" U.S. News & World Report, , February, 20, 2024, https://www.usnews.com/education/articles/why-do-colleges-close.

jobs? With legislative support, we switched to a performance-based formula that measures actual employment outcomes for our students. Here's how it works:

1. **Identify the Cohort:** We list all students who have completed at least nine semester credit hours, including both graduates and nongraduates.
2. **Gather Employment and Wage Data:** Through a partnership with the Texas Workforce Commission, we collect wage data from unemployment insurance records, capturing 75%–80% of our former students. We then track their job placement and earnings.
3. **Calculate Value Added:** We compare each student's earnings to a baseline (full-time employment at minimum wage), determining the extra value TSTC adds in producing skilled graduates. An indirect multiplier accounts for broader economic benefits over five years.
4. **Allocate Funding:** TSTC and the state share this newly generated value, each receiving half. A campus's specific funding is based on how much value that campus's students add overall.

This "commission-like" approach measures and rewards our ability to place students in well-paying jobs. No longer are we funded simply by classroom head counts; if our students succeed in the workforce, so do we.

> **At TSTC, we asked a simple question: Why not tie our funding to the one thing that truly matters: whether our students find good-paying jobs? With legislative support, we switched to a performance-based formula that measures actual employment outcomes for our students.**

It's important to distinguish between value-added and economic impact. Our formula does not measure TSTC's entire economic footprint. Instead, it focuses on earnings outcomes tied directly to student employment. This streamlined focus helps us keep the formula both accurate and aligned with our core mission: putting more Texans to work in rewarding careers.

OVERCOMING CULTURAL BARRIERS

Shifting from a decades-old contact-hour formula to an innovative, outcomes-based approach was more than a mere policy change — it was a cultural transformation. At first, some within TSTC were unsure whether the new model would fully take root, and a few of our processes still leaned on the old approach.

During the initial funding cycle, it became clear that our updated model and the traditional budgeting processes weren't yet completely aligned. This caused initial funding projections to rely on contact-hour data rather than on our new outcomes-based metrics. Because we had intentionally reduced contact hours to focus on student success and labor market results, the mismatch highlighted a potential shortfall in our state appropriation. Fortunately, this shortfall was recognized and addressed, and our final allocation was restored to levels that reflected our actual outcomes.

This experience served as a wake-up call, showing how deeply ingrained the contact-hour model was. It also underscored the importance of proactively updating both our internal operations and external communications so that stakeholders and standard processes recognized the new approach. Once that alignment took hold, the benefits of outcomes-based funding became more apparent, and we were able to showcase our improved student job placement and earnings — ultimately reinforcing the model's validity.

PAYING FOR PERFORMANCE

Our value-added funding model hinges on a simple principle: When graduates earn higher wages, TSTC receives a corresponding increase in appropriations, allowing us to attract and retain top-tier faculty and staff. Recognizing that industry salaries in high-demand technical fields often outpace the public sector, we conduct regular market compensation analyses to ensure our faculty's pay remains competitive. This approach not only fosters excellence in instruction but also signals to our students that the experts teaching them are leaders in their fields.

We have also adopted performance-based and merit raises, a relatively rare practice in the public sector. By linking compensation more directly to student success measures, we create an institutional culture where everyone's incentives align with the goal of seeing our graduates thrive in the workforce. This alignment has further fueled improvements in our programs, as instructors and staff focus on ensuring that students complete their studies on time, learn the right skills, and secure meaningful employment that leads to higher earnings.

INNOVATION BEGETS INNOVATION

When funding is tied to student success, innovation naturally follows. We began reevaluating our offerings, identifying programs with poor placement or earnings outcomes and discontinuing them when necessary. At the same time, we worked to transform our dual enrollment efforts, grouping related technical courses into three-course sequences that offer high school students job-relevant skills rather than isolated classes. Whether students continue with us at

TSTC or enter the workforce directly, they arrive armed with real-world competencies and a clear sense of how their studies connect to actual employment opportunities.

We also discovered through our earnings data that completing a degree or certificate correlates with a 20%–30% higher first-year income compared to dropping out. By sharing these figures, we motivated more students to stay enrolled and earn a credential — no longer just a bureaucratic milestone but an engine for higher wages and career mobility. In line with this emphasis on outcomes, we have worked diligently to accelerate program completion whenever possible.

Time spent in the classroom can delay students' entry into the workforce — and thus delay our funding return from their future wages. This has driven us to accelerate program completion, reflected in TSTC's impressive three-year graduation rate of 40%. By comparison, the six-year graduation rate for two-year colleges averages 41%.[242] Helping students move quickly into high-paying jobs ensures they start earning sooner — a win-win for everyone.

BRANDING UP

Our Money-Back Guarantee, which refunds students' tuition if they don't find employment after completing key programs, has also amplified our credibility. Lawmakers, employers, and prospective students see us as an institution that stands behind its promises. This reputation as the "real deal" is backed by our strong graduate outcomes, reinforcing TSTC's brand as a leader in workforce-focused education.

NOTABLE GAINS

Since adopting the value-added funding model, our graduates — and TSTC as a whole — have experienced significant benefits (*see Figure 1*):

- **34% Higher Starting Wages**: Adjusted for inflation, our graduates' starting wages have risen by over a third since 2010.[243]
- **51% Increase in Combined Earnings**: The total earnings of all employed TSTC students, which feed into our funding formula, have grown by more than half in that same period.
- **136% Growth in Returned Value Appropriations**: Our annual "returned value" funding jumped from $47 million in 2016 to $111 million in the upcoming 2025 legislative session, supporting everything from instructor salaries to new lab equipment.

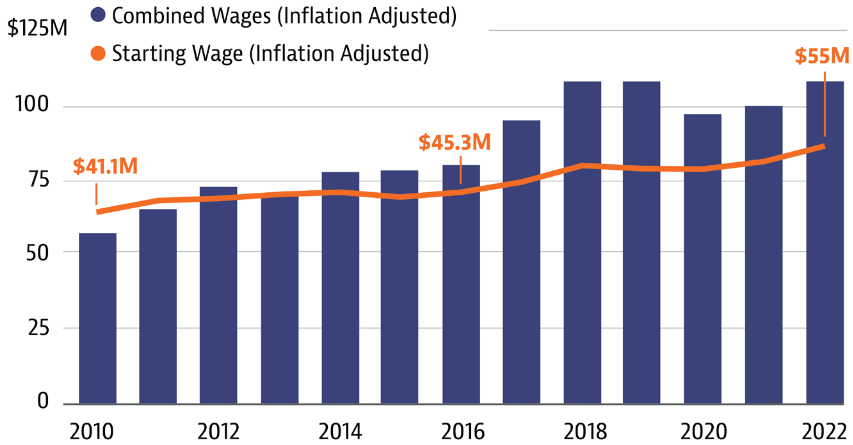
---

242 National Student Clearinghouse. 2023. "Completing College." Completing College. https://nscresearchcenter.org/wp-content/uploads/Completions_Report_2023.pdf.

243 Texas Workforce Commission, UI Wage Record Data for TSTC Graduates, https://www.twc.texas.gov/programs/unemployment-benefits

/ **FIGURE 1** /

TSTC GRADUATE STARTING WAGES AND COMBINED COHORT EARNINGS



Source: Texas Workforce Commission, UI Wage Record Data

These resources have enabled us to tackle long-overdue maintenance and take pride in our unique mission. Once a lesser-known option for technical education, TSTC is now widely recognized for its student-centered, workforce-focused model.

Equally noteworthy, our enrollment has grown even as overall community college enrollments in Texas have declined. Over the past five years, TSTC's fall enrollment has risen by 11%, while Texas community colleges collectively have seen a drop of approximately 30% in the same time frame.[244] This striking contrast reflects our focus on workforce-driven programs and tangible postgraduation success, positioning TSTC as a compelling, unique option for students seeking strong employment outcomes.

ADDRESSING INFRASTRUCTURE NEEDS

While our value-added funding model rewards TSTC for placing more Texans into high-demand jobs, it does not directly address the costs of maintaining and improving our physical infrastructure. Many of our campuses are situated on former military bases and include facilities dating back to the 1950s, leading to significant deferred maintenance and modernization needs.

244 "Fall 2024 TACC Preliminary Enrollment Report," Texas Association of Community Colleges, November 2024, https://tacc.org/sites/default/files/2024-12/tacc_fall_2024_enrollment_report_11-22-24.pdf.

To tackle these challenges, we rely on a variety of resources, including legislative appropriations, industry partnerships, earned income, and bond financing. By combining these different funding sources, we can take a more strategic approach to address aging buildings, environmental controls, and overall campus modernization.

Currently, with the support of the Texas Legislature, we have secured additional capital funding that enables the construction of seven new buildings — an investment of more than $300 million. These expansions will boost our capacity to serve students in high-demand fields and ensure that they have access to modern facilities aligned with current industry standards.

Looking ahead, we continue to pursue further appropriations and a proposed endowment, aiming to leverage state surplus balances for more reliable infrastructure funding. These funds, if approved, will enable the construction of three new campuses in Guadalupe-Comal County, Denton County, and Midlothian. By taking a proactive approach to modernization and growth, we strive to maintain safe, well-equipped campuses that promote hands-on technical learning and support our workforce mission across Texas.

> **By taking a proactive approach to modernization and growth, we strive to maintain safe, well-equipped campuses that promote hands-on technical learning and support our workforce mission across Texas.**

EXPANDING OUTCOMES DATA

We continually seek better information to validate and refine our decisions on behalf of our students. One of our latest efforts is the Secure Query System (SQS), a joint initiative involving TSTC, a trusted academic intermediary, and the IRS. By carefully matching student records with federal tax data — under strict privacy protocols — we aim to go beyond unemployment insurance databases and capture a more comprehensive picture of our graduates' long-term earnings. This enhanced dataset will help us evaluate program effectiveness at a finer level, ensuring that we channel our resources into fields where our graduates see the greatest returns.

In addition to shaping how we develop and update our curricula, these new insights reinforce our commitment to evidence-based policy. By gathering robust, real-world information on workforce outcomes, we can continue validating our performance to stakeholders while providing an adaptable model for other states and institutions interested in similar approaches. Taken together, these efforts underscore our broader strategy: continually advancing our data capabilities so that we can meet new industry demands, serve our students more effectively, and maintain a leadership role in outcome-driven technical education.

LOOKING AHEAD: CHALLENGES AND OPPORTUNITIES

Our value-added model highlights what a workforce-focused college can do, but challenges remain. We must stay agile, updating programs for emerging industries and technologies, especially as automation, AI, and other disruptions reshape the job market. Simultaneously, we're refining our tiered tuition system, which ties program cost to career earnings potential, to ensure it remains equitable for students while reflecting true instructional expenses.

We must stay agile, updating programs for emerging industries and technologies, especially as automation, AI, and other disruptions reshape the job market. Simultaneously, we're refining our tiered tuition system, which ties program cost to career earnings potential, to ensure it remains equitable for students while reflecting true instructional expenses.

As we expand into new regions, building stronger ties with local communities will be crucial to ensuring our campuses meet real workforce needs. Across fields from energy to manufacturing to health care, the demand for technical skills continues to grow — providing us with an opportunity to strengthen Texas' economic future.

CONCLUSION: A BLUEPRINT FOR THE FUTURE OF HIGHER EDUCATION

At TSTC, we've seen firsthand what happens when funding is tied to outcomes. By aligning our financial model with actual student success — measured through job placement and earnings — we've built a system that benefits students, employers, and taxpayers alike. Our journey shows that colleges can adapt when they place the needs of the workforce front and center.

We know we're not the only institution seeking new ways to connect higher education with employment opportunities. Still, our value-added formula, Money-Back Guarantee, and data-driven decision making stand out as a clear road map for any institution ready to break from tradition. We hope our story inspires other higher education leaders to embrace accountability and innovation, ensuring our students thrive in an ever-evolving economy.

By aligning our financial model with actual student success — measured through job placement and earnings — we've built a system that benefits students, employers, and taxpayers alike.

Michael Bettersworth is the Senior Vice Chancellor and Chief Marketing Officer at Texas State Technical College. He is also the Founder of SkillsEngine, a nonprofit initiative that aligns industry, education, and individuals through advanced skills analytics.

17

FastForwardVA

CONNECTING WORKERS, EMPLOYERS, AND SKILLS

/ **DAVID DORÉ** VIRGINIA COMMUNITY COLLEGE SYSTEM

An earlier version of this chapter, authored by former Chancellor Glenn DuBois, appeared in the first volume of Workforce Realigned *in 2021.*

INTRODUCTION

FastForwardVA is a pay-for-performance model designed to increase the number of Virginians earning short-term credentials across an array of accelerated, noncredit training programs for industries as diverse as welding, aviation, health care, and IT — with the ultimate goal of closing the workforce talent gap.

FastForwardVA began with a statewide commitment. In 2015, the Virginia Community College System (VCCS) set a goal of tripling the number of credentials awarded in the Commonwealth of Virginia through a brand-new system of shared responsibility and accountability that would bring together students, employers, the state, and Virginia's 23 colleges — and give each one a financial stake in success. At that time, we projected that by 2025, Virginia would need to fill 1.5 million jobs, many of which would require a postsecondary credential but not a bachelor's degree.

To meet those needs, we launched the FastForwardVA program as part of Complete 2021, a statewide VCCS strategic plan to build the infrastructure to prepare Virginians to fill the jobs our economy demands.[245] Complete 2021 set the specific goal of tripling the number of credentials earned. This included the traditional degrees, diplomas, and other credentials we already conferred, as well as a new set of credentials added to the mix: industry-recognized credentials earned through the workforce divisions of our community colleges. Unlike the degrees and diplomas that the colleges issue, these credentials are competency based and issued by third parties, often state agencies or industry associations. Credentials such as commercial driver's licenses, certifications for nursing assistants and medical assistants, and cybersecurity certifications are just a few examples. Many of these credentials align with the occupations on Virginia's annual high-demand occupations list.[246]

FastForwardVA works like this:

- Upon enrolling in a credentialing course, a student is responsible for paying one-third of the tuition (which is less than $800 on average). In some cases, employers cover this first third. For those who can't afford it, we have created need-based financial assistance.
- If the student completes the course, the state pays the institution the second one-third of the tuition. If the student doesn't earn a satisfactory mark in the course within 30 days following the course completion date, the student must pay this additional one-third tuition share. Similarly, employers who pay for their employees commit to making this second payment; if the student does not complete the course, the employer may require the student to repay it.
- If the student proceeds with the program and earns the industry-recognized credential, the state pays the community college the final third of the tuition. If the student does not earn the credential, the institution does not recoup this final third.

Initially, we expected FastForwardVA to attract former students who had previously started but did not complete a degree or certificate program and would need to re-enroll to take advantage of the financial incentive. Instead, the program tapped into an entirely new demographic: Most students were people in their mid-30s with dependents, who had no college degree or previous contact with the community college system.[247] Demographics also show that

245 The Workforce Credential Grant (WCG) was launched in 2016 to make workforce credentials more affordable and accessible for Virginians. FastForwardVA is the VCCS program that is funded by WCG.

246 Issuu, "Virginia's High Demand Occupations List," January 9, 2024, https://issuu.com/vedpvirginia/docs/virginia_s_high_demand_occupations_list_12_19_23.

247 Di Xu, Ben Castleman, Kelli Bird, Sabrina Solanki, and Michael Cooper, "Noncredit Workforce Training Programs Are Very Popular. We Know Next to Nothing about Them," Brookings Institution, May 23, 2023, https://www.brookings.edu/articles/noncredit-workforce-training-programs-are-very-popular-we-know-next-to-nothing-about-them/#:~:text=We%20know%20next%20to%20nothing%20about%20them.,-Di%20Xu%2C%20Ben&text=Well%20before%20COVID%2D19%2C%20politicians,skills%20possessed%20by%20available%20workers.

FastForwardVA students have a wide range of backgrounds: 43% are minorities, over 60% have dependents, and they are more than two times as likely as other college students to receive benefits from the Supplemental Nutrition Assistance Program or Temporary Assistance to Needy Families.[248]

By and large, these students were eager to get what they needed to advance their careers and (in many cases) support their families without spending months or years out of workforce to do so. Having such a diverse and previously untapped student population focused on quickly getting trained and into the workforce helped us attract the attention of more employers, who saw a new talent pipeline emerging. Today, we believe that the 3.2 million Virginians with some or no postsecondary experience are vital to meeting Viriginia's workforce needs — and we want to continue engaging them through FastForwardVA.

Initially, we expected FastForwardVA to attract former students who had previously started but did not complete a degree or certificate program and would need to re-enroll to take advantage of the financial incentive. Instead, the program tapped into an entirely new demographic: Most students were people in their mid-30s with dependents, who had no college degree or previous contact with the community college system.

Since the original projection in 2015, the middle-skill job openings in the Commonwealth have increased to 2.6 million positions.[249] This number grew significantly during the turbulent financial era of the COVID-19 pandemic, when the labor force participation rate dropped to 60%[250] and a rising share (38%) of households in Virginia were struggling to afford basic needs.[251]

248 FastForwardVA, "2024 FastForward Fact Sheet," January 2024, https://fastforwardva.org/wp-content/uploads/2023/01/2024-FastForward-Fact-Sheet.pdf.

249 FastForwardVA, "2024 FastForward Fact Sheet."

250 Louise Sheiner, David Wessel, and Elijah Asdourian, "The US Labor Market Post-COVID: What's Changed, and What Hasn't?" Brookings Institution, March 22, 2024, https://www.brookings.edu/articles/the-us-labor-market-post-covid-whats-changed-and-what-hasnt/#:~:text=Unemployment%20reached%2014.8%25%20in%20April,pace%20since%20the%20mid%2D1980s.

251 United Way, "Pandemic Impact: More Households Financially Insecure," n.d., https://www.unitedwaynsv.org/news/pandemic-impact-more-households-financially-insecure.

Our employers, meanwhile, have jobs to fill: Research from the National Skills Coalition shows that in Virginia, only 41% of workers have the skills needed to fill the state's most in-demand middle-skill jobs.[252]

> **Having such a diverse and previously untapped student population focused on quickly getting trained and into the workforce helped us attract the attention of more employers, who saw a new talent pipeline emerging.**

FastForwardVA is a key part of our latest strategic plan, Accelerate Opportunity. We are using the FastForwardVA model — and what we've learned over the last several years from implementing it — to form partnerships that better connect our students with Virginia's most in-demand industries throughout the state.

BACKGROUND: FASTFORWARDVA AND COMPLETE 2021

FastForwardVA was set apart early in its inception by its model of shared accountability. Even though industry-recognized credential programs tend to cost students a fraction of degree-granting programs, they remain inaccessible for many candidates, in part because Pell grants and many other traditional student financing mechanisms cannot be used to pay for most noncredit credential programs. People working full-time who are eager to change or advance their careers can find the up-front cost prohibitive.

As a result, it is the students themselves who typically front the cost of training in a credentialing program, whether through out-of-pocket expenditures or by taking on debt. Under this approach, training providers offer little incentive for students to complete the program. For the training provider's bottom line, it doesn't matter if the student never shows up or completes the course successfully, or if the student ever passes the exam to earn the credential.
At the same time, for busy students juggling professional and family obligations, tuition is a sunk cost.

Furthermore, too many students had historically completed courses with passing marks only to fail the credential exam — or not take the exam at all. That end result doesn't align with our mission to confer credible credentials that will open doors to middle-skill careers for our students.

252 Jeran Culina, "How Virginia's FastForward Program Is Transforming Workforce Training," What's New (blog), Business Leaders United for Workforce Partnerships, June 6, 2024, https://www.businessleadersunited.org/news/blog/how-virginias-fastforward-program-is-transforming-workforce-training?emci=56249115-dd2f-ef11-86d2-6045bdd9e096&emdi=2596b5e0-f32f-ef11-86d2-6045bdd9e096&ceid=11714372.

FastForwardVA addresses this lack of shared accountability by making training providers' revenue conditional upon both course completion *and* credential attainment. Our research and conversations led us to believe that incentives matter. While students always want to succeed, they are more likely to persist when they have a financial incentive to do so. And while our institutions have always been engaged wholeheartedly, a financial incentive more substantively aligns colleges with their students' success. At the same time, we envisioned that the program would eventually pay for itself through decreases in social service benefits and increases in income tax revenue.

Pivoting to a new system like FastForwardVA represented substantial financial risk for VCCS. But accepting those risks provided the most viable pathway to meeting the need. Nearly a decade later, the FastForwardVA program proved that this model is successful in bridging the skills gap in Virginia.

> **FastForwardVA addresses this lack of shared accountability by making training providers' revenue conditional upon both course completion *and* credential attainment.**

Since implementation began in 2016, FastForwardVA has seen immense success. The program currently has a 95% completion rate[253] and a 72% credential attainment rate — well ahead of the national 43% completion rate for two-year degrees[254] — and has helped students earn over 52,900 credentials, enabling them to achieve an average increase of $11,749 in annual wages.[255] What's more, 80% of FastForwardVA students say they are satisfied with their postcredential job stability, and 81% reside and work in Virginia.

A December 2023 study from Lightcast[256] found that, through programs like FastForwardVA, VCCS generated $11.6 billion in economic impact during the 2021–22 fiscal year. Overall, a VCCS education offers Virginia taxpayers a benefit-cost ratio of 2.7 — meaning that every dollar invested in VCCS generates $2.70 in taxpayer benefits over the course of a student's working life.

The success of this program has encouraged continual improvement and funding for the FastForwardVA program, including a recent state budget expansion that will include up to $24 million by fiscal year

253 FastForwardVA, "Program Details," https://fastforwardva.org/program-details/.

254 Matthew Dembicki, "Two-Year College Completion Rates Edge Up Again," Community College Daily, November 30, 2023, https://www.ccdaily.com/2023/11/two-year-college-completion-rates-up-again/.

255 FastForwardVA, "2024 FastForward Fact Sheet."

256 Lightcast, "The Economic Value of the Virginia Community College System," Executive Summary, December 2023, https://www.vccs.edu/wp-content/uploads/2024/01/VCCS_FY22_EIS_ExecSum_Final.pdf.

2026.[257] This success has allowed FastForwardVA to continue to grow and serve more people each term.

FASTFORWARDVA IMPACT AND ACCELERATE OPPORTUNITY

With new leadership postpandemic, VCCS implemented Accelerate Opportunity, our latest strategic plan that is focused on equitable outcomes for all students. The plan includes measurable objectives to assess the outcomes of our plan's overarching and supporting goals.

Accelerate Opportunity was developed in response to the COVID-19 pandemic, the social justice movements for Black lives, and the enrollment challenges for Virginia's 23 community colleges in serving communities of color. Accelerate Opportunity addresses internal structures that may be impacting students of color by adjusting program delivery modalities, teaching practices, remote services, integrated student supports, funding, and financing.

Accelerate Opportunity expands on the success of FastForwardVA by leveraging the model toward our goal of awarding 300,000 cumulative meaningful credentials by 2030 through equity in access, learning outcomes, and success for students from every race, ethnicity, gender, and socioeconomic group. This six-year plan, which went into effect in July 2024, provides a new robust initiative to pursue equity within VCCS, which will translate to a more equitable Virginia workforce. It targets five objectives — developing Virginia's talent, reaching more Virginians, delivering education to today's learners, supporting today's learners, and investing in Virginia's workforce — that we are actively tracking through a dashboard system.[258]

Accelerate Opportunity expands on the success of FastForwardVA by leveraging the model toward our goal of awarding 300,000 cumulative meaningful credentials by 2030 through equity in access, learning outcomes, and success for students from every race, ethnicity, gender, and socioeconomic group.

These objectives speak to one aim: connecting workers, employers, and skills. Two examples in particular show how the FastForwardVA program brings colleges, students, and businesses together.

The eastern region of Virginia has a robust shipbuilding and repair industry. The VCCS schools there — Virginia Peninsula, Tidewater, and

257 Culina, "How Virginia's FastForward Program Is Transforming Workforce Training."

258 Virginia's Community Colleges, "Accelerate Opportunity: 2024–2030 Statewide Strategic Plan," https://www.vccs.edu/accelerate-opportunity/#dashboard.

Paul D. Camp Community Colleges — have trained marine electricians, welders, and coatings technicians for years. With the introduction of FastForwardVA, the Commonwealth's ship repair association worked with the businesses and colleges in the region to build curricula and develop new credentials that aligned with the training programs. Our state board approved these third-party issued credentials for funding under FastForwardVA, and as of 2023, more than 2,600 students have completed the program.[259]

At Southside Virginia Community College, the rural electric cooperatives and the Commonwealth's primary public electric utility developed and launched a first-in-the-state powerline worker training program funded by FastForwardVA in 2018.[260] Students earn five industry-recognized credentials, and the program has close to a 100% employment placement rate. Last year, the program celebrated its 500th graduate. The success of this program has resulted in the industry partners and the state office investing in similar programs at four other colleges in strategic locations around Virginia.

As our talent pipeline grew, employers in the infrastructure space — including heavy construction, broadband expansion, and wind and solar energy infrastructure and distribution — saw an opportunity to work with us to hire credentialed graduates to fill their more than 100,000 open jobs across Virginia, many of which were created through funding in the federal Bipartisan Infrastructure Investment and Jobs Act.[261] The result was the Virginia Infrastructure Academy (VIA), launched in August 2022 with support from the Lumina Foundation. The VIA works with industry partners and VCCS to coordinate, scale up, and replicate FastForwardVA and other successful infrastructure-related community college training programs to align the skills needed by these employers with the credentialed graduates of our programs.

The success of this program has resulted in the industry partners and the state office investing in similar programs at four other colleges in strategic locations around Virginia.

As part of Accelerate Opportunity, we are also working toward serving 25% more incarcerated students by 2030. As of 2023, more than 116,000

259 FastForwardVA, "Exploring the Virginia Ship Repair Association's Marine Trade Training Program," February 3, 2023, https://fastforwardva.org/exploring-the-virginia-ship-repair-associations-marine-trade-training-program/.

260 Craig Butterworth, "Virginia's Community Colleges Expand FastForward Workforce Training in Rapidly Growing Solar Energy, Heavy Construction Sectors," Virginia's Community Colleges, September 18, 2018, https://www.vccs.edu/news/virginias-community-colleges-expand-fastforward-workforce-training-in-rapidly-growing-solar-energy-heavy-construction-sectors/.

261 Jim Babb, "Virginia's Community Colleges Launch Virginia Infrastructure Academy," Virginia's Community Colleges, August 11, 2022, https://www.vccs.edu/news/virginias-community-colleges-launch-virginia-infrastructure-academy/.

people were incarcerated or under supervision in Virginia (about 1.3% of the Commonwealth's total population), and 13 of the 23 VCCS colleges offer programs within correctional facilities. While many incarcerated students in prisons find transfer degrees the best fit for their career path, not all incarcerated individuals will pursue credit courses or a transfer degree, especially those who are close to release or incarcerated for shorter durations in jails or detention centers.

> **As our talent pipeline grew, employers in the infrastructure space — including heavy construction, broadband expansion, and wind and solar energy infrastructure and distribution — saw an opportunity to work with us to hire credentialed graduates to fill their more than 100,000 open jobs across Virginia**

Several of Virginia's Community Colleges offer highly successful FastForwardVA programs that provide credentials toward in-demand occupations such as HVAC, welding, truck driving (CDL Class A), building trades, drafting, electrical, heavy equipment operator and construction trades, forklift operation and logistics, solar installation, and manufacturing, to name a few. Having the ability for colleges to employ their diverse programs and the strengths of their localities increases program options and employability skills for this population while meeting employer needs.

Offering credentialing programs through FastForwardVA to justice-impacted people[262] solves three problems: It reduces the likelihood that the individual will reoffend, it offers a path toward stability and economic mobility for the justice-impacted individual and their family, and it helps Virginia employers fill much-needed roles as well as grow our economy.[263]

CAN FASTFORWARDVA BE REPLICATED?

FastForwardVA was the first program of its kind in the country, revolutionizing the standard of risk sharing for credentialed education. Students are getting industry-applicable education and credentials at a fraction of the cost, allowing Virginia to have a larger middle-skill job pool and maintain a competitive economy. Other community colleges

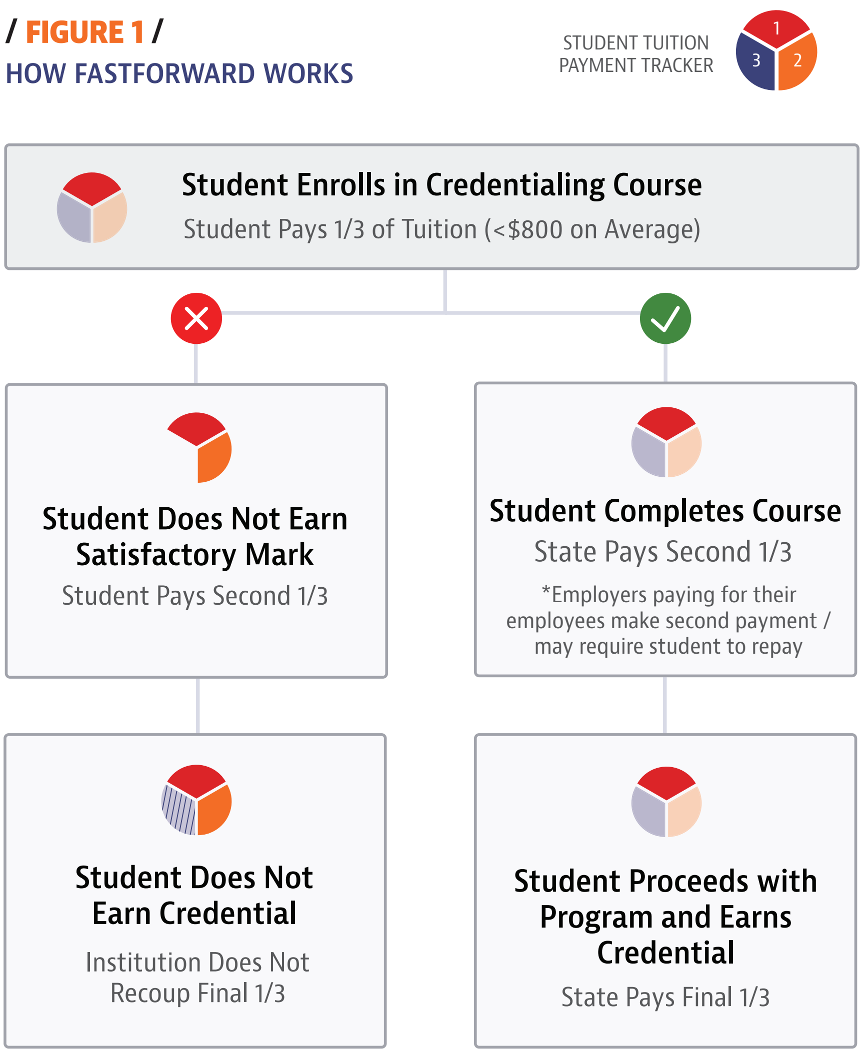
262 The term *justice-impacted* is used to describe those who have experienced arrest, incarceration, or other involvement in the criminal justice system, as well as family members directly affected by that involvement.

263 Angela Lawhorne, "Higher Education for Justice-Impacted Individuals," Advance CTE, October 19, 2023, https://careertech.org/wp-content/uploads/2024/06/Angela-Lawhorne-Real-World-Project.pdf.

across the country can learn from this model and adapt it to their own workforce needs.[264]

We are pleased to see that some of this adaptation is already underway. As of 2023, several other states have launched approximately 60 initiatives to support noncredit or short-term credentialing to connect would-be workers with employer demands.[265]

/ FIGURE 1 /
HOW FASTFORWARD WORKS



264 ERIC — Institute of Education Sciences, "Optional ERIC Coversheet — Only for Use with U.S. Department of Education Grantee Submissions," https://files.eric.ed.gov/fulltext/ED616929.pdf.

265 Stephanie Murphy, "In Our Short-Term Credential Era," Beyond Transfer (blog), Inside Higher Ed, February 29, 2024, https://www.insidehighered.com/opinion/blogs/beyond-transfer/2024/02/29/ensuring-equitable-outcomes-short-term-credentials.

The state of Indiana is now offering last-mile performance-based funding to students pursuing noncredit, short-term training for in-demand jobs — and reimbursements to the employers who hire them — through its Next Level Jobs initiative. They are now set to expand into supportive services for students.[266] In late 2020, Education Design Lab (EDL) launched the first cohort of its Community College Growth Engine (CCGE), which engaged employers, students, and community colleges as co-designers of "micro-pathways"[267] to better careers.[268]

The hardest part of creating this model was the shift in allocation of risk: VCCS would be assuming the bulk of the responsibility if this program failed. It is understandable why this risk would make others hesitant to adopt this plan: The initial financial shock could deter community colleges from entering a risk-sharing agreement.

That said, our results show that we have developed a proven model that can be replicated to reflect the needs of various communities across the country. If your college system or state is considering starting such a program, we would pass along a few lessons from our experiences with FastForwardVA:

1. Having a data system for registration and tracking is critical. We worked with a vendor to develop an "Amazon-like" registration system that streamlined the enrollment processes for students and centralized our data collection and tracking. Having comprehensive, reliable data on student outcomes has been vital as it enables us to demonstrate success and make the case for increased state support.
2. State-level data-sharing agreements with licensing agencies have helped us capture more evidence of credential completions. Broadly, the value of alignment with other relevant state initiatives cannot be overstated. More specifically, being able to match our data with other state government organizations like the Department of Motor Vehicles and the Board of Nursing has allowed us to more effectively track students' credential completions and has mitigated the risk that the colleges assume for the last third of the tuition.
3. Marketing matters. Our communications office has had a long and productive relationship with two marketing businesses who have come to know us, understand our program and

266 Michael Prebil, "Beyond 'Train and Pray': State Training Policies to Connect Workers to Good Jobs," New America, September 9, 2021, https://www.newamerica.org/education-policy/reports/beyond-train-and-pray-state-training-policies-to-connect-workers-to-good-jobs/case-study-indiana/.

267 Micro-pathways are defined by EDL as "two or more stackable credentials, including a durable skill micro-credential, that are flexibly delivered to be achieved within less than a year and result in a job at or above the local median wage, and start (l)earners on the path to an associate degree" (Education Design Lab, "Community College Growth Engine," n.d., https://eddesignlab.org/project/growthenginefund).

268 Education Design Lab, "Community College Growth Engine."

our students' interests, and deploy outreach and recruitment campaigns that have driven awareness of FastForwardVA and its benefits to students, businesses, and communities.

4. Start small and ensure credential quality and relevance. The credentials that are awarded through FastForwardVA represent only a small portion of all the credentials students earn through our programs. We have a very stringent vetting and approval process to ensure that public funds are only supporting truly meaningful training and credentials that are valued by businesses and that lead to actual employment. In many cases, our business partners guarantee interviews to FastForwardVA completers and often come to campus to recruit our students right out of the classroom. But this only happens because they know that we focused on quality and delivering credentials that are relevant to their workplace needs.

5. Track outcomes, not just completions. While the funding model is based on course and credential completion, those are the milestones along the way to the real, ultimate outcomes for our students. Employment, wage gains, upward mobility, health care coverage, and self-sufficiency are the most important results, and we work hard to be able to track and report on those outcomes.

> **...being able to match our data with other state government organizations like the Department of Motor Vehicles and the Board of Nursing has allowed us to more effectively track students' credential completions and has mitigated the risk that the colleges assume for the last third of the tuition.**

As FastForwardVA continues to expand, we will have the opportunity to learn and improve as we go. For instance, VCCS developed a task force that analyzed disaggregated data to inform the goals and strategies of Accelerate Opportunity. The work of this task force revealed some deep inequities in how students were supported from enrollment to completion within VCCS. This finding was instrumental in shaping the strategic plan's five core objectives. An evaluation of the labor market outcomes of FastForwardVA, based on data collected since the program's launch, is currently underway.[269] Once completed, it will provide us with even more insights into how to grow and expand pay-for-performance models in ways that meet the needs of all Virginians seeking stable, well-paid work.

269 Di Xu, "Exploring Noncredit CTE Program Factors that Strengthen Workforce Pipelines," IES — Institute of Education Sciences, 2022, https://ies.ed.gov/funding/grantsearch/details.asp?ID=5773.

Risk sharing as a financing model paves the way for opportunities not only for students but also for community colleges to pursue additional initiatives. This forward mobility allows educators and students to reach new heights in their academic and industry goals. As FastForwardVA grows over the coming years, we hope to see other community college systems explore the model.

David Doré became the tenth Chancellor of the Virginia Community College System (VCCS) on April 1, 2023.

18

IMPROVING OUTCOMES (MEASUREMENT):

A NEW SURVEY OF COMMUNITY COLLEGE SUCCESS

/ **TOM BARKIN AND LAURA ULLRICH**
FEDERAL RESERVE BANK OF RICHMOND

As a regional Federal Reserve Bank, we at the Richmond Fed spend significant time on the ground in the Fifth District, which spans the Carolinas, D.C., Maryland, Virginia, and West Virginia. Through conversations with business and community leaders, we seek to understand the current state and trajectory of the regional economy. We approach each interaction with our dual mandate of price stability and maximum employment in mind. So, the labor market is a recurring, key topic of conversation: Who in the community lacks employment opportunities? Which sectors lack workers? And importantly, what efforts are underway to help fill the gaps?

In these conversations, one player emerges time and time again as a crucial partner in ongoing and emerging workforce development initiatives: community colleges.

THE MANY ROLES OF COMMUNITY COLLEGES

Community colleges partner with elementary and middle schools to expose kids to in-demand skills and careers. They partner with high schools to offer advanced learning opportunities via dual enrollment and to connect students with apprenticeships. They partner with nearby four-year institutions to prepare students for a bachelor's degree. They partner with state, regional, and local governments to build a pipeline of workers for an area's strategic sectors. And they partner with local employers to train potential employees and upskill existing ones.

> **In these conversations, one player emerges time and time again as a crucial partner in ongoing and emerging workforce development initiatives: community colleges.**

Why are community colleges so well positioned to help? First, many of their educational programs help prepare students for jobs in the skilled trades, the very segment of the labor market in which we hear the greatest imbalance between available jobs and workers. Second, community colleges have broad scope; they are able to serve students with a wide range of goals and timelines. Third, their program offerings tend to be relatively low-cost and of a short duration, optimal for upskilling or reskilling the workforce via stackable credentials. And finally, community colleges often educate students who come from and remain in their local service areas, meaning program offerings can be tailored to local needs. For example, one may find a boat-building program at a coastal North Carolina community college, while in the South Carolina Upstate region, one may see an advanced manufacturing program serving the area's growing cluster of manufacturing plants.

CHALLENGES FACING COMMUNITY COLLEGES

Community college finances are under stress. Nationally, two-year enrollment has stabilized but remains below prepandemic levels. Federal pandemic aid has ceased, and many community colleges must rely on grants to supplement funds for course and programmatic offerings.

At the same time, costs are rising. Wraparound services (e.g., child care, mental health support), which are increasingly recognized as an essential complement to educational offerings, especially for nontraditional students, come at a cost. Further, both student and employer demand are moving away from traditional associate degree programs and toward more costly programs, such as nursing and welding. These high-demand programs require expensive equipment, as well as the recruitment and retention of faculty that can otherwise work in highly remunerative fields.

Why isn't there more significant investment in community colleges?

In part, there is quite a bit of skepticism regarding community college outcomes. The average graduation rate at public community colleges, as reported by the U.S. Department of Education, is 33.8%. In comparison, public four-year colleges have completion rates of 55.8%. For a student choosing where to study, a parent or guidance counselor advising a student, or a philanthropic or government institution deciding where to direct resources, the lower reported success rate at community colleges understandably brings hesitation.

THE TRADITIONAL MEASURE OF SUCCESS

In conversations with community college leaders across the Fifth District, we heard fervent pushback against this criticism of low success. They did not take issue with outcomes-focused decision making generally; they recognized that any investor is wise to look for a return on their investment. Rather, they took issue with the specific metrics being used to measure success.

This traditional graduation rate does not fully capture the breadth of students that community colleges serve, nor the contributions they offer communities. In other words, if you think of the graduation rate as a fraction, with the number of “successful students” in the numerator and the ‘total number of students served’ in the denominator, both parts undercount community colleges’ work.

IPEDS, or fully, the Integrated Postsecondary Education Data System, is the official higher education data reporting system for the U.S. Department of Education, and it provides a wealth of information. The traditional IPEDS graduation rate is a commonly used statistic to gauge the success of higher education institutions. Specifically, the rate measures how many first-time, full-time, degree- and certificate-seeking students finish within 150% of the expected time to completion. Going back to the average graduation rate for community colleges we mentioned earlier, that means only about a third of first-time, full-time, degree-seeking students at community colleges graduated within three years. IPEDS does have other metrics, including Outcome Measures, which uses a broader cohort, but most stakeholders use the traditional IPEDS graduation rate.

This traditional graduation rate does not fully capture the breadth of students that community colleges serve, nor the contributions they offer communities. In other words, if you think of the graduation rate as a fraction, with the number of “successful students” in the numerator and the “total number of students served” in the denominator, both parts undercount community colleges’ work.

Consider the denominator first: the total number of students served. The traditional measure leaves out a significant share of students that community colleges educate:

- **Students with previous college experience.** Community college students are older on average. Thus, they are more likely to have some college experience already under their belt as they seek to transition careers, upskill, or reenter the workforce.
- **Part-time students.** Partially due to older age, community college students are more likely to be employed or care for a family while enrolled, precluding full-time enrollment for many.

Now, consider the numerator: the number of community college students deemed successful. The traditional measure only counts those who graduate with a degree or long-term certificate within 150% of expected time to completion. Who is left out?

- **Students who take longer to graduate:** As discussed, community college students often attend part-time while working or caring for family members, meaning they may progress slowly. In the traditional graduation rate, even those who are still in good academic standing and on track to complete are counted as a failure if they take too long.
- **Students who attain nondegree outcomes:** Workforce development needs vary across communities. It's not a one-size-fits-all problem. Accordingly, community colleges do not offer a one-size-fits-all solution. The traditional graduation rate only considers degree and long-term certificate-seeking students, but community colleges fill voids in their communities through other avenues, including shorter-term certificates or industry credentials.
- **Students who transfer to a four-year institution without completing their community college degree.** Some students transfer to a four-year institution after completing an associate degree; others do so after just a semester or two of enrollment at the community college.

The traditional IPEDS graduation rate has its use case; it allows one to compare across two-year and four-year institutions with the same yardstick, which is helpful in many scenarios. As a stand-alone metric for community college success, however, it fails to capture a full view of both the student population and its outcomes.

> **Workforce development needs vary across communities. It's not a one size-fits-all problem. Accordingly, community colleges do not offer a one-size-fits-all solution.**

A NEW SURVEY TO MEASURE OUTCOMES

How well do community colleges perform if assessed with a more tailored success rate? The Richmond Fed recognized we could help to answer this question. In 2022, we launched the Survey of Community College Outcomes (SCCO), with the goal of producing a more comprehensive yardstick with which to measure community college contributions.

> **The traditional graduation rate only considers degree and long-term certificate-seeking students, but community colleges fill voids in their communities through other avenues, including shorter-term certificates or industry credentials.**

The resulting measure is the Richmond Fed's Success Rate. Our rate expands upon the traditional graduation rate to account for:

- **Nontraditional students:** Our denominator reflects a broader definition of the "total number of students served." Given that community colleges are likely to serve nontraditional students, such as those with prior college experience, part-time students, we include them in our success metric.
- **Nondegree success and longer student timelines:** Our numerator reflects a broader definition of success, counting the attainment of any degree, diploma, certificate, or industry-recognized credential, transfers to a four-year institution, and persistence in enrollment as positive outcomes. Furthermore, we allow for a longer time frame of four years, rather than the traditional 150% time to completion.

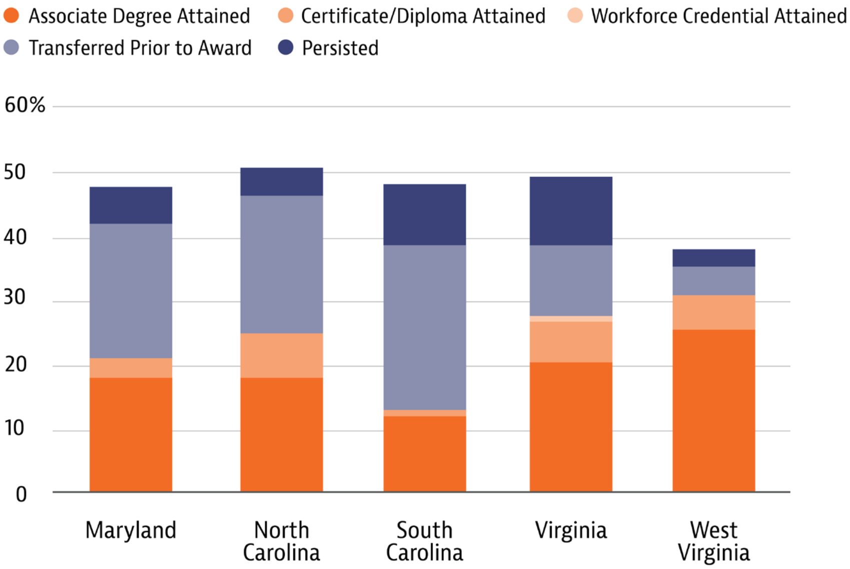
As viewed through the lens of the Federal Reserve's maximum employment mandate, all these student outcomes represent positive steps toward a more robust labor force. They are worth counting.

FINDINGS FROM THE 2024 RICHMOND FED SCCO

The 2024 survey included 121 community colleges in Maryland, North Carolina, South Carolina, Virginia, and West Virginia. We found community colleges do perform better on average if assessed with a more tailored success rate. In 2024, the Richmond Fed's Success Rate across the surveyed schools was 49%. That is 19 percentage points higher than the traditional IPEDS graduation rate for the same schools (30%).

/ FIGURE 1 /

SUCCESS BY STATE IN THE 2024 SCCO



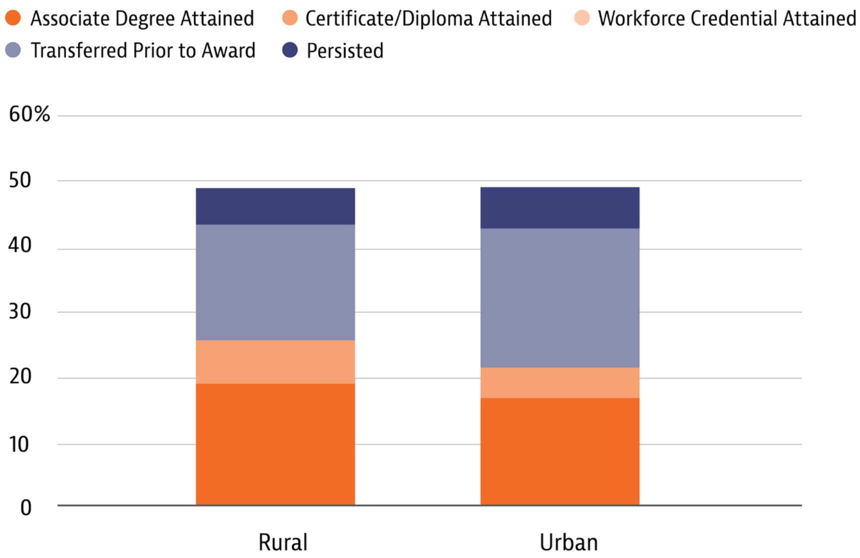
Source: Survey of Community College Outcomes (SCCO) 2024

Our broader definition of success does not guarantee a higher success rate given that we consider a broader student population base. Nontraditional students tend to face greater barriers to success. In fact, part-time students have a lower success rate at 46% compared to 54% for full-time students.

So, how is the average success rate higher in our survey? It comes down to a flexible definition of success that allows for a wider range of positive outcomes. Consider the five surveyed states: Maryland, North Carolina, South Carolina, Virginia, and West Virginia (Figure 1). When we look only at the percentage of associate degrees attained, West Virginia has the highest success rate. Once other pathways to success are considered, especially transfers and persistence, the other four states not only match but actually surpass West Virginia.

/ **FIGURE 2** /

RURAL VERSUS URBAN SUCCESS IN THE 2024 SCCO



Source: Survey of Community College Outcomes (SCCO) 2024

The flexible nature of the success rate allows two community colleges to achieve similar success rates through different avenues. For example, urban and rural success rates both came in at 49% (Figure 2). But those success rates are reached via different pathways. In urban areas, where a higher percentage of jobs require a bachelor's degree or higher, community colleges see more students transferring prior to award or credential attainment. In more rural areas, where fewer jobs require higher-level degrees, students achieve more associate degrees.

> **The flexible nature of the [SCCO] success rate allows two community colleges to achieve similar success rates through different avenues.**

When we launched the SCCO, we never imagined the excitement and support it would generate both inside and outside of the Fifth District. We look forward to expanding the survey to new states outside of our district in 2025 and continuing to deepen our understanding of these crucial players in the workforce development pipeline.

A BROADER LESSON ON MEASURING OUTCOMES

Resources are finite. Stakeholders must be able to compare options and make informed decisions about how to distribute them. Outcomes data can provide that necessary information. As seen in this chapter, however, it's not just about measuring outcomes, but measuring the right ones.

Tom Barkin is the President and CEO of the Federal Reserve Bank of Richmond, a position he has held since 2018.

Laura Ullrich served as a Regional Economist and Senior Manager at the Federal Reserve Bank of Richmond from 2019-2025.

19

PATHS TO PROVIDING SUPPORTS FOR WOMEN'S PARTICIPATION IN WORKFORCE DEVELOPMENT PROGRAMS

/ **KATE BAHN** INSTITUTE FOR WOMEN'S POLICY RESEARCH

INTRODUCTION

Workforce development programs, and the funding behind them, are designed to expand skills development and labor market opportunities to those who face barriers to upward mobility. Women without a college degree are emblematic of those who should be targeted by such programs, which offer an alternative career pathway for women who have been limited by gendered segregation in our labor market — particularly, women seeking work in male-dominated fields like construction or high-growth fields like technology. Even within women-dominated fields such as health care and education, upward mobility may be limited without additional training and certification. These pathways are also often associated with better pay and benefits and more long-term job security for women.

Yet, supporting a dynamic labor market with more opportunities for women is easier said than done. Many of the barriers that women face in the labor market are not fully addressed through education and training alone, resulting in a persistent and unacceptable gender wage gap at all levels of training and education. In fact, recent research from the U.S. Census Bureau finds that short-term certificates have the greatest gender wage gap.[270] In contrast, women with a certificate from a longer-term one- to two-year program, like those for dental hygienists and phlebotomists, have a smaller gender wage gap than those with a certificate from a short-term program. In other words, training is a necessary but not sufficient condition: It's the first step to upward mobility, but on its own will not guarantee that women will be able to reap the same labor market benefits as men.

In other words, training is a necessary but not sufficient condition: It's the first step to upward mobility, but on its own will not guarantee that women will be able to reap the same labor market benefits as men.

Wraparound services and other supportive services in workforce development programs are essential to overcoming some of these barriers and ensuring that training is accessible to all potential learners. Wraparound services commonly include basic needs such as child care, food access, and transportation that facilitate participation in training programs. Under a more expansive definition, these services can also include income supports, such as stipends during training, public benefits, housing subsidies, and health care. These services can be directly provided by a workforce development program, or the program can facilitate access to existing services. Wraparound services are often part of the design of programs that are specifically targeted to disadvantaged groups. Research on barriers to women's upward mobility clearly demonstrates their importance for women looking to grow their skill sets and career pathways.

Supportive services are not just important for accomplishing the goals of workforce development programs targeted to specific groups like women; they also lead to broader benefits across the economy. The United States is unique among advanced economies in having experienced declining female labor force participation since 2000[271], despite some signs of improvement in the aftermath of the COVID-19 pandemic.[272] Indeed, the research on women's declining labor force participation speculates that it is precisely the lack of social support that has left U.S. women behind compared to other advanced economies like those in Europe.[273] And broadly, a better-trained workforce improves

270 Ariel J. Binder et al., "The Gender Pay Gap and Its Determinants across the Human Capital Distribution" (Discussion Paper CES 23-31, U.S. Census Bureau, Center for Economic Studies, Washington, D.C., June 2023).

271 Sandra E. Black, Diane Whitmore Schanzenbach, and Audrey Breitwieser, "The Recent Decline in Women's Labor Force Participation," Brookings Institution, October 19, 2017, https://www.brookings.edu/articles/the-recent-decline-in-womens-labor-force-participation/.

272 "Labor Force Participation Rate - Women." Federal Reserve Economic Data (FRED), February 7, 2025. https://fred.stlouisfed.org/series/LNS11300002.

273 Francine D. Blau and Lawrence M. Kahn, "Female Labor Supply: Why Is the United States Falling Behind?" American Economic Review 103, no. 3 (May 2013): 251–56.

overall economic productivity, ensuring the continued resiliency and competitiveness of the U.S. economy.[274] When more women have access to workforce development that is paired with social supports and jobs with adequate benefits, the pool of talent available to businesses expands, and women's labor force participation has the potential to grow.

> **Supportive services are not just important for accomplishing the goals of workforce development programs targeted to specific groups like women; they also lead to broader benefits across the economy.**

THE NEED FOR SUPPORTS IN WORKFORCE DEVELOPMENT PROGRAMS

Wraparound supports are not a monolith; key to their success is understanding the barriers the targeted groups face. Women workers are one of the primary targets of workforce development efforts, particularly women in traditionally male-dominated fields such as building trades or in high-tech occupations that offer good salaries without college degree requirements. Looking to the broader literature on the barriers to upward mobility that women face, we can begin to understand what supports would be most helpful to their success.

Note that many of the barriers that women face to participation in these programs — including housing instability, family responsibilities, and discrimination and biases within industries — are true of many marginalized groups like justice-involved individuals,[275] displaced workers, and workers from low-income communities, so the findings here apply broadly.

While women are now half of the workforce, they still face significant barriers to full inclusion. Women are increasingly likely to be breadwinners for their families,[276] either supporting children as a single parent or earning at least half of the family income in a two-parent household. Yet women continue to be primarily responsible for providing for caregiving needs — which can include child care, elder care, spousal care, and care for disabled family members — even as

---

274 V. Scott H. Solberg, "Career and Workforce Development and Its Role in Maintaining a Competitive Global Economy," in The Handbook of Career and Workforce Development, ed. V. Scott H. Solberg and Saba Rasheed Ali (New York: Routledge, 2017), 15–38.

275 "Justice involved" refers to current or prior experience with arrest and/or incarceration, including as a juvenile.

276 Sarah Jane Glynn, "The New Breadwinners: 2010 Update," Center for American Progress, April 16, 2012, https://www.americanprogress.org/article/the-new-breadwinners-2010-update/.

their families depend on their earnings.[277] As an organizing principle, the supports for participants of workforce development programs need to be designed to meet family needs so that women are able to participate. "Family needs" is a conceptually broad term but includes income and the material needs it otherwise provides — such as housing, food, transportation, and health care. It also includes the flexibility and supports to facilitate caregiving, such as alternative schedules and child care access.

> **As an organizing principle, the supports for participants of workforce development programs need to be designed to meet family needs so that women are able to participate.**

INCOME SUPPORTS

Income supports are among the most basic needs for workers who want to invest in additional training but face labor market barriers. Rather than creating a disincentive to work, antipoverty income supports, according to research findings, facilitate upward mobility beyond low-wage work,[278] as does more generous unemployment insurance.[279] While income supports are not commonly included as a so-called wraparound support for workforce development, income during training can help participants access the other needs they have — such as food, transportation, and housing — to facilitate entrance into and completion of a program.

Though they are increasingly likely to be breadwinners, women still have less access to wealth,[280] making income a fundamental necessity while seeking additional training. Yet insufficient alternative income streams while in training may lead many women to live paycheck to paycheck in dead-end jobs rather than invest in new career pathways.

> **The growing cost of rental housing in the United States effectively forces many workers to choose to make ends meet through low-wage work rather than invest in additional training.**

277 Katherine Gallagher Robbins and Jessica Mason, "Americans' Unpaid Caregiving Is Worth More Than $1 Trillion Annually — and Women Are Doing Two-Thirds of the Work" (blog), National Partnership for Women and Families, June 27, 2024, https://nationalpartnership.org/americans-unpaid-caregiving-worth-1-trillion-annually-women-two-thirds-work/.

278 Michael A. Schultz, "Bring the Households Back In: The Effect of Poverty on the Mobility of Low-Wage Workers to Better Wages" (working paper, Washington Center for Equitable Growth, August 2021).

279 Ammar Farooq, Adriana D. Kugler, and Umberto Muratori, "Do Unemployment Insurance Benefits Improve Match and Employer Quality? Evidence from Recent U.S. Recessions," (Working Paper w27574, National Bureau of Economic Research, July 2020).

280 Angela Wang Lee, "The Gender Wealth Gap in the United States: Trends and Explanations," Social Science Research 107 (September 2022): 102745.

For example, Chapters 8 and 9 of this volume describe the living stipends provided to participants during training through the nationwide Google Career Certificate Fund and through New Jersey's Pay It Forward program.

Some training programs, particularly those involving apprenticeships, directly provide income to participants. However, women seeking these opportunities must contend with two major barriers: the small pool of available apprenticeships in the U.S. and the gender gaps and biases[281] within the ones that are available. The United States has fewer than 700,000 registered apprenticeships, and they are more prevalent in male-dominated fields; women make up only 14% of participants in these programs.[282] Additionally, research from Canada finds that women still tend to earn less than men in apprenticeships in male-dominated fields.[283]

HOUSING

Similar to the necessity of income supports, a stable foundation for basic needs like housing is an input to upward mobility rather than a disincentive. Housing costs can be an additional barrier to participation in workforce development programs. The growing cost of rental housing in the United States[284] effectively forces many workers to choose to make ends meet through low-wage work rather than invest in additional training. Publicly funded programs designed to alleviate housing costs often have income limits, which, combined with the already insufficient availability of subsidies,[285] may not support participation in workforce development programs.

CAREGIVING SUPPORTS

From child care to elder care, as well as caring for one's own health, research finds that for women, care responsibilities limit schedule flexibility and total time available to devote to traditional workforce development programs. Though more than half of low-income parents have a high school degree or less, and less than 10% are actively

---

281 See Alison Fuller and Lorna Unwin, "The Challenges Facing Young Women in Apprenticeships," in Gender Differences in Aspirations and Attainment: A Life Course Perspective, ed. Ingrid Schoon and Jacquelynne S. Eccles (Cambridge: Cambridge University Press, 2014): 182–99, and Linda Simon and Kira Clarke, "Apprenticeships Should Work for Women Too!" Education + Training 58, no. 6 (July 2016): 578–96.

282 Ariane Hegewisch, "As Apprenticeships Expand, Breaking Down Occupational Segregation Is Key to Women's Economic Success: Gender, Race, and the Wage Gap in Apprenticeship," Institute for Women's Policy Research, March 2024.

283 Kristyn Frank and Marc Frenette, "How Do Women in Male-Dominated Apprenticeships Fare in the Labour Market?" Statistics Canada, March 13, 2019.

284 Whitney Airgood-Obrycki, Alexander Hermann, and Sophia Wedeen, "'The Rent Eats First': Rental Housing Unaffordability in the United States," Housing Policy Debate 33, no. 6 (2023): 1272–92.

285 James A. Riccio, "Subsidized Housing and Employment: Building Evidence of What Works," in Revisiting Rental Housing: Policies, Programs, and Priorities, ed. Nicolas P. Retsinas and Eric S. Belsky (Washington, D.C.: Brookings Institute Press, Harvard University Joint Center for Housing Studies, 2008): 191–224.

engaged in seeking additional training or education,[286] caregiving responsibilities have been found to limit women's labor force participation, with little effect on similar men. Research finds that, in the workplace, a culture of flexibility given to care responsibilities can reduce the psychological distress resulting from work-life conflict more than offering flexible scheduling or flexible work locations, particularly for women workers.[287]

HEALTH CARE

An additional common need among workforce development program participants in general — and women in particular — is access to health care. In one survey of workforce development programs in Chicago, program participants — the majority of whom were women — listed physical and psychological health conditions as being among the most common causes of difficulty finding employment.[288] While many traditional four-year colleges require students to have health insurance and may offer their own insurance programs, typically the only path for training program participants to get health insurance through the program is if the sponsoring institution or employer already offers it to other students or workers — and even then, the participant may not be eligible.

> **Though more than half of low-income parents have a high school degree or less, and less than 10% are actively engaged in seeking additional training or education, caregiving responsibilities have been found to limit women's labor force participation, with little effect on similar men.**

Medicaid is one option that may be available to workforce development program participants, but accessibility varies across the states, and proposals proven harmful in some cases have been made to connect recipiency to work requirements[289] that could limit participation in workforce programs.[290] For example, when Arkansas experimented with Medicaid work requirements in 2018, one-quarter

286 Yeonjung Lee and Fengyan Tang, "More Caregiving, Less Working: Caregiving Roles and Gender Difference," Journal of Applied Gerontology 34, no. 4 (2015): 465–83.

287 Deniz Yucel and Wen Fan, "Workplace Flexibility, Work–Family Interface, and Psychological Distress: Differences by Family Caregiving Obligations and Gender," Applied Research in Quality of Life 18, no. 4 (2023): 1825–47.

288 Dana Madigan and Tessa Bonney, "Reemployment Needs and Barriers of Users of Workforce Development Programs: A Mixed-Methods Study," Workplace Health & Safety 69, no.11 (2021): 494–505.

289 Benjamin D. Sommers et al., "Medicaid Work Requirements in Arkansas: Two-Year Impacts on Coverage, Employment, and Affordability of Care," *Health Affairs* 39, no. 9 (September 2020): 1522–30.

290 Anna Cielinksi, "Workforce System Not Funded or Structured to Help Medicaid Recipients Keep Health Care," fact sheet, Center for Law and Social Policy, October 2018, https://www.clasp.org/sites/default/files/publications/2018/10/2018_workforcesystemnotfunded.pdf.

of the state's Medicaid recipients lost coverage within the first half year.[291] Other economics research supports this connection between health, labor market mobility, and gender, finding that states with more generous Medicaid eligibility have higher rates of upward occupational mobility, with greater impacts on women workers.[292]

In one survey of workforce development programs in Chicago, program participants — the majority of whom were women — listed physical and psychological health conditions as being among the most common causes of difficulty finding employment.

Material needs and caregiving needs are two broad areas that must be satisfied for women to be able to invest time and energy into workforce development programs. Given women's role as the primary breadwinners and caregivers with families, lack of access to these supports while in training may deter many women from starting or completing additional training — even though doing so may limit their own upward economic mobility as well as that of their families.

EXISTING APPROACHES TO SUPPORTING WOMEN IN WORKFORCE DEVELOPMENT PROGRAMS

Many workforce development programs are aware of the barriers that women and other disadvantaged groups face in participating in career training. From directly providing supports to helping participants navigate publicly available supports and connecting with third-party intermediaries, workforce development programs must match barriers of the particular populations they serve with appropriate solutions to help them complete the training successfully.

Some supports may be easy to provide or offer light-touch support but have minimal impact on program success or long-term outcomes. Other approaches require overhauling workforce development systems or forming innovative new partnerships to support those who are seeking new skills along new career pathways. And public policy can also be improved upon with these goals in mind.

PAID TRAINING OPPORTUNITIES

While not typically considered a "wraparound support," apprenticeships and other paid training programs are the most straightforward way for program participants to ensure basic income needs are met while

291 LaDonna Pavetti et al., "Expanding Work Requirements Would Make It Harder for People to Meet Basic Needs," Center on Budget and Policy Priorities, March 15, 2023, https://www.cbpp.org/research/poverty-and-inequality/expanding-work-requirements-would-make-it-harder-for-people-to-meet.

292 Ammar Farooq and Adriana Kugler, "Impacts of Public Health Insurance on Occupational Upgrading," ILR Review 75, no. 1 (2022): 225–50.

advancing their careers. When a training program offers its participants an hourly wage or a living stipend, the need for additional and custom supportive services is alleviated: Participants can use the cash income to exercise their own preferences related to housing, transportation, and food, thus enabling them to better provide for their needs as well as those of their families.[293]

> **Given women's role as the primary breadwinners and caregivers with families, lack of access to these supports while in training may deter many women from starting or completing additional training — even though doing so may limit their own upward economic mobility as well as that of their families.**

Yet many paid training opportunities are not available or accessible to women seeking additional career training. Targeted program recruitment outreach to women, as well as antidiscrimination training within apprenticeship programs, is necessary to overcome the biases that limit participation. And of course, adequate program funding is needed to offer income supports to all training participants.

Some workforce development programs offer living stipends, short-term grants, or loans, which may be tied to program success. Participants in New Jersey's Pay It Forward fund, outlined in Chapter 9 of this volume, can receive emergency grants,[294] for last-minute small-dollar issues that could otherwise forestall program completion. These grants do not need to be repaid. Other programs, including Google's Career Certificate Fund[295], offer a living stipend with repayment dependent on earning at least a minimum annual salary following completion.

CONNECTING PARTICIPANTS TO EXISTING SUPPORTS

Broadly, directly providing supportive services to program participants is an inefficient practice for workforce development programs. Instead, they should actively partner with local public assistance offices, direct service providers, and/or third-party intermediaries to connect participants to existing supports — an approach illustrated by the First Step Staffing model described in Chapter 5 of this volume.

Workforce development programs have also supported participants in their basic income and material needs by helping to connect them

293 Pieta Blakely et al., "Labor Market Study of Greater New Haven and the Valley," Community Foundation for Greater New Haven, June 2023, https://d33euwcbjqojuo.cloudfront.net/documents/RLMA-Full-Report-TCFVCF-FINAL-8-31-23CB.pdf.

294 Georgia State University, "Panther Retention Grants," Student Success Programs at Georgia State, June 22, 2022, https://success.students.gsu.edu/panther-retention-grants/.

295 See chapter 8 of this volume, "Google Career Certificates Fund: Investing in the Next Generation of Tech Workers."

with publicly available antipoverty and income support programs. This so-called comprehensive approach takes a holistic view of program participants and offers professional guidance, usually through a social worker on staff, in identifying material needs and finding solutions available in the current social services ecosphere.[296] This additional programmatic support is ever more critical for women's participation and completion.

However, the design of public policy itself may limit some of the effectiveness of this approach. For example, many antipoverty programs require an individual to be actively looking for work or currently working. Being enrolled in a training program may or may not meet this threshold, depending on the state and the training program itself. In addition, while Temporary Assistance for Needy Families (TANF) emphasizes short-term training, we know that short-term certificates have greater gender wage gaps compared to longer-term certificates, and states are limited by what programs can be included while maintaining TANF eligibility.[297] TANF also has a work requirement, and unemployment insurance requires the recipient to be actively looking for work. Notably, however, the training programs approved by the Workforce Innovation and Opportunity Act (WIOA) expand TANF and unemployment insurance benefits to people currently in training. Even with this exception, these programs still have limitations — largely based on how long someone can receive support while in training.

> **...many antipoverty programs require an individual to be actively looking for work or currently working. Being enrolled in a training program may or may not meet this threshold, depending on the state and the training program itself.**

While transportation is perhaps less of a fundamental material need, many workforce development programs have encouraged participation and completion through directly supporting transportation needs, such as through pretax transportation passes, which are often available to employed workers. Existing research has found that such programs are popular for workers but underprovided, particularly for low-income workers,[298] suggesting unmet demand for transportation support through subsidies in existing systems. The emergency grants available

296 Elizabeth Weigensberg et al., "Inside the Black Box: What Makes Workforce Development Programs Successful?" Chapin Hall at the University of Chicago, 2012, https://www.atlantafed.org/-/media/Documents/podcasts/economicdevelopment/InsidetheBlackBox.pdf.

297 Heather Hahn et al. "Supporting the Child Care and Workforce Development Needs of TANF Families," Urban Institute, April 2016, https://www.urban.org/sites/default/files/publication/79481/2000692-Supporting-the-Child-Care-and-Workforce-Development-Needs-of-TANF-Families.pdf.

298 Ugo Lachapelle, "Employer Subsidized Public Transit Pass: Assessing Disparities in Access, Use, and Latent Demand," Case Studies on Transport Policy 6, no. 3 (September 2018): 353–63.

to New Jersey Pay It Forward participants, for instance, can be used to cover one-time transportation expenses like unexpected car repairs.[299]

Caregiving remains one of the starkest barriers to women seeking time and energy to participate in additional training. Public funds available through WIOA can be used to support child care services, but the low overall level of resources means many programs opt out of using their limited funds for this purpose.[300] Workforce development systems can also support participants in accessing child care supports through other existing programs, including Head Start, subsidies from Child Care Development Block Grants and Community Development Block Grants, universal prekindergarten, and many others,[301] but waitlists that already exist for these programs make them difficult to access.

Limitations on the types of training programs compliant with care subsidies or accessibility also impose challenges. Like other public supports, states must tailor eligibility to ensure people can participate in long-term, high-quality workforce development programs while receiving public support, rather than time-limited programs that may have less successful labor market outcomes. Programs can also be designed with schedules tailored to school schedules or other caregiving needs.

Like other public supports, states must tailor eligibility to ensure people can participate in long-term, high-quality workforce development programs while receiving public support, rather than time-limited programs that may have less successful labor market outcomes.

While some attention has been paid to the child care challenges of low-income parents seeking to advance their careers, less attention has been devoted to other family caregiving needs, such as elder care, spousal care, or care for disabled family members. On any given day, over 15% of women workers over age 55 provide care for another adult.[302] Some lessons from innovation in providing child care can be applied to other types of care, including support for navigating subsidies and schedule flexibility. For workforce development

299 "New Jersey Pay It Forward Program," Social Finance, December 4, 2024, https://socialfinance.org/work/new-jersey/.

300 Sapna Mehta and Emily Andrews, "Updating WIOA to Empower Workers and Create Shared Prosperity," Center for Law and Social Policy, April 19, 2022, https://www.clasp.org/publications/report/brief/updating-wioa-to-empower-workers-and-create-shared-prosperity/.

301 Shayne Spaulding, "The Workforce Innovation and Opportunity Act and Child Care for Low-Income Parents," Urban Institute, July 16, 2015, https://www.urban.org/research/publication/workforce-innovation-and-opportunity-act-and-child-care-low-income-parents.

302 Gretchen Livingston, "Older Women and Unpaid Caregiving in the U.S.," Issue Brief, Women's Bureau, U.S. Department of Labor, November 2023, https://www.dol.gov/sites/dolgov/files/WB/2023OlderWomenUnpaidCaregiving.pdf.

programs to be available to older women, other types of care supports must be included in the full suite of wraparound supports.

For programs to be successful in offering supportive services, they also need to be in tune with what is needed for the field that a person is getting training in. While many workforce development programs offer such direct training, they may not offer a holistic approach inclusive of the supports that would be required to advance in a field.[303] For women looking to advance in male-dominated fields, existing skills can be leveraged for success, such as the normative perception of women's adeptness at "soft skills" that can make one successful in an office place.

Existing approaches to wraparound supports highlight pathways to greater inclusion of women but also point to limitations within current frameworks of training programs and public policy. Therefore, effective solutions must be bold and broad, combining the efforts of workforce development programs and local workforce development boards along with public policy advocacy to create a reinforcing system that supports women looking to advance their skills.

Existing approaches to wraparound supports highlight pathways to greater inclusion of women but also point to limitations within current frameworks of training programs and public policy.

BEST PRACTICES FOR WORKFORCE DEVELOPMENT PROGRAMS TO SUPPORT WOMEN AND OTHER DISADVANTAGED GROUPS

Three fundamental requirements are needed for workforce development programs and their ecosystems to support women's career pathways:

1. Workforce training providers partnering with local agencies and care support providers to ensure access and flexibility.304
2. Holistic support of participants through social worker support within programs.
3. Workforce development programs and local workforce development boards advocating for increased public services available locally through improving eligibility and increased funding from both public and private sources, such as third-party

303 Vanessa Bennett and Sara Lamback, "Transforming IT Training Programs into Successful Career On-Ramps," Jobs for the Future, July 2020.

304 Gina Adams and Semhar Gebrekristos, "Local Workforce Development Boards and Child Care: Insights from Five Sites," Urban Institute, August 2018, https://www.urban.org/sites/default/files/publication/98850/local_workforce_development_boards_and_child_care_0.pdf.

intermediaries. This includes outcomes-based financing initiatives that pool capital from public, nonprofit, and private sources.

To connect participants to available wraparound supports, well-trained and adequately paid social workers are the linchpin to ensuring a holistic approach is adopted. Social workers have the appropriate training to meet program participants where they are and work within systems to ensure needs are met. Unfortunately, social workers are undervalued, and research finds they are likewise often underpaid.[305] To satisfy the need for wraparound supports, workforce development programs must recognize this essential service as core to their operations.

Local workforce development boards and programs must also strongly advocate for public policy changes so systems can work together to support women as breadwinners and caregivers. Many of the most promising approaches to supporting women in workforce development programs rely on public policies that are generous and accessible. For example, existing public policies with work requirements or requirements to actively seek work clearly limit participants' ability to enroll in long-term, high-quality workforce development programs, like one- to two-year certificate programs.

Other social services that are linked to stringent income eligibility may be a disincentive to program participation, since they could foster future instability without the stable foundation that subsidized housing and Medicaid provide. And, perhaps most important, the already low levels of generosity in publicly funded programs have been shown to consistently limit upward mobility rather than incentivize work. Workforce development boards can be a powerful force in advocating for policy changes that would benefit their participants as well as their broader communities.

Finally, advocating for increased funding for wraparound supports is a perennial objective but even more necessary when considering the needs of women seeking to advance their careers through workforce development. Inadequate funding is an imperfect trade-off since it exacerbates existing inequalities regarding access to and outcomes from training. Those who would benefit the most from gaining skills in new, high-growth fields cannot participate if these programs are not funded sufficiently to provide supportive services.

Kate Bahn is the Chief Economist and Senior Vice President at the Institute for Women's Policy Research (IWPR) and previously served as the director of research for WorkRise, a research-to-action network hosted by the Urban Institute.

305 Wage Equity Study Team, "Wage Equity for Non-profit Human Services Workers: A Study of Work and Pay in Seattle and King County," School of Social Work, University of Washington, February 2023, https://socialwork.uw.edu/wp-content/uploads/WageEquityStudy_Summary_0_0.pdf.

WORKER AND LEARNER PERSPECTIVES

INSIGHTS FROM PARTICIPANTS IN OUTCOMES-BASED TRAINING PROGRAMS

/ **TIFFANI M. HORTON AND SARAH MILLER**
FEDERAL RESERVE BANK OF ATLANTA

OUTCOMES-BASED TRAINING PROGRAMS: AN INTRODUCTION

Traditional postsecondary degrees provide the most promising path to not only employment[306] but also upward economic mobility.[307] Graduates with a college degree often earn more than those without one,[308] and while these outcomes vary by demographics such as race, ethnicity, and gender, college can be an important key to unlocking individual economic potential.[309] The cost of college, however, has ballooned in recent years, making it hard for many to afford enrollment

306 Dataset for 2005-2025, "Unemployment Rates for Persons 25 Years and Older by Educational Attainment," U.S. Bureau of Labor Statistics, accessed April 30, 2025, https://www.bls.gov/charts/employment-situation/unemployment-rates-for-persons-25-years-and-older-by-educational-attainment.htm.

307 Anthony P. Carnevale, Zachary Mabel, Kathryn Peltier Campbell, and Heidi Booth, "What Works: Ten Education, Training, and Work-Based Pathway Changes That Lead to Good Jobs," Georgetown University Center on Education and the Workforce, May 1, 2023, cew.georgetown.edu/pathway-changes.

308 Leila Bengali, Marcus Sander, Robert Valletta, and Cindy Zhao, "Falling College Wage Premiums by Race and Ethnicity," Federal Reserve Bank of San Francisco, August 28, 2023, https://www.frbsf.org/wp-content/uploads/sites/4/el2023-22.pdf.

309 Anthony P. Carnevale, Ban Cheah, and Emma Wenzinger, "The College Payoff: More Education Doesn't Always Mean More Earnings," Georgetown University Center on Education and the Workforce, 2021, https://cew.georgetown.edu/wp-content/uploads/cew-college_payoff_2021-fr.pdf.

and complete a degree.[310] Decreasing federal financial aid also means students and their families are left to find alternative resources, which might include leveraging savings, taking out loans, or working to pay for education.[311] This financial burden can be especially heavy if a student drops out before they obtain the degree and, therefore, without the employment or higher earnings potential of the degree to put toward any debt accrued.

The multitude of complex credential systems that exist (such as certification, licensure, or other award) makes it difficult for students to determine what might yield the best outcomes, especially when these pathways are forged in academic spaces without thoughtful consideration of industry demand and coordination with employers that can inform curriculum.

Short-term credentialing programs can be more affordable and flexible alternatives to traditional postsecondary degrees. Though employer demand for these credentials has grown, they may not provide the same kind of economic benefits as postsecondary degrees.[312] The multitude of complex credential systems that exist (such as certification, licensure, or other award) makes it difficult for students to determine what might yield the best outcomes, especially when these pathways are forged in academic spaces without thoughtful consideration of industry demand and coordination with employers that can inform curriculum.[313] Complicating matters further, learners are not always offered the guidance needed to effectively navigate the job market.

A degree or credential does not guarantee a job or higher income. Although unemployment is lower for those with a bachelor's degree, securing a job can still be difficult. As of late 2024, job openings were fewer and unemployment was higher than one year prior.[314] In a shifting labor market, knowing which credentials, degrees, or skills have value

---

310 Nyerere Hodge, Stuart Andreason, and Carl Van Horn, "Then and Now: The Changing Landscape of Education Outcomes and Funding in the 21st Century," Federal Reserve Bank of Atlanta, October 15, 2024, https://www.atlantafed.org/cweo/workforce-currents/2024/10/15/then-and-now-the-changing-landscape-of-education-outcomes-and-funding-in-the-21st-century.

311 Phillip Levine, "Covering the Tuition Bill: How Do Families Pay the Rising Price of College?" Brookings Institute, October 15, 2024, https://www.brookings.edu/articles/covering-the-tuition-bill-how-do-families-pay-the-rising-price-of-college/.

312 Anna Crockett, Emily Ryder Perlmeter, and Xiaohan Zhang, "Short-Term Credentials Meet Growing Interest among Students, Employers," Federal Reserve Bank of Dallas, March 6, 2024, https://www.dallasfed.org/cd/communities/2024/2402.

313 Tiffani M. Horton and Sergio Galeano, "Reconceptualizing Workers as Lifelong Learners," Federal Reserve Bank of Atlanta, August 6, 2024, https://www.atlantafed.org/cweo/workforce-currents/2024/08/06/reconceptualilzing-workers-as-lifelong-learners.

314 Simon Mongey and Jeff Horwich, "Fewer Openings, Harder to Get Hired: U.S. Labor Market Likely Softer than It Appears," Federal Reserve Bank of Minneapolis, September 5, 2024, https://www.minneapolisfed.org/article/2024/fewer-openings-harder-to-get-hired-us-labor-market-likely-softer-than-it-appears.

in the job market can inform educational decisions toward a higher probability of greater economic security.

The complex credential marketplace leaves many students in less-than-ideal circumstances, where they may have spent too much or are in debt for a credential that they may not have finished. Investments and funding models such as traditional financial aid (for example, Pell grants) support student access to and enrollment in educational programs and focus less on successful completion and transition into the workforce.[315] Emerging innovations like outcomes-based funding agreements can mitigate some challenges for learners by supporting programs focused on employment and income-increasing outcomes.[316] Ongoing standard evaluations of such programs using administrative data on program completion, sustained employment, and wage gains are illustrative. However, optimizing outcomes for enrolled individuals could benefit from incorporating learners' experiences to provide a fuller picture of impact and potential improvement.

Qualitative inquiry into the learner's experience, such as intentional interviews, focus groups, or open-ended survey questions, can provide necessary context and nuance for evaluation and program improvement. Engaging with learners to understand which programs, funding, and repayment models work best to benefit their employment outcomes, these approaches can better evolve to ensure success for a greater number of participants.

Lessons from the Federal Reserve's Worker Voices research can guide new outcomes-based funding training programs to close the information gap on program design and effectiveness by integrating qualitative research elements with traditional program evaluation approaches.[317]

LESSONS FROM THE WORKER VOICES PROJECT

During 2021 and 2022, now seen as the near-term window of economic recovery from the COVID-19 pandemic and its effect on labor force participation, the job market saw marked strength. Unemployment was at historical lows,[318] wages were rising,[319] and employers

315 Annie Bowers, "Aligning State Higher Education Funding with Student Outcomes," FREOPP, December 30, 2024, https://freopp.org/whitepapers/aligning-state-higher-education-funding-with-student-outcomes/.

316 See Chapters 5, 8, 9, and 19 of this volume.

317 Sarah Miller and Ashley Putnam, "Using Qualitative Research to Understand the Economy: A Toolkit," Fed Communities, October 16, 2024, https://fedcommunities.org/wp-content/uploads/2024/10/worker-voices-using-qualitative-research-understand-economy-toolkit.pdf.

318 Neil Mehrotra, "Measuring the Strength of the Recovery," U.S. Department of the Treasury, May 26, 2022, https://home.treasury.gov/news/featured-stories/measuring-the-strength-of-the-recovery.

319 John Robertson, "Real Wage Growth: A View from the Wage Growth Tracker," *Policy Hub: Macroblog*, Federal Reserve Bank of Atlanta, February 14, 2023, https://www.atlantafed.org/blogs/macroblog/2023/02/14/real-wage-growth--view-from-wage-growth-tracker.

were expanding hiring practices to incentivize greater labor force participation for a wider range of workers and job seekers.[320] By March of 2022, there were two job openings for every one job seeker.[321] These conditions gave rise to a national conversation that asked several questions: Where are the workers? Why are they not coming back into the labor force en masse? Are they looking for different work? If so, does that mean they are making investments in their own skills to increase their competitiveness in the job market?[322]

Administrative and economic data alone could not answer these questions because they are lagging indicators of what's happening in the moment and lack the lived experience of people making choices about work — whether that was choosing not to work or finding new work. To better understand labor market experiences, the Federal Reserve embarked on large-scale qualitative research, launching the Worker Voices Project to bring lived experiences and worker perspectives to the conversation.[323]

Economic data are essential, to be sure. Digging beneath those data and going directly to those workers and job seekers navigating shifting labor market conditions gives greater insight into their experiences and how those experiences influence their behavior.[324] The goal of the Worker Voices Project was to understand workers' experiences with employment at the onset of the pandemic and into economic recovery, specifically workers who did not hold a bachelor's degree. This research sought to identify the barriers workers and job seekers navigated in seeking or retaining employment, understand if and how they benefited from demand-driven responses to labor market tightness, and how their experiences affected decision making around employment. The objective of this qualitative research was to inform workforce development and employer policies and practices by highlighting worker perspectives from their lived experiences.

Administrative and economic data alone could not answer these questions because they are lagging indicators of what's happening in the moment and lack the lived experience of people making choices about work — whether that was choosing not to work or finding new work.

320 Theresa Agovino, "Skills-Based Hiring Is Gaining Ground," SHRM, March 21, 2024, https://www.shrm.org/topics-tools/news/all-things-work/skills-based-hiring-new-workplace-trend.

321 Charles Gascon and Joseph Martorana, "The Job Openings-to-Unemployment Ratio: Labor Markets Are in Better Balance," *FRED Blog*, Federal Reserve Bank of St. Louis, July 18, 2024, https://fredblog.stlouisfed.org/2024/07/the-job-openings-to-unemployment-ratio-labor-markets-are-in-better-balance/.

322 Ranjay Gulati, "The Great Resignation or the Great Rethink?" *Harvard Business Review*, March 22, 2022, https://hbr.org/2022/03/the-great-resignation-or-the-great-rethink.

323 Fed Communities, "Worker Voices," https://fedcommunities.org/research/worker-voices/.

324 Raphael W. Bostic, "How the Fed Goes beyond the Data to Try to Make the Economy Work for Everyone," Fed Communities, May 6, 2024, https://fedcommunities.org/how-fed-goes-beyond-data-try-make-economy-work-everyone/.

WORKER VOICES FINDINGS IN CONTEXT

Worker Voices research showed that the employment experiences and daily risk calculations workers made around health, finances, and family demands at the onset of the pandemic were, in participants' own words, "traumatic" and "scary" realities that affected their return to the labor market and their approach to future employment opportunities.[325]

Despite evidence of demand-side efforts to widen on-ramps to work with skills-based rather than degree-based hiring,[326] these efforts did not benefit workers and job seekers equally. Many participants noted sending out numerous applications, in some cases hundreds, yet not matching with jobs. Those who remained working spoke of burnout due to labor shortages, took on more job tasks, worked longer hours, faced what they viewed as unrealistic job expectations, and received wages they considered disproportionately low for their job responsibilities. Given these employment experiences, many participants noted they began to have greater expectations of job quality, including better treatment on the job, greater job security, and increased flexibility in their work schedules and environments. They needed jobs with compensation reflective of their worth and level of responsibility and adequate to support them and their families. They wanted predictable and stable jobs and jobs that include benefits.[327] They noted having left jobs lacking these characteristics or did not apply for jobs that did not meet their expectations of "quality employment" based on their needs, family situation, and career stage.

To better position themselves for better, different, or new employment opportunities, the participants noted two key strategies: (1) exercising job autonomy (leaving or changing jobs, and in some cases choosing self-employment and entrepreneurship) and (2) pursuing credentials and skill-building opportunities.[328] For skill building, some participants invested in formal education at a technical or community college or sought a four-year bachelor's degree. Others opted for shorter-term credential or certificate training programs offered through local and publicly funded workforce systems, community-based providers, or online programs. Many also took advantage of self-directed and informal learning, leveraging their personal or professional network,

325 Sarah Miller, Merissa Piazza, Ashley Putnam, and Kristen Broady, "Worker Voices: Shifting Perspectives and Expectations on Employment," Fed Communities, May 24, 2023, https://fedcommunities.org/research/worker-voices/2023-shifting-perspectives-expectations-employment/.

326 Joseph Fuller, Christina Langer, and Matt Sigelman, "Skills-Based Hiring Is on the Rise," *Harvard Business Review*, February 11, 2022, https://hbr.org/2022/02/skills-based-hiring-is-on-the-rise.

327 Theresa Dunne and Keith Wardrip, "Worker Voices Special Brief: Perspectives on Job Quality," Fed Communities, September 25, 2023, https://fedcommunities.org/research/worker-voices/2023-job-quality-perspectives-special-brief/.

328 Tiffani M. Horton and Elizabeth Bogue Simpson, "Worker Voices Special Brief: Pursuing Advancement through Personal Investment," Fed Communities, January 10, 2024, https://fedcommunities.org/research/worker-voices/2023-pursuing-advancement-through-personal-investment-special-brief/.

using platforms such as YouTube, or reading technical or professional books to improve their skills.

The research revealed many issues that added context to hard economic data. Engaging directly with people living through current economic circumstances was valuable for understanding the motivations and experiences influencing the data trends. For example, workers noted their personal journeys were not reflected in economic data, employer sentiment, or national narratives around the worker shortage during 2022. Conversations about workers' experiences offered a broader understanding of how workers define quality characteristics of a job. This understanding helped employers better appreciate the perspectives of their incumbent or future workforce when adopting certain practices or developing policies.

Engaging directly with people living through current economic circumstances was valuable for understanding the motivations and experiences influencing the data trends. For example, workers noted their personal journeys were not reflected in economic data, employer sentiment, or national narratives around the worker shortage during 2022.

Worker Voices' qualitative input added context to better understand macro trends in the labor market and inform employer practice. Similar qualitative information gathering for training programs like outcomes-based funding innovations would allow for context on learner experiences that may be unclear or absent in longer-arc administrative data. A mixed approach using both quantitative and qualitative data to monitor program outcomes and experiences, particularly when these models are novel and in pilot stages, could create more opportunities for program administrators to make timely design changes to improve outcomes for learners.

THE CHALLENGES OF PURSUING EDUCATION AND SKILL DEVELOPMENT

As more outcomes-based training programs and pay-it-forward funding models become available that shift financial burden and risk away from the working learner and create better employment outcomes, understanding the barriers learners face when considering skill development or other educational options is crucial.

/ FIGURE 1 /

BARRIERS TO EDUCATION AND SKILL DEVELOPMENT FOR LEARNERS

Balancing learning with work, financial, and family obligations	Navigating the credential marketplace to find the best option	Financing skill development without costly or predatory loans

BALANCING ACT OF THE WORKING LEARNER

Pursuing education and skill development can be difficult, particularly for nontraditional students and working adults balancing family caregiving responsibilities, financial needs, and working full- or part-time. The challenge is exacerbated by the financial and economic realities for workers in lower-wage roles without bachelor's degrees.[329] The promise of employment advancement through skill development and education is often unrealized for several reasons: misalignment of training competencies to industry demands causing lower utility in the job market;[330] high costs coupled with increased financial risk and potential long-term debt;[331] and market undervaluation of credentials or degrees. The design of these programs may also present challenges for some learners such as hybrid or virtual learning modalities or courses offered during business hours that can be inaccessible for working learners.[332]

NAVIGATING THE CREDENTIAL MARKETPLACE

Navigating the credential marketplace — knowing what programs are available, where and how the learning takes place, the costs of the programs, and the value they have in the job market — is

---

329 E. Kobena Osam, Matt Bergman, and Denise M. Cumberland, "An Integrative Literature Review on the Barriers Impacting Adult Learners' Return to College," *Adult Learning* 28, no. 2 (May 2017): 54-60.

330 Annelies Goger, Katherine Caves, and Hollis Salway, "How U.S. Employers and Educators Can Build a More Nimble Education System with Multiple Paths to Success," Brookings Institution, May 16, 2024, https://www.brookings.edu/articles/how-us-employers-and-educators-can-build-a-more-nimble-education-system-with-multiple-paths-to-success/.

331 Sarah Wood "How Much Student Loan Debt Does the Average College Graduate Have?" *U.S. News & World Report*, October 21, 2024, https://www.usnews.com/education/best-colleges/paying-for-college/articles/see-how-student-loan-borrowing-has-changed.

332 Laura Perna and Taylor Odle, "Recognizing the Reality of Working College Students," AAUP, Winter 2020, https://www.aaup.org/article/recognizing-reality-working-college-students.

challenging for learners, especially nontraditional learners who may be disconnected or far removed from the K-20 education system. The responsibility for navigating a complex system falls on workers and learners, many of whom may lack family or social connections that could inform educational selection and attainment.[333]

> **A mixed approach using both quantitative and qualitative data to monitor program outcomes and experiences, particularly when these models are novel and in pilot stages, could create more opportunities for program administrators to make timely design changes to improve outcomes for learners.**

/ FIGURE 2 /

LISTENING TO LEARNERS: INPUT FROM PARTICIPANTS CAN IMPROVE WORKFORCE PROGRAMS

Qualitative interviews, surveys, and focus groups give **researchers** valuable insights from learners.

By engaging **learners**, researchers better understand which programs, funding models, and supports work best, helping ensure greater success for more participants.

They often face basic questions such as "What do I want to do?" and "What education or training program will prepare me to be competitive in these jobs?" Even workforce and career adviser professionals find it difficult to navigate the more than 1 million short-term and lower-cost credential or certificate programs available in the skill development marketplace,[334] let alone workers and learners who lack substantive career awareness. Over the past several years, a number of organizations have made efforts to provide data on credential program value or employment outcomes;[335] however, these clearinghouses are not necessarily targeted or marketed to the learner as their main user.

333 Raj Chetty, Matthew Jackson, Theresa Kuchler, Johannes Stroebel, Abigail Hiller, and Sarah Oppenheimer, "Social Capital and Economic Mobility," Opportunity Insights, August 2022, https://opportunityinsights.org/wp-content/uploads/2022/07/socialcapital_nontech.pdf.

334 Credential Engine, https://credentialengine.org/.

335 For more information on these efforts, please visit workforcerealigned.org/appendix.

Consequently, earners typically choose skill development pathways through online searches, encouragement from their networks, or recommendations by their employer or prospective employer.

FINANCING SKILL DEVELOPMENT

Once a learner chooses a skill development pathway, the next step is financing. They confront the question of how they will pay for the training, especially as rising tuition and learning costs outpace wage growth.[336] Some workers have support from their employers through tuition-assistance or tuition-reimbursement benefits. But these educational assistance programs, provided under the Internal Revenue Code, 26 U.S.C., Section 127 (1954) and allowing tax-free benefits up to $5,250 per employee, often fall short of covering the price tag of the degree or credential.[337] This is just one of several reasons for the low participation rates of tuition-based programs.[338] Workers whose employers do not offer tuition-based employee benefits are typically responsible for the full financial cost of pursuing training, with no guarantee that the financial risk will bring greater economic mobility and wage gains.

> **Workers whose employers do not offer tuition-based employee benefits are typically responsible for the full financial cost of pursuing training, with no guarantee that the financial risk will bring greater economic mobility and wage gains.**

THE GOALS OF OUTCOMES-BASED TRAINING

Many innovative programs have emerged in recent years in response to these challenges. The programs aim to balance investments and spread risk across a greater number of stakeholders, reducing burdens on learners while aligning public and private investments around outcomes. Programs like Pay-It-Forward Funds,[339] Income Share Agreements,[340] and outcomes-based workforce loans help working learners and employers finance training that leads to improved employment results.

These innovative programs explore new ways to pay for education and skills training that is more affordable, results in less debt for the

336 "Digest of Education Statistics," National Center for Education Statistics, Table 330.10. 2023, https://nces.ed.gov/programs/digest/d23/tables/dt23_330.10.asp.

337 "Frequently Asked Questions about Educational Assistance Programs," Internal Revenue Service, June 2024, https://www.irs.gov/newsroom/frequently-asked-questions-about-educational-assistance-programs.

338 Jillian Berman, "Companies Help Employees Pay Tuition — but Few Accept the Offer," *Wall Street Journal*, June 10, 2018, https://www.wsj.com/articles/companies-help-employees-pay-tuitionbut-few-accept-the-offer-1528682580.

339 Social Finance, "Pay It Forward Funds," https://socialfinance.org/product/pay-it-forward-funds/.

340 Emma Kerr, "Income Share Agreements: What to Know," *U.S. News & World Report*, April 13, 2021, https://www.usnews.com/education/best-colleges/paying-for-college/articles/income-share-agreements-what-students-should-know.

learner, and improves education and employment outcomes. They can mitigate the financial risk of the learner and incentivize greater collaboration between public funding streams and business and industry objectives to build a skilled workforce. Many offer low or no-cost access to training, and supportive services through zero-interest or low-cost loans with contingent repayment obligations based on the learner's employment outcomes. In such programs, learners only repay funds if they are employed with earnings above a certain income threshold, and payments are often capped in duration and do not exceed the original principal amount of the loan. Some programs also include stipends during training as well as other wraparound support services, such as targeted career counseling, to connect learners with employers, provide resume advice, and interview coaching. In theory, these innovations create better employment outcomes for learners, use funds more efficiently, and provide a highly skilled pool of talent for employers while limiting debt carried by learners.

QUALITATIVE INSIGHTS ON OUTCOMES-BASED TRAINING: OUTCOMES FROM LEARNERS IN PILOT EFFORTS

To explore the theory that outcomes-based training provides improved employment outcomes for learners and to apply lessons learned from the Worker Voices Project, we conducted one-on-one interviews with three former students of an outcomes-based program. For privacy purposes and to acknowledge the pilot stages of the innovation, the program is referred to as the pilot program. However, the details of the program are outlined to show its relevance to other similar outcomes-based programs. These interviewees were identified by program administrators and invited to speak with Federal Reserve Bank of Atlanta researchers to share their insights. While the sample size is small, these anecdotal insights illustrate experiences and suggestions for the program, as well as reinforce the value of qualitative inquiry.

The three students noted that without this opportunity and the way the program was structured in terms of borrowing, nonrepayable grants, and repayment guidelines, they would not have otherwise been able to enroll in an academic program.

The pilot program offers a zero-interest loan to cover the costs of tuition charged by the educational institution. Program participants receive a stipend (nonrepayable) while they are enrolled; access to emergency aid for unexpected, one-time expenses; access to mental health counseling; and assurance they will be employed within their area of study. Loan repayment is contingent upon obtaining and maintaining an income above a threshold higher than the federal poverty level for their household, and repayment will never exceed the original loan amount. The three students noted that without this opportunity and the way the program was structured in terms of borrowing, nonrepayable grants, and repayment guidelines, they would not have otherwise been able to enroll in an academic program. The reasons included high tuition costs, high interest rates on private loans, or the inability to stop working to take the courses.

The three students reported that initial communication about the program during enrollment was strong, but ongoing communication and support throughout their studies were lacking. One participant observed, "In the first couple of months, they would call and make sure they got you on the phone to ask how it's going, if you had concerns. Then sporadic texts every few months after that. It was mass texts." Their comments reflected dissatisfaction when the initial levels of case management tapered once they were entrenched in the program. The students felt they needed more frequent communication from administrators throughout the course of the program to receive adequate support and be successful.

The structure of the training and educational programs was also a critical point, with all three interviewees noting that they would have preferred an academic design better calibrated to the needs of the students. They mentioned the importance of understanding the scaffolding of the program to address learning differences, adjusting the pace, providing various instructional models and modes, and meeting the needs of employers. One student said that they needed more training to be competitive for the jobs promised at the start of the program. They noted the training they received from the institution partnered with the pilot program insufficiently prepared them for the job market. As a result, they had to take additional certification courses at their own expense to improve their employment prospects.

As for the students' experiences with program repayment, all three noted a need for improved communication through the loan servicer and a desire for consistent monthly payments once income was stable. At the time of the interviews, two students were in active repayment on their loans, and both said their payment amounts fluctuated and did not stay at a rate consistent with their income. One stated, "[Payment] per month will change pretty frequently … like what I need to pay back. I'm never really sure what the amount is." Another interviewee noted that their payment amount had changed three times after the 90-day nonpayment grace period, indicating that they had received a payment increase despite a lack of documentation to warrant a change in the monthly payment amount.

The value of career development opportunities, including coaching, can be a positive addition to outcomes-based funding programs,[341] and the three students appreciated the career counseling offered by the pilot program. Nevertheless, they were unsure the counseling made a positive difference in their job search upon exiting the program.

Overall, the interviewees saw value in outcomes-based training. One noted, “As far as the fund goes, I think it’s a great idea. I don’t understand why you have to pay an arm and a leg for any decent education.” Another interviewee noted: “In general, I’m happy with the program — stipend, emergency fund, mental health counseling — it’s beneficial to us students,” but continued, “maybe because it’s new, they just need to refine it.” So while they valued the training, they felt that aspects of the implementation fell short. One student sagely reflected, “[It was exciting] to hear the initial vision of the program, but execution is where it mattered.”

Overall, the interviewees saw value in outcomes-based training. One noted, “As far as the fund goes, I think it’s a great idea. I don’t understand why you have to pay an arm and a leg for any decent education.”

LEARNER VOICES: USING QUALITATIVE METHODS TO IMPROVE OUTCOMES FOR LEARNERS

As these interviews attest, the pilot program’s concepts and design are promising, but the administration of the program shows room for improvement. Outcomes-based training models often have ambitious plans to get individuals to and through credentialing programs quickly, efficiently, and with the greatest impact. In the literature on this subject, preliminary evaluation efforts reinforce the valuable opportunity these models provide, but the results on implementation and outcomes are mixed, similar to our findings, and researchers note that more data are required to truly assess impact.[342]

While the research for this chapter relied on individual interviews for substantive insights, assessment tools such as focus groups or open-ended survey questions can similarly elicit substantive feedback on program implementation, including enrollment, learning modalities, career support, case management, repayment structure, and overall communication. Program administrators can adopt the qualitative

341 Shawn VanDerziel, “The Value of Career Services,” National Association of Colleges and Employers, November 28, 2022, https://www.naceweb.org/career-development/organizational-structure/the-value-of-career-services/.

342 Gilda Azurdia, Richard Kazis, Caroline Schultz, and Katerina Galkin, “Income Share Agreements to Finance Short-Term Career Training: Preliminary Findings from the Career Impact Bond Study,” MDRC, February 2024, https://www.mdrc.org/sites/default/files/CIB_Brief_2.3.pdf.

methods that quickly and efficiently capture learner insights, positioning their program to make timely changes that ultimately improve the learner experience. This approach can be vital in an evaluation environment where learnings are sometimes not gleaned until several years of cohorts have completed the program.

Program administrators can adopt the qualitative methods that quickly and efficiently capture learner insights, positioning their program to make timely changes that ultimately improve the learner experience. This approach can be vital in an evaluation environment where learnings are sometimes not gleaned until several years of cohorts have completed the program.

Adequately capturing the experiences of learners can be labor-intensive; it requires sensitivity and nuance. This can be difficult to accomplish when building and evaluating solutions like outcomes-based funding models at scale. However, as with the Worker Voices research, qualitative inquiry is a valuable channel to make quick programmatic adjustments that better serve students in real time. This approach could be particularly useful during nascent or pilot stages. A qualitative approach should be coupled with standard evaluation methods that often include descriptive and administrative data collection, as well as correlation and causal analyses. An evaluation model for emerging innovative training programs that prioritizes learner voices for immediate feedback, while leveraging the rigor of longer-term standard evaluations, could be considered a best practice.

Beyond evaluation, considering the experiences of learners within these programs can be beneficial in understanding individual decision making and likelihood of success. Being intentional with solicitation of learner perspectives, program feedback, and honest reflection of their experiences can add unique value, allowing for real-time evolution of program offerings, student counseling or coaching, and improvements to increase learner outcomes for the better.

An evaluation model for emerging innovative training programs that prioritizes learner voices for immediate feedback, while leveraging the rigor of longer-term standard evaluations, could be considered a best practice.

Blending real-time insight from learners with longer-term insights on program value allows for a multipronged approach to improving program offerings and streamlining communication. Ultimately, better learner feedback may be able to support greater future enrollment, completion, and employment success, which in turn can create sustainability for outcomes-based training programs. These new programs have turned the partnerships, financing, and employment outcomes of traditional education models on their heads. Adding another layer to program design and evaluation, where learner voices are leveraged, offers greater opportunities to refine these programs, particularly in a pilot phase.

Tiffani M. Horton is a Senior Adviser for Community and Economic Development at the Federal Reserve Bank of Atlanta.

Sarah Miller is a Director and Principal Adviser for Community and Economic Development at the Federal Reserve Bank of Atlanta.

21

HUMAN CAPITAL, AUTOMATION, AND ARTIFICIAL INTELLIGENCE

POST-COVID-19 INTEGRATION

/ **KRISTEN BROADY** FEDERAL RESERVE BANK OF CHICAGO

Increased reliance on artificial intelligence (AI) is reshaping the U.S. workforce, creating both opportunities and challenges for human capital. Industry 5.0, also known as the Fifth Industrial Revolution, is the latest development in industrialization. Driven by advancements in AI, Industry 5.0 takes a human-centric approach focused on human-machine collaborations: Various manufacturing processes are handled by automation, providing humans more opportunities to focus on delivering improved products and services to end users.[343]

While AI can enhance productivity and efficiency, it also raises concerns about job displacement, education and skill requirements for various occupations, and the ever-evolving role of human workers. This chapter examines the impact of automation and AI on workers, employers, consumers, and the broader economy before, during, and after the COVID-19 pandemic.

From dusk to dawn landscape lighting, to kitchen gadgets like blenders and coffee makers with automatic time settings, to smart home systems, automation has been well integrated into our everyday lives in ways that we often take for granted. We encounter AI involving systems that learn and evolve in the form of streaming services like Netflix, Amazon Prime, and Hulu that recommend content to match our interests. Online shopping platforms like Amazon, Wayfair, and

343 TWI Ltd., "What Is Industry 5.0? Top 5 Things You Need to Know," FAQ, December 2022.

Temu suggest products based on algorithms that analyze our purchase and search histories. Our social media accounts on platforms including Threads, Facebook, Instagram, and X recommend accounts we might be interested in following, while Pinterest recommends images that we are likely to find appealing and can even tell us which of our boards each image is most aligned with. Each of these automated gadgets and AI platforms have various impacts on human interactions and on the demand for labor.

Even as AI is employed to complete more and more tasks, human capital — the skills, knowledge, and creativity of workers — remains vital. However, as the utilization of automation and AI accelerates, the nature of work is shifting. Routine, repetitive tasks are being automated, while jobs requiring human interaction, problem solving, critical thinking, and emotional intelligence are still in demand.

Routine, repetitive tasks are being automated, while jobs requiring human interaction, problem solving, critical thinking, and emotional intelligence are still in demand.

Rather than replacing workers entirely, research suggests that AI will continue to augment human capabilities, making hybrid human-machine collaborations more common. However, this new way of work will require an emphasis on education, training, and adaptability. As a greater premium is placed on the emotional intelligence of human work, particularly in the service industry, a key goal is adapting workforce training so as to reinforce workers' interpersonal skills in coordination with the use of these new tools.

Prior to the COVID-19 pandemic, Americans gave varying levels of thought to how automation and AI impacted our lives. Since 2020, these technologies have become front and center in our everyday consciousness, particularly for workers in sectors or industries for which labor can be substituted by AI.

Prior to the COVID-19 pandemic, Americans gave varying levels of thought to how automation and AI impacted our lives. Since 2020, these technologies have become front and center in our everyday consciousness...

Educational technology companies experienced significant growth in hiring and investment in the months following the World Health Organization's COVID-19 pandemic declaration on March 11, 2020. By that time, more than 1 million students had been impacted by school closures as educational institutions switched from in-person instruction to online learning with increased reliance on learning management systems. With education being such a key factor in human capital development, the shift to online learning during the beginning of the pandemic will have ramifications for this generation of scholars as they continue their education and enter the world of work. Already, research suggests that pass rates on standardized test scores for the 2020–21 school year "declined compared to prior years and that these declines were larger in school districts with less in-person instruction."[344] How this will impact the labor market remains to be seen.

As students became immersed in virtual learning, businesses made adjustments including shifting some workers to telework. Medical and mental health visits transitioned to telehealth. And retail purchases that had previously been made at brick-and-mortar establishments with the assistance of salespeople and cashiers shifted to algorithm-assisted search processes for items that would be purchased online and delivered to the buyer's residence.

When we emerged from mandatory lockdowns and business closures, we were faced with self-checkout machines in many retail establishments where cashiers previously greeted us and scanned our items. Our customer service issues are increasingly being addressed by online chatbots or automated telephone answering services. AI-powered language models, from organizations including OpenAI, Google, Amazon, and Microsoft, are now available to synthesize vast amounts of data; generate text, music, and art; and develop ad campaigns, among other tasks. Indeed, consumers have been and will continue to be impacted by technological advancements.

But the effect of these technologies is even more acute for workers, particularly those employed in occupations like cashiers that are based on tasks that can now be completed by computers and/or machines.

With education being such a key factor in human capital development, the shift to online learning during the beginning of the pandemic will have ramifications for this generation of scholars as they continue their education and enter the world of work.

344 Clare Halloran, Rebecca Jack, James C. Okun, and Emily Oster, "Pandemic Schooling Mode and Student Test Scores: Evidence from U.S. States" (Working Paper w29497, National Bureau of Economic Research, November 2021).

IMPACT ON ESSENTIAL WORKERS

WHO HAD TO WORK IN PERSON?

Essential workers — including health care workers, law enforcement officers, firefighters, grocery store employees, delivery drivers, warehouse workers, and public transit operators —continued working in person during the pandemic. Many of these jobs increased workers' exposure to COVID-19, leading to increased stress and requests for higher wages. Retail workers in particular faced inconsistent work schedules due to business closures, labor shortages, and shifting consumer demand.

In 2019, approximately 77% of the 3.6 million workers employed as cashiers in the U.S. worked in the following five industries: food and beverage stores, general merchandise stores, gas stations, restaurants, and health and personal care stores.[345] These workers' contributions were vital to the core functions of the economy and society, ensuring that Americans were able to purchase groceries and other necessary items, particularly at the onset of the pandemic.[346]

The COVID-19 pandemic significantly altered consumer behavior. As states and municipalities instituted orders for nonessential businesses to close, e-commerce sales surged, increasing 42.6% between 2019 and 2020. By 2022, e-commerce sales had increased by 77% or $373 million since 2019.[347] During this three-year period, the number of retail sales jobs decreased by 677,910, and the number of cashiers fell by 300,590.[348] As demand for delivery services increased, many laid-off workers turned to gig work with companies such as Uber, Instacart, and DoorDash, which embraced contract and freelance labor to stay flexible during a period of economic uncertainty.

But the effect of these technologies is even more acute for workers, particularly those employed in occupations like cashiers that are based on tasks that can now be completed by computers and/or machines.

As brick-and-mortar stores were closing between March and April 2020, Amazon — the world's largest retailer — hired 175,000 people in its fulfillment and delivery network in response to increased consumer

345 U.S. Bureau of Labor Statistics, "Occupational Employment and Wages, May 2019: 41-2011 Cashiers," July 6, 2020.

346 Francine D. Blau, Josefine Koebe, and Pamela A. Meyerhofer, "Essential and Frontline Workers in the COVID-19 Crisis," Econofact 6 (2020): 16.

347 U.S. Census Bureau, "Annual Retail Trade Survey (ARTS)," 2024, https://www.census.gov/programs-surveys/arts.html.

348 U.S. Bureau of Labor Statistics, "Occupational Employment and Wage Statistics (OEWA) Tables May 2022

demand.[349] The company reported $108.5 billion in sales during the first three quarters of 2021, up 44% from 2020, and a profit of $8.1 billion, an increase of 220% from the prior year.[350]

As COVID-19 vaccines became widely available, case numbers decreased, and nonessential businesses reopened, many retailers turned to self-checkout technology as they struggled to hire in-person staff and provide shoppers with the option of contactless checkout. Shipments of self-checkout machines increased 25% in 2020.[351] In 2021, consumers used self-checkout for 30% of retail transactions, nearly doubling the percentage since 2018.[352]

However, the rapid increase in the use of self-checkout machines was not without disadvantages. Self-checkout lanes led to higher rates of shrink or loss from theft or customer error. Loss prevention teams found it more difficult to monitor the checkout process, leading to higher financial losses. Many customers struggled with scanner errors, price mismatches, or technical glitches. Self-checkout lines often move slower than traditional cashier lines as customers are not as familiar with product scanning codes and have less experience with the checkout process than cashiers. Less tech-savvy customers, who found the machines difficult to use, may have required assistance, leading to longer wait times.

As demand for delivery services increased, many laid-off workers turned to gig work with companies such as Uber, Instacart, and DoorDash, which embraced contract and freelance labor to stay flexible during a period of economic uncertainty.

Recognizing these and other issues with self-checkout machines, retailers like Walmart, Target, Dollar General, Costco, and some regional grocery stores decided to reverse course and bring back more cashiers to reduce reliance on self-checkout. For some companies, the savings from automation did not outweigh the cost of theft and scanning errors. While some consumers appreciated contactless checkout, others expressed frustration with self-checkout and preferred human interaction with cashiers, who could often process transactions faster and more efficiently than self-checkout users.

349 Amazon News, "Amazon Has Hired 175,000 Additional People," June 4, 2020, https://www.aboutamazon.com/news/company-news/amazon-has-hired-175-000-additional-people.

350 Karen Weise, "Amazon's Profit Soars 220 Percent as Pandemic Drives Shopping Online," *New York Times*, May 12, 2021, https://www.nytimes.com/2021/04/29/technology/amazons-profits-triple.html.

351 Suman Bhattacharyya, "How Retailers Can Improve Self-Checkout," *Wall Street Journal*, November 21, 2021, https://www.wsj.com/articles/how-improve-self-checkout-service-11637337407.

352 Doug Baker, "Why Self-Checkout Is Here to Stay," The Food Industry Association, February 13, 2024, https://www.fmi.org/blog/view/fmi-blog/2024/02/13/why-self-checkout-is-here-to-stay.

In fact, retailers found that for many customers, the personal service at checkout improved the overall shopping experience — increasing the likelihood of return customers and additional sales. This finding points to a broader truth about the age of AI: Automating certain tasks places an increased premium on human-led tasks, which tend to require "soft skills" driven by emotional intelligence. Training programs may need to adapt to hone soft skills alongside more technical ones.

A March 2024 fact sheet from Target announced that the company was making chainwide updates to the checkout experience including limiting self-checkout express lanes to 10 or fewer items, opening more traditional lanes staffed by cashiers, and providing store leaders with the flexibility to make adjustments to self-checkout hours to coincide with periods of higher and lower consumer demand.[353] In May 2024, Dollar General CEO Todd Vasos said that the company planned to remove self-checkout kiosks from the majority of its stores in an effort to reduce shrinkage and drive increased customer engagement.[354]

TELEWORK AND OFFICE SPACE UTILIZATION

The pandemic fundamentally changed the way we work — dramatically increasing the percentage of remote workers, altering job structures, and decreasing the demand for commercial office space — accelerating trends that might otherwise have taken decades to develop.

> **For some companies, the savings from automation did not outweigh the cost of theft and scanning errors. While some consumers appreciated contactless checkout, others expressed frustration with self-checkout and preferred human interaction with cashiers, who could often process transactions faster and more efficiently than self-checkout users.**
>
> **In fact, retailers found that for many customers, the personal service at checkout improved the overall shopping experience — increasing the likelihood of return customers and additional sales.**

WHO TELEWORKED?

Many companies shifted to remote work out of necessity, proving that jobs previously considered "in office" could be done remotely. While the majority of U.S. workers continued to work in person, the number of people who primarily worked remotely tripled from 5.7%

353 "How Target Is Enhancing the Checkout Experience," fact sheet, Target.com, March 14, 2024, https://corporate.target.com/press/fact-sheet/2024/03/checkout-improvements.

354 Nate Delesline III, "Dollar General to Eliminate 'Vast Majority' of Self-Checkout, Reduce New Store Openings," Retail Dive, May 31, 2024, https://www.retaildive.com/news/dollar-general-eliminate-self-checkout-shrink/717520/.

(approximately 9 million people) to 17.9% (27.6 million people) between 2019 and 2021.[355] The percentage of people who teleworked fell slightly in 2022 as social distancing regulations were lifted but remained higher in 2022 than in 2019 in all industries except agriculture, forestry, fishing, and hunting.[356] Figure 1 shows the increase in the percentage of remote work participation for 21 industries from smallest to largest between 2019 and 2022. In four industries — professional, scientific, and technical services; information; finance and insurance; and management of companies and enterprises — remote work increased by over 20 percentage points between 2019 and 2022. Hybrid models have been normalized in many industries, providing workers with more flexibility while maintaining opportunities for in-person collaboration. Increased development and adoption of AI platforms reduced reliance on in-office presence for certain job tasks.

Differences in telework percentages also existed between workers based on income, age, and level of education. Higher-income workers — who generally worked in offices at desk jobs before the pandemic — were significantly more likely to work remotely compared with lower-wage workers, who tended to work in trades that could not be done remotely (such as construction). Among households with an annual income of $200,000 or more in 2020, 73.1% worked remotely because of the pandemic, compared to only 12.7% of households earning less than $25,000.[357] Younger workers, those between 16 to 24 years old, were less likely to telework than those over the age of 24. Among workers 25 years and older, those with an advanced degree were most likely to work remotely.

Increases in remote work contributed to decreases in office space utilization and unit capital, energy, material, and services costs growth across industries.[358] Many companies downsized office footprints during the height of the pandemic and adopted hybrid work models and shared desk models upon reopening. Data from Moody's showed that the office space vacancy rate increased from 16.3% in 2016 to 17.8% in 2020 and 18.7% in 2022.[359] As businesses implemented return to work plans, some were met with pushback from workers who had become well-adjusted to working from home. Many organizations are still

---

355 U.S. Census Bureau, "The Number of People Primarily Working from Home Tripled between 2019 and 2021," Press Release Number: CB22-155, September 15, 2022, https://www.census.gov/newsroom/press-releases/2022/people-working-from-home.html.

356 Sabrina Wulff Pabilonia and Jill Janocha Redmond, "The Rise in Remote Work since the Pandemic and Its Impact on Productivity," *Beyond the Numbers: Productivity* 13, no. 8 (October 2024), U.S. Bureau of Labor Statistics, https://www.bls.gov/opub/btn/volume-13/remote-work-productivity.htm#_edn12.

357 U.S. Census Bureau, "Household Pulse Survey," 2020.

358 Pabilonia and Redmond, "The Rise in Remote Work."

359 Victor Calanog, Todd Metcalfe, and Kevin Fagan, "The Commercial Real Estate Outlook," Moody's Quarterly Analysis, February 16, 2023, https://www.moodyscre.com/insights/research/q42022-commercial-real-estate-outlook/.

working to fine-tune the balance between productivity and employee well-being.

> **Hybrid models have been normalized in many industries, providing workers with more flexibility while maintaining opportunities for in-person collaboration. Increased development and adoption of AI platforms reduced reliance on in-office presence for certain job tasks.**

GENERATIVE AI AND THE FUTURE OF WORK

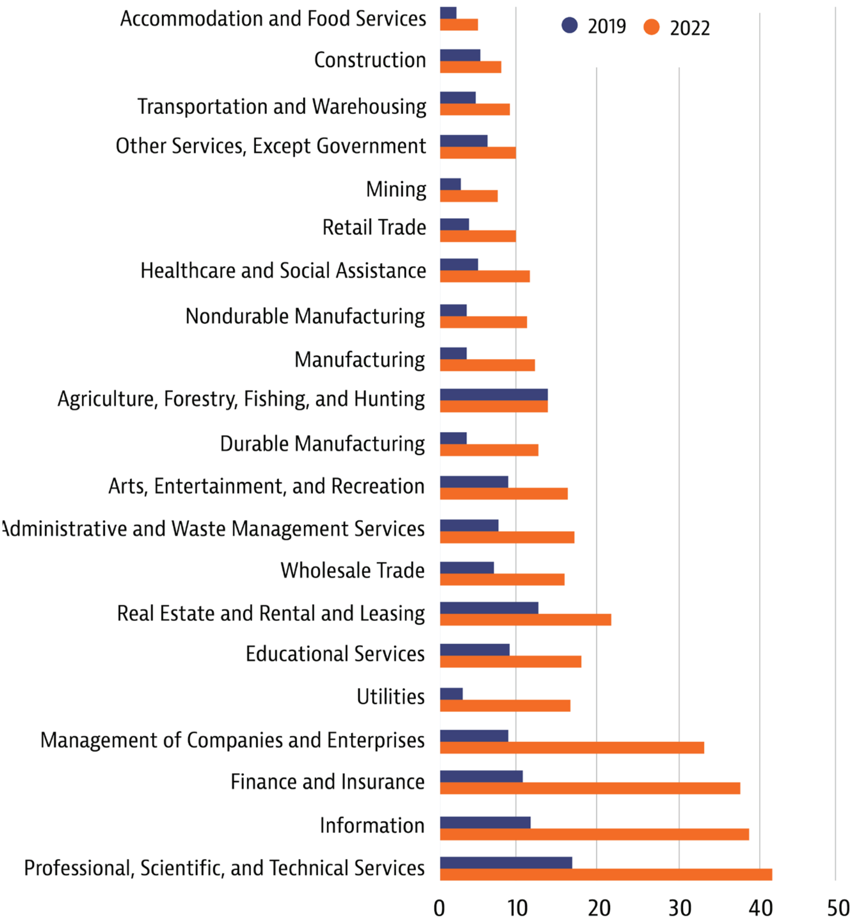
Industry 5.0 is expected to transform organizational processes and workforce expectations. Emotional intelligence skills involving leadership, adaptability, public relations, and problem solving will become more valuable as automation and AI increasingly perform routine, repetitive tasks. The pandemic changed how Americans work and redefined expectations around work among workers and employers. Increased adoption of generative AI chatbots like ChatGPT, Microsoft Copilot, and Jasper have new implications for jobs that were once thought to be out of technology's reach.

- While personalized learning powered by AI is enhancing certain student outcomes, these systems cannot replace human educators. Teachers, professors, and learning support staff provide mentorship and emotional support, and teach students creativity and critical thinking in addition to the educational areas they focus on.
- AI-driven robotics are automating repetitive manufacturing and logistics tasks, reducing the need for manual labor while increasing the demand for technicians and AI specialists.
- AI-powered diagnostics, robot-enabled surgery, and administrative automation are improving efficiency in health care while allowing human doctors and nurses to focus on patient care.
- In the finance and banking sector, AI-powered systems are allowing humans to focus on more complex decision making and customer relationship management[360] because they have the capability to process vast amounts of data faster and more accurately than humans or legacy software while also reducing the margin of error, identifying normal and fraudulent customer behavior.
- Even as AI-driven self-checkouts, virtual assistants, and inventory management systems are reshaping the retail environment, human workers are still essential for problem solving, personalized service, and new product development.

360 Infosys BPM Analytics, "AI in the Banking Sector: How Fraud Detection with AI Is Making Banking Safer," n.d., https://www.infosysbpm.com/blogs/bpm-analytics/fraud-detection-with-ai-in-banking-sector.html.

/ FIGURE 1 /

PERCENTAGE OF REMOTE WORKERS BY MAJOR INDUSTRY GROUP, RANKED FROM SMALLEST TO LARGEST, 2019 AND 2022



Source: Pabilonia and Redmond, "The Rise in Remote Work."

> **Emotional intelligence skills involving leadership, adaptability, public relations, and problem solving will become more valuable as automation and AI increasingly perform routine, repetitive tasks.**

Other long-term implications will include:

- **Increased opportunities for hybrid work:** Even industries that required in-office presence before the pandemic are offering flexible work arrangements.

- **Commercial real estate adjustments:** Some office buildings have been repurposed into housing or mixed-use developments.
- **Continued adoption of automation and AI:** Employers are increasingly turning to technology to reduce dependence on human workers while maintaining or increasing productivity.
- **Adjustments to worker leverage:** Employees now expect higher wages, better benefits, and flexibility, influencing labor policies and union movements.

Ongoing advances in technology will demand education, training, skill shifts, and adaptability as new job roles are created in fields like AI ethics, cybersecurity, and data science. Additional roles will also be created in caregiving, mental health, and social work, particularly as the population ages.

Ongoing advances in technology will demand education, training, skill shifts, and adaptability as new job roles are created in fields like AI ethics, cybersecurity, and data science.

Preparation for increased AI integration has necessitated shifts at all levels of education. Introducing coding and other programming activities to elementary students helps them learn problem solving and computational thinking skills.[361] To this end, in September 2024, Governor Gavin Newsome signed Assembly Bill 2876, which required California's Instructional Quality Commission to incorporate "artificial intelligence (AI) literacy content into the mathematics, science, and history-social science curriculum frameworks," for use in the core curriculum for all K-12 students in California starting in the 2025–26 school year.[362]

All of these trends have implications for workforce training. To meet the growing demand for AI expertise in the job market, many colleges and universities have developed and expanded courses and degree programs that integrate AI. On the flip side, AI-driven changes to the nature of work should lead training programs to increasingly focus on the aspects of work that require human emotional intelligence.

Kristen Broady is a Senior Economist, Economic Advisor, and Director of the Economic Mobility Project, an initiative of the Federal Reserve Bank of Chicago that provides evidence-based research on factors that affect economic mobility.

---

361 Alexander Slagg, "Teaching the Principles of Computer Science Early in K-12 Schools," EdTech Magazine, June 23, 2022, https://edtechmagazine.com/k12/article/2022/06/teaching-principles-computer-science-early-k-12-schools-perfcon.

362 California Assembly Bill 2876, 2023–2024 Session, amended March 11, 2024, https://aedn.assembly.ca.gov/system/files/2024-04/ab-2876_0.pdf.