



# STATE STRATEGIES FOR USING EMPLOYER INVESTMENT TO INCREASE POSTSECONDARY CREDENTIAL ATTAINMENT

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Prepared for the  
NATIONAL COMMISSION ON FINANCING 21ST CENTURY HIGHER EDUCATION  
By: Robert Sheets and Stephen Crawford,  
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# LETTER FROM THE COMMISSIONERS

The University of Virginia Miller Center created the National Commission on Financing 21st Century Higher Education in 2014 to recommend policy and funding changes to help the nation attain the goal of 60 percent of the labor force with a postsecondary degree or certificate by 2025. This means that 62 million Americans must graduate with a postsecondary degree or credential between 2015 and 2025. At current rates, the United States will produce only 39 million such graduates, leaving a gap of 23 million—a shortfall of more than 2 million per year.

To meet the goal, the nation must maintain high school graduation and college entrance rates at or above 75 percent and 70 percent, respectively—reachable goals close to historical norms. The nation must also *increase* college graduation rates from 40 percent to 60 percent. Increasing the college graduation rate is inherently challenging but made even more so because of major demographic changes. Many of the upcoming college-aged individuals will be people of color or from low-income families, populations that traditionally have needed additional counseling, mentoring, academic support, and financial assistance to successfully enter into and complete higher education. How to increase access and graduation rates and thus equality for these two population groups is the major focus of the commission.

The need to address these issues is also urgent given that other nations are catching up to—and even surpassing—the United States in postsecondary degree- and credential-attainment rates. The United States ranked 13th relative to other Organization for Economic Cooperation and Development countries in 2014 in the percentage of 25- to 34-year-olds with higher education degrees or credentials. The cost of failure in attaining this goal—to the nation in terms of international leadership and to citizens in terms of job creation and income—is too high, and so action is required now.

To learn more about these issues, the commission engaged highly qualified experts to create 10 white papers on different dimensions of the higher education problem. The commission asked all the authors to push the limits of their knowledge and engage in “blue sky” thinking on individual topics. Each paper represents the views of the individual authors, not the commission. Nevertheless, the papers provide a foundation for the recommendations in the final report. In addition, the commission hopes the papers stimulate further discussion and debate about higher education policy and funding.

The 10 papers and the final report focus on answering three primary questions related to reaching the 60 percent goal. First, how do we realign incentives and retarget existing public funding to make the entire system more efficient and to increase graduation rates for students generally and students of color and from low-income families in particular? Second, what are the new, innovative models to deliver postsecondary education that can both lower the cost and increase the productivity of the entire system? Third, what options do federal and state governments and the private sector have for increasing funding for higher education? It is important to stress here that the interest is in the “value proposition” that underlies these three primary questions. The “value proposition” focuses on the national imperative of building a more highly skilled and educated work force not merely a more credentialed one.

The U.S. higher education system is still the envy of the world, but it must become more affordable for the next generation. It must also become more innovative and adaptable, especially in its use of technology, and be more productive with regard to graduation rates. Finally, additional funding must be available from federal, state, and private-sector sources to reach the goal.

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# WHITE PAPERS WRITTEN FOR THE NATIONAL COMMISSION ON FINANCING 21ST CENTURY HIGHER EDUCATION

**Paper 1. Crowded Out: The Outlook for State Higher Education Spending**

Authors: Dan White and Sarah Crane, Moody's Analytics

**Paper 2. Transformations Affecting Postsecondary Education**

Author: Jeffrey J. Selingo, Arizona State University and Georgia Institute of Technology

**Paper 3. State Higher Education Finance: Best Practices**

Authors: Martha Snyder, Brian Fox, and Cristen Moore, HCM Strategists

**Paper 4. Financing American Higher Education in the 21st Century: What Can the United States Learn From Other Countries?**

Author: D. Bruce Johnstone, professor, Higher and Comparative Education Emeritus, University at Buffalo

**Paper 5. State Strategies for Leveraging Employer Investments in Postsecondary Education**

Authors: Robert Sheets and Stephen Crawford, George Washington Institute of Public Policy, The George Washington University

**Paper 6. Understanding State and Local Higher Education Resources**

Authors: Sandy Baum and Kim S. Rueben, Urban Institute

**Paper 7. New Directions in Private Financing**

Author: Andrew P. Kelly, American Enterprise Institute

**Paper 8. Higher Education: Social Impact Bonds and Income Share Agreements**

Author: Carlo Salerno, higher education economist/analyst

**Paper 9. State Support for Higher Education: How Changing the Distribution of Funds Could Improve College Completion Rates**

Author: Bridget Terry Long, Harvard Graduate School of Education

**Paper 10. The Federal Role in Financing 21st-Century Higher Education: Effectiveness, Issues, and Alternatives**

Author: Gabriel R. Serna, Virginia Polytechnic Institute and State University



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## Executive Summary

**T**his paper explores how state policymakers can encourage employers to increase their investments in postsecondary education and training that leads to credentials. It presents three major strategies with the potential not only to increase credential attainment but also to promote economic growth, expand opportunities for low- and moderate-income populations, and improve the productivity of the entire postsecondary education system:

- Redesign existing state employer-based training programs.
- Encourage the expansion and restructuring of employer tuition assistance plans (TAPs).
- Take advantage of existing economic development programs designed to promote innovation.

The paper begins with an overview of employer investments in postsecondary education and training and the major opportunities and challenges that state policymakers face in using these investments. It goes on to explain three complementary strategies by which states could encourage employers to increase these investments and reshape them to better serve public purposes, especially greater credential attainment by low- and moderate-income students and workers. It then examines how these strategies could improve quality, affordability, and productivity in the broader credentialing marketplace.

The paper concludes with four recommendations for using pilot projects to determine the best ways to apply the three proposed strategies:

- Focus on how policymakers could redesign existing employer-based training programs to increase front-line workers' credential attainment, foster partnerships that drive innovation in the delivery of education and training, and better serve the disadvantaged.



- State policymakers should explore how they can increase the number of employers that offer TAPs and expand those plans' use, especially by low- and moderate-income people who lack a college degree. It calls for using pilot projects to explore a variety of incentives and tools, including matching student grants, loans, and insurance.
- Launch pilot projects designed to reveal better ways to link current state investments in research and development and entrepreneurship with opportunities for students to gain valuable training and paid work experience while pursuing postsecondary credentials.
- Policymakers should use the evaluations of all these pilot projects to determine the strengths and weaknesses of the three employer-based strategies for increasing the proportion of residents who have postsecondary credentials compared to the often-emphasized options of increasing state appropriations for the existing higher education system and inducing the more productive uses of existing resources.





## Introduction

Policymakers in many states are striving to increase the proportion of their residents who have postsecondary credentials, with the expectation that the increase will promote economic growth and expand economic opportunity, especially for low- and moderate-income populations. In pursuing this goal, state policymakers are exploring two major options: (1) maintaining or increasing state spending for public universities and colleges and (2) achieving better returns on what they spend now through increased productivity. Both options, however, face major limitations. Most states have severe constraints on how much they can spend given competing priorities, especially in early childhood through high school education, health care, and safety net programs. In addition, it is unlikely that states can increase productivity substantially at their public universities and colleges.

A third option that has not received sufficient attention is providing public incentives to employers to finance and deliver more education and training that leads to postsecondary credentials. Employers are significant investors in postsecondary education and training, and they share both the risks and the returns of this investment with governments, students, and workers. An employer faces considerable risk when it invests in high-demand, transferrable skills because those skills increase the likelihood that it will lose its best talent to competitors before it achieves the expected returns. That risk is even greater when the investment results in credentials. If public incentives to employers compensated for these risks in ways that increased employer investment, the result could be a win for students and workers, employers, and state taxpayers.

This paper explores how state policymakers could provide incentives to employers to increase their investments in postsecondary education and training that lead to credentials. In the process, the paper presents three major state strategies that have the potential not only to increase credential attainment but to do so in ways that promote economic growth, expand opportunities for low- and moderate-income populations, and improve the productivity of the entire postsecondary education system.

The paper begins with an overview of employer investments in postsecondary education and training. It discusses the major opportunities and challenges that state policymakers face in trying to use these investments. The paper then describes three complementary strategies by which states could encourage employers to increase these investments and reshape them to better serve public purposes, especially greater credential attainment among low- and moderate-income students and workers. It explores how these strategies could improve quality, affordability, and productivity in the broader credentialing marketplace. Finally, the paper presents recommendations for how state policymakers can experiment with these strategies through pilot projects. In doing so, it encourages policymakers to use the evaluations of these pilots to determine which combination of strategies—along with stable or increased state spending and productivity improvements at public universities and colleges—would produce the highest returns.

## Using Employer Investments: Opportunities and Challenges

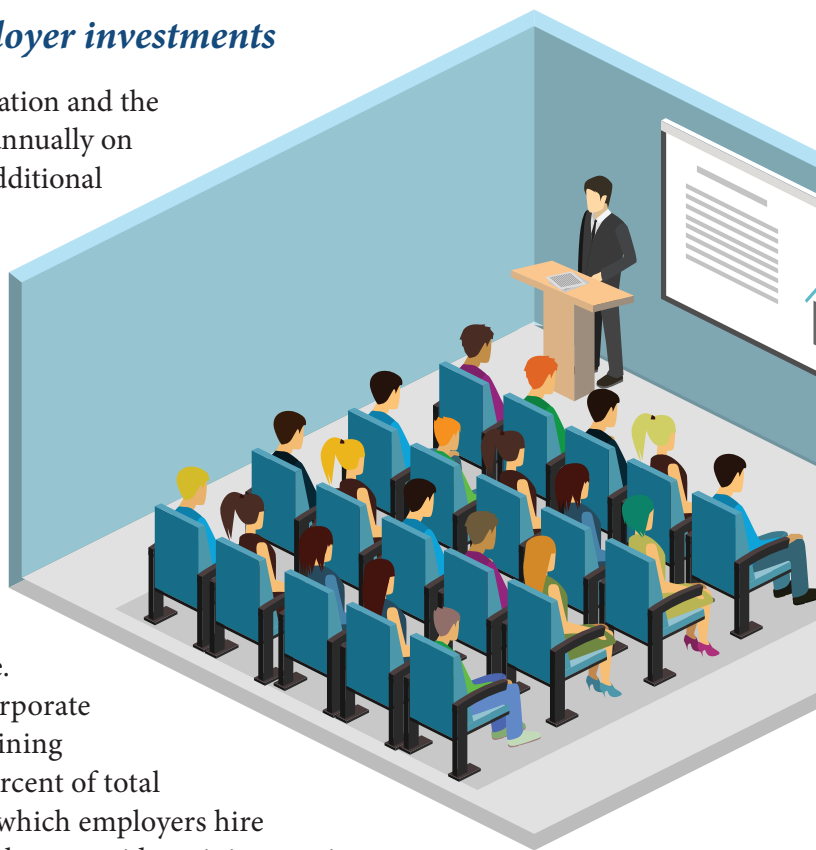
In developing strategies for using employer investment effectively, state policymakers must first understand the current amounts, forms, and distribution of employer investment. They should also explore the opportunities for and challenges in using this investment to increase credential attainment.

### *Amounts, forms, and distribution of employer investments*

According to Georgetown University's Center for Education and the Workforce (CEW), U.S. employers spend \$177 billion annually on formal postsecondary education and training and an additional \$413 billion on informal training.<sup>1</sup> To put these figures in perspective, four-year colleges and universities spend \$347 billion on formal higher education, and community colleges spend \$60 billion. Certifications, apprenticeships, and other workforce training programs, including federally-funded job training, account for an additional \$65 billion. In short, employers account for 43 percent of all spending on formal higher education and training, spending roughly three times as much as community colleges.

This substantial employer spending comes in two major forms: corporate training and tuition assistance. By far, the largest share—more than 78 percent—is corporate training provided either in house or by contracted training partners. Formal in-house training accounts for 46 percent of total employer spending in this area. Contract training, in which employers hire other businesses, educational institutions or individuals to provide training services, accounts for the other 32 percent. Tuition assistance plans (TAPs), which reimburse employees for expenses they incur attending approved colleges and programs, account for 16 percent of formal training.

Employer investments in training are not evenly distributed across all workers. On the contrary, the bulk of formal employer investment, including both corporate training and tuition assistance, goes to employees who already have college degrees. According to the CEW report, 58 percent is spent on employees who already have a bachelor's or more advanced degree, 25 percent on employees who have some college, and only 17 percent on employees who have only a high school diploma or less. Moreover, much of the spending that goes to employees who do not hold college degrees does not result in formal credentials or credit toward credential attainment.



<sup>1</sup> Anthony Carnevale, Jeff Strohl, and Artem Gulish, *College Is Just the Beginning: Employers' Role in the \$1.1 Trillion Postsecondary Education and Training System* (Washington, DC: Georgetown University Center on Education and the Workforce, 2015).

## Opportunities

State policymakers can seize on three opportunities in using this substantial employer investment to increase credential attainment.

### **Opportunity 1: Accelerate economic growth, and improve competitiveness**

State policymakers can harness the power of employer investments to provide postsecondary education and training that more directly drives innovation, productivity, and overall state economic growth and competitiveness. Most of the major types of corporate training investment are made by employers to improve business performance and competitiveness. They use this training to drive and support innovation—new technologies and business processes—and ensure that employees in critical jobs stay up to date in their respective fields and constantly learn critical new skills. This trend is easily seen in the growing emphasis on measuring return on investment (ROI) based on its contribution to improved business performance.<sup>2</sup> As Hollenbeck summarized,<sup>3</sup> these types of employer investment provide significant spillover benefits to state and regional economic growth and competitiveness that states can capture through increased tax revenues.

### **Opportunity 2: Retain college-educated talent**

Employers use corporate training and TAPs to attract, hire and retain highly skilled employees who seek to grow professionally and learn new skills. States share this interest in retaining highly skilled workers, especially states that are experiencing outflows of young adults who were educated at state-supported institutions in critical fields such as business, engineering, health care, and information technology (IT). By building stronger connections between these students and in-state employers, states could better capture spillover benefits through increased tax revenues from students staying within the state.

State policymakers can harness the power of employer investments to provide postsecondary education and training that more directly drives innovation, productivity, and overall state economic growth and competitiveness.

<sup>2</sup> Jack J. Phillips and Patricia Phillips, *Proving the Value of HR: How and Why to Measure ROI* (Alexandria, VA: Society for Human Resource Management, 2012); and Jack Fitz-enz, *The ROI of Human Capital: Measuring the Economic Value of Employee Performance* (New York: American Management Association, 2000).

<sup>3</sup> Kevin Hollenbeck, *Public Financing of Workforce Services for Incumbent Workers?* (College Park, MD: University of Maryland School of Public Policy, 2013).

### **Opportunity 3: Improve the cost-effectiveness of education and training.**

State policymakers can use employer investments to improve the cost-effectiveness of postsecondary education and training delivery as well as to reduce the total costs of participation for students, especially low- and moderate-income students. Employers achieve higher returns by reducing time and costs in education and training delivery and by making sure that education and training result in improved work performance that in turn contributes to stronger business performance.

Leveraging corporate training has many advantages. First, it provides the context for stronger work applications and connections, no matter where it is delivered. It has the additional advantage of integrating formal instruction with the immediate application and practice of the knowledge and skills learned, which ensures greater mastery. Such learning engages and motivates students in ways that traditional classroom instruction may not, leading to higher completion rates. It also gives students real-world experience that strengthens their position in the labor market and gives them a better sense of what it is really like to work in that occupation or industry, thus facilitating better career choices.

Second, corporate training provides paid work-based learning. Such learning is especially helpful to low-income students and front-line employees because it tends to be difficult for these people to pursue additional education and training otherwise. If the training is provided at the worksite, as is often the case, employers avoid the logistical complications that arise when workers have to go elsewhere for it. As a result, corporate training can reduce the total employees' cost of participation in training.

Third, leveraging employer investments in corporate training promotes innovation and improves the delivery of postsecondary education throughout the state. When employers purchase education and training services for incumbent workers or new hires, regardless of whether that training occurs on or off site, they naturally look for providers that offer good value. That search leads employers to favor those providers that effectively use the latest techniques to increase productivity. Such techniques include competency-based education, online or hybrid instruction, adaptive learning platforms, the use of big data analytics, and innovative business models. To the extent that employers favor productive providers, they put market pressure on the entire postsecondary education and training system, including traditional colleges and universities, to adopt productivity-enhancing innovations.

As a result, employers can play a strong role in increasing the cost-effectiveness of both in-house and contracted education and training, including contracted services that public universities and colleges provide. They can also play a major role through the innovative work-and-learn models they use, including apprenticeships and internships. States can take advantage of this trend by promoting employer-led partnerships with colleges and universities that improve both public and private returns to postsecondary education and training. These partnerships can improve the connections between employers and students and the in-state retention of students.

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## *Challenges*

In taking advantage of these considerable opportunities, state policymakers will have to address two major challenges.

### **Challenge 1: Offset downside risks of employer investment**

States must address the considerable risks that employers face in making education and training investments during a time of more fluid and open employment relationships. Leading research on employer investment consistently points to the risks employers face when they provide training in general skills that are not firm specific and can be of value to other employers, including their competitors. Employers face the greatest risks when they invest in high-demand, transferrable skills and credentials that increase the likelihood that those employers will lose critical talent before they can achieve the expected returns. As a result, state strategies that provide incentives to employers to increase investments that result in high-demand credentials must consider the levels of incentive that will be sufficient to offset these risks.

### **Challenge 2: Shift more employer investment to employees who do not hold postsecondary credentials**

Employers invest most heavily in those employees who already hold college degrees and are in high-wage management and professional positions. Increasing employer investments in education and training for these employees may provide the greatest returns to employers with respect to business performance, competitiveness, and retention of top talent, but it will not increase the percentage of residents who hold postsecondary credentials or expand economic opportunities for low- and moderate-income populations. As a result, state strategies to encourage employers to spend more on education and training must also incent the steering of more of that investment to front-line workers who do not already have postsecondary credentials.

State policymakers who are considering encouraging employers to increase their investments in education should take note of the opportunities such incentives offer for promoting economic growth and competitiveness, reducing the outflow of college-educated workers, and improving the cost-effectiveness of postsecondary education and training delivery. They should also understand that getting employers to help front-line workers obtain in-demand credentials will require offsetting the additional risks that employers face when making such investments.

## State Strategies for Using Employer Investment

There are at least three major strategies by which state policymakers can address the opportunities and challenges surrounding employer investment in education and training. This section presents an overview of each strategy and suggests how states can design their approach in ways that drive economic growth and competitiveness, expand opportunities for low- and moderate-income populations without credentials, and improve the cost-effectiveness of postsecondary education and training delivery.

### *Strategy 1: Redesign existing state employer-based training programs*

The first strategy is for state policymakers to redesign existing state employer-based training programs so that they provide additional employer incentives to produce more credentials, especially among front-line workers. This strategy can be extended to include employer–higher education partnerships that focus more on high-end and specialized skills as well as work-and-learn models such as apprenticeships. Finally, states could extend this strategy to include state community and workforce development programs that use community-based organizations and provide better access to more low-income and disadvantaged populations. In all three cases, this strategy would promote employer–higher education partnerships that could produce more high-demand credentials through innovative, cost-effective delivery systems.

#### State employer-based programs

State economic development organizations are now focusing more attention on a competitive workforce, and how they can respond quickly to employer needs for skilled workers, including front-line workers. State employer-based training programs have historically been the solution. They provide matching funding to employers to train existing workers and new hires, with the purpose of promoting economic growth and expanding employment opportunity. These programs began in the 1970s to attract business investment; they have expanded to address business retention by upgrading and retraining incumbent workers and providing customized recruitment and training of new hires. The first nationwide research on these programs estimated that they provided about \$350 million to \$450 million in matching grants to employers and multi-employer and multi-provider consortia per year through the 1980s.<sup>4</sup> More recent research estimates that annual expenditures for 2001 to 2004 ranged from approximately \$851 million to \$513 million, with high concentrations in a few large- states.<sup>5</sup> These annual funding levels have likely dropped in recent years because of state funding problems, but more recent data are not available.

Early state programs were financed largely through state general revenue funds, but states now use a variety of financing mechanisms, including specialized tax revenues from unemployment insurance collection and bond financing. California was one of the first states to pioneer new financing approaches, implementing a special employer payroll tax. In more recent years, Iowa and other states have pioneered bond-financing approaches.

<sup>4</sup> U.S. Congress Office of Technology Assessment, *Worker Training: Competing in the New International Economy* (Washington, DC: U.S. Government Printing Office, 1990), [http://govinfo.library.unt.edu/ota/Ota\\_2/DATA/1990/9045.PDF](http://govinfo.library.unt.edu/ota/Ota_2/DATA/1990/9045.PDF) (accessed July 4, 2016).

<sup>5</sup> Kevin Hollenbeck and Sarah Klerk, “Evidence About the Effectiveness of Public Training Programs for Incumbent Workers,” *W.E. Upjohn Institute for Employment Research Employment Research Newsletter* 14 no. 2 (2007), [http://research.upjohn.org/cgi/viewcontent.cgi?article=1097&context=empl\\_research](http://research.upjohn.org/cgi/viewcontent.cgi?article=1097&context=empl_research) (accessed July 4, 2016); and K. Hollenbeck, “Public Financing of Workforce Services.”



These state programs also vary in who provides the postsecondary education and training. In some states, the presumed providers are community colleges. In others, employers can choose to provide it themselves or to select from a variety of partners, including publicly funded colleges and universities. State programs vary in the degree to which they match employer investment, what they consider allowable training costs, and whether the training must occur on company time. Most states provide a match of approximately 50 percent of direct training costs, with most training provided at or near the workplace on company time. In contrast, employee training through tuition assistance typically occurs on the employee's time. Matching grants to employers remain relatively limited.

These training programs have been widely evaluated and found to yield positive results for employers, states, and workers.<sup>6</sup> For example, the Massachusetts Department of Workforce Development sponsored an independent evaluation of its Workforce Training Fund, which provides matching grants to employers averaging \$59,000. This evaluation showed positive effects for employers and workers as well as a positive return on investment for the state.<sup>7</sup>

These state employer-based training programs have two major limitations. First, they typically do not provide portable postsecondary credentials for those being trained, and second, they do not work at the scale necessary to increase postsecondary educational attainment. That said, states could redesign and expand their employer-based training programs to encourage employers to work together with their chosen providers to award industry-recognized postsecondary credentials such as degrees, certificates, and certifications. For example, states could match employers at higher rates if those employers' training programs provide more general and transferable skills and result in portable postsecondary credentials. This greater match would recognize the greater risk employers take.

States also could explore new approaches to financing these programs, including tax policies that take into account the shared investment risks that government, employers, and workers run and that provide the stable and reliable investment environment needed to move them to scale. These changes would enable employers to engage with a variety of postsecondary education and training providers, including higher education institutions, and negotiate innovative partnerships. State higher education and workforce policies could provide regulatory relief for these employer-driven initiatives, with a stronger focus on shared risk and performance, including attainment of postsecondary credentials that lead to employment and earnings growth.

### **Employer partnerships and innovative delivery models**

Redesigning state employer-based training programs in combination with other state policies could help support innovative education and training delivery models and encourage these models to provide credentials, especially to low- and moderate-income people who have none. For example, these redesigned programs could encourage employers to use coding camps and related forms of "accelerated learning." According to Course Report, an industry analysis and support organization, there are now about 91 such "schools" (up from 67 in 2015) in the United States and Canada that offer full-time, in-person, "immersive" programs and many more part-time and online schools.

<sup>6</sup> K. Hollenbeck, "Effectiveness of Public Training Programs."

<sup>7</sup> Kevin Hollenbeck and Sarah Klerk, "Evidence About the Effectiveness of Public Training Programs for Incumbent Workers," W.E. Upjohn Institute for Employment Research Employment Research Newsletter 14 no. 2 (2007), [http://research.upjohn.org/cgi/viewcontent.cgi?article=1097&context=empl\\_research](http://research.upjohn.org/cgi/viewcontent.cgi?article=1097&context=empl_research) (accessed July 4, 2016); and K. Hollenbeck, "Public Financing of Workforce Services."

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These schools are expected to graduate about 18,000 students in 2016, up from 10,333 in 2015. Boot camps teach web development and other high-demand IT skills in short (10 to 12 weeks is common), intensive, work-based courses. A few, including General Assembly, offer a wider variety of courses.

Boot camps typically charge \$1,000 per week or more, and that tuition is not eligible for government aid, although the U.S. Department of Education is exploring allowing the use of federal financial aid under certain conditions. Nevertheless, these boot camps are attracting students because employers are hiring their graduates and paying them high salaries. Moreover, some schools charge tuition only after the graduate gets a job or, like App Academy, charge students a percentage of their future income for a set period of time. Some employers offer tuition reimbursement, even to new hires, from schools with which they have partnerships. In a sense, then, boot camps provide more than instruction: They provide “on-ramps” to jobs.

Employers like boot camps because the camps are able and willing to adjust their course offerings to meet changes in employer demand. In addition, they produce graduates who have exactly the skills needed in areas plagued by skill shortages. Increasingly, employers are forming partnerships with selected schools so that they have direct access to graduates and can guide the curriculum. In the process, boot camps are beginning to threaten computer science programs at traditional colleges and universities. In response, some colleges are establishing boot camps of their own or forming partnerships with independent organizations. For example, Rutgers University offers a 24-week, part-time web development course in its Division of Continuing Studies.

Boot camps may address the skill needs of firms and regional economies, but they do little to increase the proportion of workers who have credentials. Some camps, however—including



General Assembly—are developing program credentials. In the words of Kelly and DeSchryver,<sup>8</sup> these “credentials are competency-based achievements that demonstrate mastery of curricula” and are developed in collaboration with companies. States could encourage these leading practices through state employer-based programs, which could then be used to reach low- and moderate-income populations that do not have any type of postsecondary credential. These programs could provide boot camps with matching funding to provide these credentials.

States could expand their employer-based training programs to support employer partnerships with higher education institutions that provide more specialized degrees and certificates in emerging and in-demand fields, such as cybersecurity, biosciences, and data sciences. For example, these expanded programs could provide seed funding to state and regional partnerships, similar to the partnerships developed through the Business-Higher Education Forum. They could also provide matching funds to employer–university/college partnerships to develop specialized online courses and certificates, similar to the AT&T partnership with Udacity.

State employer-based training programs could also work with a variety of work-and-learn models, such as apprenticeships, through seeding funding or matches to employer contributions. In all cases, states could give priority to partnerships that involve employers and institutions of higher education—partnerships that provide both postsecondary credentialing opportunities for more students and workers who do not already have postsecondary credentials and alternative credentials such as education certificates or accelerated degrees that provide the best pathway to further education and career advancement.

### **Partnerships with community-based organizations to reach the disadvantaged**

Finally, state employer-based training programs could use the lessons learned from state community and workforce development programs that use community-based organizations to expand opportunities for low-income and disadvantaged populations. State efforts to increase postsecondary credential attainment face major challenges in how to expand access and ensure success for low-income residents, especially disadvantaged youth and adults who face multiple barriers to education and employment.

Many higher education reforms have focused on how to improve access and success at community colleges and the role that community-based organizations can play in supporting low-income adults attending these colleges, but states have paid insufficient attention to how these organizations could provide entry-level postsecondary credentials that lead to further education and employment. Many of these community-based organizations provide technical training, adult education and literacy, and a variety of support services through federal and state safety net programs and private funding. Recent studies and policy reports have identified a number of community-based nonprofit organizations (NPOs) that serve disadvantaged populations and have strong employer partnerships as well as education and training programs leading to postsecondary credentials. Examples include Instituto del Progreso Latino, Jane Addams Resource Corporation, and i.c.stars.<sup>9</sup> Many of these organizations are scalable, growing, and moving into multiple metropolitan areas.

<sup>8</sup> Andrew P. Kelly and David A. DeSchryver, *Beyond Bootcamps: Policy Considerations for Accelerated Learning* (New York: General Assembly, 2015), [https://ga-core.s3.amazonaws.com/cms/files/files/000/002/750/original/General\\_Assembly\\_Beyond\\_Bootcamps\\_Policy\\_Report.pdf](https://ga-core.s3.amazonaws.com/cms/files/files/000/002/750/original/General_Assembly_Beyond_Bootcamps_Policy_Report.pdf) (accessed July 4, 2016).

<sup>9</sup> USCCF, *Managing the Talent Pipeline*.

States could use their employer-based training programs to increase the capacity of more of these community-based NPOs to use employer investment and provide postsecondary credentials that lead to further education at community colleges and universities. One example is the Illinois Job Training and Economic Development (JTED) Grant Program, which provides funding to community-based NPOs that have strong employer partnerships in key sectors such as health care, manufacturing, and IT. JTED uses performance-based funding to pay organizations that meet enrollment, completion, employment, and retention targets. Many of these same providers also use state employer-based training programs as well as related federal education and workforce programs (for example, the Workforce Innovation and Opportunity Act). These organizations are uniquely positioned to expand access to the most disadvantaged, low-income populations because they provide accelerated, concentrated education and training services designed to be successful with populations that seek immediate employment but do not have the skills needed. These organizations also provide the support services needed for successful completion and transition to employment.

## ***Strategy 2: Encourage the expansion and restructuring of employer TAPs***

The second strategy is for state policymakers to use their student grant and loan agencies to provide incentives to employers that extend access to TAPs to employees who do not have college degrees.

### **Potential TAP opportunities**

As described earlier, about 16 percent of employer investment comes through TAPs. More than half of U.S. firms that employ 20 or more workers offer their employees tuition reimbursement for courses taken at colleges and universities. Even though few workers take advantage of the offer, employers spend over \$28.3 billion a year on tuition reimbursement<sup>10</sup>—more than a third of the \$77 billion that state governments spend on higher education (not counting the \$3 billion generated by state lotteries or \$10 billion that local jurisdictions spend).

Such a substantial investment by private employers raises an obvious question: Could state policies better use this private source of funding to help achieve state goals for postsecondary credential attainment? The answer is yes—if they can motivate employers to create or expand tuition reimbursement programs and to better target them to lower-level employees. Are there public benefits that would justify such state expenditures? The answer, again, is probably yes—depending on the cost and impact. If employers benefit from a more skilled workforce, so does the regional economy. If employees acquire more marketable skills and credentials, they and their families are likely to benefit from the employee's greater strength on the labor market and to generate higher tax revenues. Finally, the classic public benefits of further education should apply to these students as well as others: better health habits, higher civic participation and greater happiness. Thus, it could be said that the public is not only “free riding” thanks to the substantial spillover benefits from these private investments in education and training but also that the potential benefits are being missed because employers do not reap the full return on their investments and thus invest less than they would if they did.

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<sup>10</sup> Coleen Flaherty Manchester, “General Human Capital and Employee Mobility: How Tuition Reimbursement Increases Retention Through Sorting and Participation,” *ILR Review* 65 no. 4 (2012): 951–974; and A. Carnevale, *College Is Just the Beginning*.

Taken together, these observations suggest that it would be good public policy for state governments to co-invest in TAPs if they can do so in ways that lead employers to create or expand such programs, channel more of the assistance to workers who now lack postsecondary credentials and encourage greater use and credential attainment by workers.



In fact, employers run some risk that the training they provide will end up benefitting competitors, although the extent of such risks is unclear and probably varies considerably by industry. A recent and methodologically sophisticated study by Accenture finds that the health firm Cigna realized a 129 percent return on its investment in tuition benefits.<sup>11</sup> Cigna itself was surprised and in light of this finding has decided to treat its TAP less as an employee benefit and more as a strategic investment in talent management. That approach, in turn, has led Cigna to increase its financial support to \$10,000 for undergraduate degrees in strategic fields of study but to lower its support to \$4,000 in nonstrategic fields. Cigna is also launching an advisory service to help participants navigate career pathways, and it is “working with its education partners to accept payment after each semester when employees can access the reimbursement funds.”<sup>12</sup>

In industries that experience high turnover, such as hospitality and retail sales, degree-focused TAPs may pay for themselves in reduced hiring and training costs and increased employee quality and loyalty. Still, many employers believe that assisting employees to obtain portable credentials is risky at best. They are probably right in some cases—perhaps even most cases. In any event, they act accordingly.

Taken together, these observations suggest that it would be good public policy for state governments to co-invest in TAPs if they can do so in ways that lead employers to create or expand such programs, channel more of the assistance to workers who now lack postsecondary credentials and encourage greater use and credential attainment by workers. In considering the potential of TAPs, however, it is important to keep in mind certain features and trends. First, many firms offer TAPs as a recruiting tool but do not encourage employees to take advantage of this benefit, presumably because the expenses can be substantial. During the recent recession, many firms eliminated their TAP programs or took steps to tie them more closely to their talent-management strategies.<sup>13</sup>

<sup>11</sup> Lumina Foundation, *Talent Investments Pay Off: Cigna Realizes Return on Investment From Tuition Benefits* (Indianapolis: Lumina Foundation), <https://www.luminafoundation.org/files/resources/talent-investments-pay-off-cigna-full.pdf> (accessed July 4, 2016).

<sup>12</sup> Ibid.

<sup>13</sup> Brenda Kowske and Kim Lamoureux, *Tuition Assistance Programs: Best Practices for Maximizing a Key Talent Investment* (Oakland, CA: Bersin and Associates, 2013), <https://www.edassist.com/~media/BH/EdAssist/resources-media/research-reports-webinars/maximize-tuition-assistance-programs/Bersin%202012%20%20TuitionAssistance%20Study%20Sponsored%20by%20EdAssist.ashx> (accessed July 4, 2016).

Second, only about 5 percent of employees take advantage of TAPs. One reason is that many firms do not cover much of today's high tuition, and even when they do, federal law limits the amount that is tax deductible to \$5,250. Furthermore, most firms do not cover associated expenses, such as books and fees. Finally, most firms pay the reimbursement only after course completion and often only if the student achieves a certain grade. For these reasons, the TAP take-up rate is very low, and most who do take advantage of this opportunity are employees who already have a bachelor's degree.

Yet, some developments suggest a growing interest in TAPs. As the United States recovers from the recession and labor markets tighten and because productivity in the “knowledge economy” depends increasingly on human capital, employers are increasingly concerned about talent acquisition, development and retention. Moreover, they are finding that TAPs, especially when well integrated with their talent-management strategies, can improve retention and performance rather than facilitating employees jumping to other employers, as it did for Cigna. That may especially be the case for low-wage industries in which turnover is high, such as hospitality—industries in which most employees lack postsecondary credentials. Starbucks' innovative partnership with Arizona State University (ASU) gives employees a powerful incentive to stay with their employer long enough to complete a degree while attending classes part time.

Finally, according to a recent report by Deloitte and the Aspen Institute,<sup>14</sup> today's young workers are more interested than previous cohorts in the opportunities an employer offers for career progress. That may be one reason employers are offering increasingly attractive TAPs. Starbucks recently expanded and revised its program so that it now covers all four years of a degree program, not just the last two, and now reimburses students after each semester rather than only after they complete 21 credits. Perhaps most importantly, the Starbucks agreement with ASU covers the cost of counselors assigned to each student, who appear to make a substantial difference to students' capacity to solve problems that arise and therefore complete their programs.<sup>15</sup>

Starbucks may be exceptional, but it is not alone. Several firms have approached it to learn more about its program, and other major firms have launched programs of their own that go beyond traditional tuition reimbursement to include partnerships with specific colleges. Health care provider Anthem has a partnership with Southern New Hampshire University's competency-based College for America. McDonald's is partnering with community colleges to give its front-line employees access to courses in business and hospitality; although it caps reimbursement at fairly modest amounts per year, it does engage the Council for Adult and Experiential Learning to provide counseling and grant credit for knowledge and skills obtained through prior work experience. In contrast, Fiat Chrysler offers to pay in advance for its dealership workers to take as many courses at Strayer University as they like.<sup>16</sup> Jet



<sup>14</sup> Deloitte and The Aspen Institute, *A Guide to Upskilling America's Frontline Workers: A Handbook for Employers* (2015), [http://www.upskillamerica.org/wp-content/uploads/2015/04/Upskilling\\_Employer\\_Handbook\\_042015.pdf](http://www.upskillamerica.org/wp-content/uploads/2015/04/Upskilling_Employer_Handbook_042015.pdf) (accessed July 5, 2016).

<sup>15</sup> Amanda Ripley, “The Upwardly Mobile Barista,” *The Atlantic*, May 2015, <http://www.theatlantic.com/magazine/archive/2015/05/the-upwardly-mobile-barista/389513> (accessed July 4, 2016).

<sup>16</sup> Goldie Blumenstyk, “Why More Colleges Are Emulating Deals Like the ASU–Starbucks Alliance,” *The Chronicle of Higher Education* (Jan. 22, 2016).

Blue recently announced a program that covers the full cost of an online associate degree at Thomas Edison State and all but the \$3,500 fee for the capstone course of a bachelor's degree. Jet Blue assigns a "success coach" to each student to help him or her stay motivated and complete the program.<sup>17</sup>

Many of these partnerships involve negotiated tuition discounts for the employees, with the average discount being 40 to 50 percent. Strayer has such agreements with about 300 companies, including Starbucks, but Strayer's deal with Fiat Chrysler is much more customized, as is Starbucks with ASU and Jet Blue's with Thomas Edison State. Such customized agreements are spreading rapidly, suggesting a growing interest on the part of employers in helping their employees obtain additional education. States could capitalize on this interest.

Do these programs provide tangible benefits to the employees who participate in them? The best, most recent evidence is in the Accenture study of Cigna's Education Reimbursement Program (ERP). "The wage gain analysis revealed that entry-level and mid-management ERP participants received, on average, a 43% incremental wage increase over the three year period as compared to non ERP participants." The gains were 57 percent for Cigna's entry-level employees.

### **Address barriers to expanding and using TAP investments**

As noted earlier, although TAP benefits are typically available to all employees, they are not widely used, especially by those without a college degree. One major barrier for low- and moderate-income workers is that they have to pay tuition in advance and are reimbursed only after they successfully complete the course. This is a major risk for employees, especially those who have no prior experience with postsecondary education, as well of course for those who cannot front the money to pay for tuition. In addition, colleges and other providers of postsecondary education are usually not in a position to defer tuition until after the student obtains the credential he or she is pursuing.

To lower this barrier, states could use their student grant and loan agencies to launch new programs that enable all residents to easily obtain low-cost, short-term loans to finance their tuition payments while awaiting employer reimbursements. They could also provide matching grants to low-income employees as further incentive to use employer tuition aid benefits. They could provide low-cost insurance against losses to universities, colleges, and other state-regulated education and training providers willing to defer payment of tuition until students are reimbursed by their employers. They could provide insurance to employers and students who do not derive the expected returns on their investments because employers do not retain workers who use the benefits or workers do not have sufficient earnings to repay loans without hardship.

In addressing employer upper limits on tuition aid and the federal cap on the amount that is tax deductible, states could provide additional student grant and loan financing above the employer match or the federal tax cap in critical high-demand fields with high earnings. Doing so would directly promote a growing state tax base and provide additional financing for colleges and universities that provide high-value postsecondary credentials in critical industries for state and regional economic development. They could also support employer partnerships with universities and colleges that lower costs and make it easier for working adults to finance and complete postsecondary education programs.

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<sup>17</sup> Corinne Ruff, "Jet Blue Will Pay Employees' College Tuition Upfront," *The Chronicle of Higher Education* (April 18, 2016).





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Finally, states, either individually or through the National Governors Association (NGA), could urge Congress to raise the cap on the tax deductibility of tuition reimbursements. U.S. Sen. Ron Wyden has introduced legislation—the PARTNERSHIPS Act—that includes provisions to double the amount of eligible tax-free employer education assistance to \$10,500 and exclude certain loan forgiveness or loan repayments from tax. H.R. 3861, the Employer Participation in Student Loan Assistance Act, introduced by U.S. Rep. Rodney Davis, would allow employees to use the dollars available through a tax-exempt tuition benefit (up to \$5,250) to help pay off student loans.

This section has focused on TAPs, but there is a related benefit that employers are increasingly using to attract and keep employees: assistance with student loan repayment. More than two-thirds of college graduates have student loan debt; until they repay it, many are reluctant to invest in additional education. To deal with a shortage of nurses, for example, some hospitals have offered help paying down their nurses' education debt. States have done something similar for teachers, and the National Institutes of Health has used this approach to attract physicians. In the face of exploding student loan debt and tighter labor market, however, firms are beginning to offer such benefits to all their employees. According to a recent report from the Society for Human Resource Management,

“a growing number of employers have announced they will be offering this benefit in the future, and more are thinking about providing it.”<sup>18</sup> Still, only 3 percent of employers offer such help now. State governments could use the communications channels they have, including the governor’s bully pulpit, to increase that number.

States could also encourage Congress to pass legislation to add student loan repayment to Section 127 of the Internal Revenue Code, the section that authorizes employee benefits to be paid with pretax dollars. Until that happens, states could publicize a workaround that Prudential Retirement pioneered that achieves the same tax savings and protects employees taking advantage of their firm’s 401(k) retirement plans to pay for continuing education. According to the Society for Human Resource Management’s Stephen Miller, “Employees who make student loan payments receive a pretax contribution to their retirement account from their employer based on that student loan repayment, whether or not they contribute to their 401(k) plan or receive matching contributions.”<sup>19</sup>

On the surface, this benefit may seem targeted more to college graduates struggling to repay their educational loans. In fact, almost half of the students who begin college drop out, and many of them have accumulated student debt along the way. With or without TAPs, they are reluctant to finance further education until they have paid off their existing loans. It is here that employer assistance could make the greatest contribution toward employees attaining postsecondary credentials. States should do what they can to promote such benefits.

### ***Strategy 3: Take advantage of existing economic development programs designed to promote innovation***

The third strategy is for state policymakers to use existing economic development programs designed to promote innovation (for example, research and development [R&D], entrepreneurship) to produce credentials, as well. States can do this by redesigning employer and research university partnership programs to focus more on credentials and extending these partnerships to other universities, community colleges, and even high schools. This redesign should focus on improving completion rates of underrepresented populations in high-demand areas such as science, technology, engineering, and mathematics (STEM) fields and providing alternative credentials (for example, education certificates, industry certifications) to front-line technicians that lead to further education and career advancement.

There is growing recognition that the United States as well as states and regions will increasingly compete on innovation in the global economy.<sup>20</sup> More and more businesses are recognizing the role of innovation in remaining competitive.<sup>21</sup> They will compete on how well they develop new products, services, technologies, and business models and how well they develop the talent to drive and support such innovation. Recent research and business publications on leading employer practices in innovation are full of examples of how businesses are exploring new ways to build stronger innovation

<sup>18</sup> Joanne Sammer, Easing the Student Loan Debt Burden? Points to Consider (SHRM website article, Jan. 7, 2016).

<sup>19</sup> Stephen Miller, A Student Loan Repayment Benefit with a Twist (SHRM website article, Apr. 1, 2016)

<sup>20</sup> Robert Atkinson and Steven Ezell, *Innovation Economics: The Race for Global Advantage* (New Haven, CT: Yale University Press, 2012).

<sup>21</sup> American Management Association, *The Quest for Innovation: A Global Study of Innovation Management 2006–2016* (New York: American Management Association, 2006), [http://www.amanet.org/images/hri\\_innovation.pdf](http://www.amanet.org/images/hri_innovation.pdf) (accessed July 4, 2016); and Kim Thomas, *Talent Strategies for Innovation* (London: Economist Intelligence Unit, 2009), [http://graphics.eiu.com/marketing/pdf/Ontario\\_Innovation.pdf](http://graphics.eiu.com/marketing/pdf/Ontario_Innovation.pdf) (accessed July 4, 2016).

capabilities both internally and through more open innovation alliances that involve universities and colleges.<sup>22</sup> Finally, states and regions are increasingly pursuing economic development strategies that focus on building competitive advantage through clusters of innovation.<sup>23</sup>

### Employer and higher education R&D partnerships

Over the past four decades, states have actively promoted innovation by providing incentives and related funding to increase the level and impacts of public and private R&D investment. State policymakers have pioneered a variety of economic development programs to expand both employer and state investment in R&D, improve the transfer of technology between research universities and firms, create industry and university partnerships, and expand the pool of science and technology talent.

For example, most states now have a state R&D tax credit program to increase business R&D investments. Recently, some states have focused on connecting university and college students in critical science and technology fields to in-state employers. For example, the Massachusetts Life Sciences Center currently operates the Cooperative Research Matching Grant Program for employers and universities as well as the Internship Challenge program, which facilitates the placement of students and recent graduates in the life sciences in paid internships that the program subsidizes.

### Employer-sponsored innovation challenges

How could states use these leading economic development programs to increase credential attainment? They could redesign and expand industry and university R&D partnership programs to increase postsecondary credential attainment in critical industry sectors or key science and technology areas such as life sciences and materials science. States could also use related state entrepreneurship programs that focus on IT. In addition, states could provide scholarships, work-study funding, and subsidized paid internships to students who help carry out R&D activities and who can receive specialized certificates directly linked to that activity. Finally, states could provide additional incentives for engaging underrepresented student populations and students who are just entering programs to improve completion rates.

States could experiment with this idea by engaging employers in co-sponsoring and funding innovation challenges with universities and colleges that offer related postsecondary credentials and are positioned to provide additional and more specialized educational certificates. States could provide funding that requires that students involved in these challenges receive some type of postsecondary credential, including alternative credentials such as industry certifications and microcredentials.

Innovation challenges have become a major vehicle by which employers, industry groups, and states engage students in pursuing higher education. Leading national business organizations and employers are now promoting innovation challenges as a major way to build talent pipelines for their critical

<sup>22</sup> Henry Chesbrough, *Open Business Models: How to Thrive in the New Innovation Landscape* (Boston: Harvard Business School Press, 2006); Tony Davila, Marc Epstein, and Robert Shelton, *Making Innovation Work: How to Manage It, Measure It, and Profit From It* (Saddle River, NJ: Wharton School Publishing, 2006); and Peter Skarzynski and Rowan Gibson, *Innovation to the Core: A Blueprint for Transforming the Way Your Company Innovates* (Boston: Harvard Business Press, 2008).

<sup>23</sup> Michael Porter, *The Competitive Advantage of Nations* (New York: The Free Press, 1990); and U.S. Council on Competitiveness, *Measuring Regional Innovation: Guidebook for Conducting Regional Innovation Assessments* (Washington, DC: Council on Competitiveness, 2005), <http://www.compete.org/reports/all/212> (accessed July 4, 2016).



work.<sup>24</sup> In addition, many national higher education initiatives have adopted the same strategy in promoting interest in STEM and the liberal arts—for example, DQP Assignment Library and the LEAP Challenge<sup>25</sup>. These challenges could be used with other employer partners such as professional associations and unions, coding boot camps (such as General Assembly), and community-based nonprofit partners (for example, i.c.stars) that are well situated to engage nontraditional students and give them access to postsecondary credentials.

Further, these challenges would provide opportunities for both universities and community colleges to become regional innovation hubs in cooperation with business and economic development organizations and high schools.<sup>26</sup> They could be used to provide an “innovation space” within universities and colleges to explore a variety of public–private partnerships and delivery models, including innovative project-based work-and-learn models,<sup>27</sup> and help public universities integrate their multiple missions supported through existing state investments.<sup>28</sup> Finally, they could address problems in technology transfer: Many employers make these investments to gain access to highly qualified students who have become experts in developing and using leading-edge technologies through these business and higher education partnerships. States that make connections between in-state employers and the top innovation talent enjoy the benefit of this talent remaining employed in the state.

Innovation challenges have become a major vehicle by which employers, industry groups, and states engage students in pursuing higher education.



<sup>24</sup> United States Chamber of Commerce Foundation (USCCF), *Competing on Innovation: Disrupting the Education Enterprise to Build Tomorrow's Talent*, Today, Washington, D.C.: USCCF.

<sup>25</sup> Robert G. Sheets and Jason A. Tyszko, “Competing on Innovation: Implications for Building the Middle-Skill Talent Pipeline” (paper prepared for the National Academies Board on Science, Technology, and Economic Policy Symposium on the Supply Chain for Middle-Skilled Jobs: Education, Training, and Certification Pathways, 2015), [http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga\\_167994.pdf](http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pga_167994.pdf) (accessed July 5, 2016).

<sup>26</sup> Jason A. Tyszko and Robert G. Sheets, “Illinois Innovation Talent Project: Implications for Two-Year Institutions,” in *Advancing the Regional Role of Two-Year Colleges*, ed. L. Allen Phelps, *New Directions for Community Colleges*, no. 157 (San Francisco: Jossey-Bass, 2012), 67–82, [http://samples.sainsburysebooks.co.uk/9781118405697\\_sample\\_407120.pdf](http://samples.sainsburysebooks.co.uk/9781118405697_sample_407120.pdf) (accessed July 4, 2016).

<sup>27</sup> Robert G. Sheets and Stephen Crawford, “Creating Institutional Space for Business Model Innovation,” *Continuing Higher Education Review* 77 (2013), <http://files.eric.ed.gov/fulltext/EJ1089497.pdf> (accessed July 4, 2016).

<sup>28</sup> Eva Klein and Jim Woodell, *Higher Education Engagement in Economic Development: Foundations for Strategy and Practice* (Washington, DC: Association of Public and Land-Grant Universities and University Economic Development Association, 2015), <http://www.aplu.org/library/higher-education-engagement-in-economic-development-foundations-for-strategy-and-practice/file> (accessed July 4, 2016).

## Taking Advantage of Employer Investments: Implications for Quality, Affordability, and Access

This paper has explored three major strategies by which states can take advantage of employer investments to produce more credentials in ways that also promote economic growth and opportunity as well as foster innovative and cost-effective delivery. These three strategies also have some major implications for improving quality, affordability, and access in postsecondary credential attainment.

### *Quality: Credentials lead to further education and employment*

Lumina Foundation is promoting aggressive goals for states to increase the portion of residents who have postsecondary credentials. Recently, Lumina has encouraged states to focus on “high-quality credentials”—defined as those credentials that lead to employment and further education. States can use the three strategies outlined earlier to increase the overall number and quality of credentials that its residents hold. Harnessing the power of employer investment will improve the likelihood that education and training are directly linked to critical employer needs that have the greatest impact on business innovation and productivity. This direct connection will in turn ensure that credentials based on this education and training will lead to employment.

Employer investments have the additional advantage of improving the likelihood that credentialed residents remain in the state, giving that state the full benefit of its investment through increased tax revenues. These state strategies could improve the overall labor market value of these credentials by giving priority to employer partnerships that produce high-demand credentials that have the greatest statewide labor market value with other employers. These strategies also have the potential to encourage more universities and colleges to provide these high-demand credentials and more students and workers to seek them by sharing information about these investments with the larger credentialing marketplace.

On the downside, two of the three strategies are more likely to produce alternative credentials than traditional degrees and certificates that have well-established transfer value and lead to further education. However, state policymakers could design their strategies so that university and college partners recognize these alternative credentials and provide opportunities to build on them for further education.

### *Affordability: Using employer investment and reducing the total cost of participation*

In general, “affordability” refers to the degree to which students and workers can finance their education investment without significant financial hardship. Improving affordability involves managing not only the costs of tuition and fees but also the related costs of participation, such as travel and child care, and tradeoffs in foregone earnings and leisure time. State strategies for taking advantage of employer investment can have positive impacts on the total costs of participation, including lowering the costs of tuition and fees and reducing related costs and trade-offs.

State strategies for taking advantage of employer investment can have positive impacts on the total costs of participation, including lowering the costs of tuition and fees and reducing related costs and trade-offs.

Increasing employer investment through state financial incentives will substantially reduce the direct costs of postsecondary education for many students and workers. Those already employed and new hires served through innovative employer partnerships will realize these cost savings, especially those in programs based on work-and-learn models.

Furthermore, these strategies can reduce other, related participation costs because many of the innovative delivery models better use the workplace itself and provide education and training on company time. Most traditional postsecondary delivery is provided on or near university and college campuses and students must attend around their work schedules. Even with online delivery, students usually attend during their personal time, meaning that such courses still pose work and family scheduling and tradeoff problems. The result is additional financial and nonfinancial costs, especially for nontraditional students, who are more likely to work and have children and other family responsibilities.

### *Access: Reaching those not participating in higher education*

State policymakers must consider how different options for increasing credential attainment will improve the participation of low- and moderate-income students and workers without college degrees and their success in attaining postsecondary credentials. The three strategies this paper presents can increase access by increasing affordability. In addition, these strategies together can improve access because they involve employers in motivating and encouraging more students and workers to participate in postsecondary education and training who would not typically do so. Finally, these strategies have the potential to engage other partners, such as community-based organizations, to address other barriers to participation and success. States can use additional private financing options to capture additional benefits from reductions in expenditures on social safety net programs, such as social impact bonds.

## Recommendations for Implementing the Three Strategies

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The opening paragraphs of this paper noted the difficult choices state policymakers face in increasing postsecondary credential attainment. Those choices come down to dramatically increasing state spending on postsecondary education and training on the one hand and finding ways to improve the productivity of the existing system on the other, with a third option being to provide public incentives to employers to finance and deliver more education and training. These options are by no means mutually exclusive, and policymakers may want to try various combinations. This paper, however, focuses on the third option.

State policymakers should experiment with the three major strategies outlined in this paper to take advantage of employer investment to increase credential attainment. Specifically, policymakers should use both federal and state funds to launch pilot projects to evaluate the relative costs and effectiveness of various policies for implementing the three strategies, with special attention to the overall impact on access, completion, affordability, and quality.

To date, there has been little experimentation with the tools state policymakers could use to encourage greater and more effective employer investments—that is, effective for public purposes—in postsecondary education and training. Consequently, little information is available to guide decisions about which kinds, levels, and combinations of subsidies will have the greatest impact. In such situations, the best way to proceed is to experiment with various packages of incentives by conducting and evaluating pilot projects. It would be especially helpful if groups of states or NGA analyzed pilots currently underway and drew conclusions about the most promising practices.

So, although this paper recommends policies that, based on the analysis above, appear likely to encourage the desired changes in employer behavior, it does not call for committing major resources to any specific incentive. Rather, it urges states to conduct pilots designed to reveal which incentives are most cost-effective.

## ***Recommendation for redesigning existing state employer-based training programs***

The first recommendation concerns how state policymakers can redesign their existing employer-based training programs to increase postsecondary credential attainment. They should start by conducting pilot projects for (1) increasing employer investment in credential attainment among front-line workers, (2) promoting employer partnerships for exploring innovations that improve the cost-effectiveness of education and training leading to credentials, and (3) promoting employer partnerships for exploring similar innovations that can expand access and improve credentialing rates for disadvantaged populations.

### **Increase front-line worker credential attainment**

In the first pilot, state policymakers should explore how to encourage employers and their partners to provide credentials both for existing workers and for new hires. They should determine whether expanding the allowable education and training costs or providing stronger incentives, such as 75 percent or even 100 percent reimbursement for direct instructional costs of training conducted on company time, would be more likely to encourage employers to provide credentials.

States should evaluate this first pilot effort based on whether employers respond to the additional incentives and provide credentialing opportunities to their current and new workers and whether the incentives result in increased credential attainment among front-line workers who have the lowest rates of postsecondary participation. States should also evaluate whether state incentives produce credentials in a more cost-effective way compared to more traditional education and training delivery models at public colleges and universities. Finally, states should evaluate the pilot based on reductions in the total cost of participation for front-line workers compared to more traditional education and training delivery models at colleges and universities.

### **Promote employer partnerships to drive innovation in delivery**

In a second pilot, state policymakers should explore how to use these programs to drive innovation in delivery. In this pilot, employers or employer consortia apply for matching funding to explore an innovative partnership with universities and colleges or alternative providers, including boot camps and blended online courses–program delivery. Employers and their partners would be asked to provide matching funding to explore any innovation that has the potential to improve the cost-effectiveness of education and training delivery that results in a postsecondary credential leading to employment and further education. State policymakers could give priority to those employer partnerships that focus on front-line workers who do not hold college degrees and provide a postsecondary credential leading to further education and career advancement.

This second pilot effort should be evaluated based on whether employers responded to additional incentives to focus on front-line workers and drive innovation and whether these partnerships resulted in improved cost-effectiveness. They should also be evaluated based on reductions in the total costs of participation for students and workers.

## Promote employer partnerships to expand access for disadvantaged populations

State policymakers should explore how to use state programs to encourage community-based NPOs to expand access for disadvantaged populations. Toward this end, states could establish a pilot program in which employers or employer consortia apply for matching funding to implement innovative partnerships with community-based organizations and other partners, such as universities, community colleges, and boot camps. This pilot could also explore which innovative delivery models, such as work-and-learn models, are most effective among disadvantaged populations as well as alternative ways for income support, housing, child care, transportation services, and other safety net programs to address barriers this population faces in attaining postsecondary credentials.

States would evaluate this third pilot based on whether employers respond to additional incentives to drive innovation and whether these partnerships result in improved cost-effectiveness. Similarly, reductions in the total costs of participation for disadvantaged populations and any reductions in costs for safety net programs that serve these populations should also be addressed.

## *Recommendation for encouraging the expansion and restructuring of employer TAPs*

The second recommendation is for state policymakers to explore how states can increase the number of employers that offer TAPs and their use by low- and moderate-income populations that do not hold college degrees. States should explore a variety of incentives and tools, including matching student grants and loans as well as insurance. State student grant and loan agencies or other higher education or workforce agencies could carry out any of three pilot projects to assess this recommendation.

## Expand enhanced employer TAPs

For the first pilot, states can explore how they can structure matching funding to employers that provide enhanced TAPs. “Enhanced” refers to programs that provide a minimum level of benefit and some type of prepayment to education and training providers to increase participation among low- and moderate-income workers.

This first pilot should be evaluated based on whether employers respond to the new incentives by offering TAPs or move to this more enhanced version with higher prepaid benefits. They also should be evaluated based on the additional employer investment through increased benefits and coverage and higher participation rates among low- and moderate-income workers who have college degrees.

## Promote employer partnerships

For the second pilot, states can experiment with providing incentives to employers to expand their partnerships with in-state universities and colleges as well as alternative providers. States could create a matching grant program with employers that establish partnerships (similar to Starbucks and other models described earlier) with in-state universities and colleges that reduce tuition and fees for their employees and drive innovative delivery models that reduce participation costs, especially for low- and moderate-income workers who do not have credentials.



States can evaluate this pilot based on whether employers respond to additional incentives to drive innovation and whether these partnerships result in improved cost-effectiveness. States should consider improved participation rates and reductions in the total costs of participation.

### **Increase use of employer TAP benefits**

The third pilot explores how states can help low- and moderate-income workers take advantage of employer investments by providing workers with matching grants or loans and providing eligible in-state universities and colleges with insurance coverage if they elect to wait for reimbursement after completion of courses at their institutions. For this pilot, states should allow workers to apply for a state grant or loan that provides these benefits as well as information about participating colleges and universities that have agreed to wait for matching payment directly from employers, including the packaging of additional federal and state grant programs.

States can evaluate this pilot based on the participation rates among low- and moderate-income workers without credentials and whether this increased participation results in higher levels of credential attainment for these workers. The pilot should also be evaluated based on the participation rates of universities and colleges, the number of insurance claims for unpaid tuition and fees, and the total costs to the state of providing this insurance.

### ***Recommendation for taking advantage of existing economic development programs designed to promote innovation***

The third recommendation is for state policymakers to explore how better to link states' current investments in R&D and entrepreneurship with opportunities for students to gain valuable education, training, and paid work experience (for example, internships, work-study) that results in postsecondary credentials. This approach could start with a small-scale pilot program that targets critical, in-demand sectors and fields.

### **Innovation challenge pilot program**

For the first pilot, state policymakers should establish a state pilot program for employers or employer consortia to sponsor innovation challenges and projects for students from participating universities, colleges, and high schools. This program could provide matching funds to employers that agreed to provide direct funding to participating educational institutions as well as paid scholarships and internships for participating students. One requirement of the program should be that all students receive a postsecondary certificate from institutions participating in the challenge that the students can use to complete their current degree and pursue further education. This program should give priority to employers and partners that engage more underrepresented students, first-generation, and lower-income students who have the lowest college completion rates in critical fields, and front-line technicians who can attain a first postsecondary credential leading to further education and career advancement in these critical fields.

State policymakers should evaluate such a pilot program on whether the program produces more affordable postsecondary credentials at a lower total participation cost to students, especially targeted student populations. They should also evaluate the effectiveness of innovative problem-based work-

and-learn models in improving skill attainment and completion among students with the lowest completion rates and those without college degrees. Finally, states should determine whether the program improved transition to employment and retention with in-state employers.

### ***Recommendation: Compare employer incentive options to other state financing options***

This paper began by pointing out the limitations of two options state policymakers are now exploring to boost credential attainment: increase spending and improve productivity among public universities and colleges. Then, it offered a third option: Offer incentives to employers to provide education and training that lead to postsecondary credentials.

The fourth recommendation is for state policymakers to use their evaluations of these pilot projects to explore the strengths and weaknesses of the three strategies for increasing the proportion of residents who have postsecondary credentials compared to the other two major options they are actively considering. State policymakers could use these evaluations to estimate the state funding needed in each strategy to produce postsecondary credentials (for example, state cost per credential) and the target efficiency (for example, number and cost of credentials produced in targeted populations) in reaching low- and moderate-income people who have no college degrees and the lowest participation and completion rates at publicly funded universities and colleges. Such a comparison should focus not only on the overall cost-effectiveness of increasing credential attainment but also on the relative contribution of this third option for providing additional benefits, such as promoting economic growth; promoting innovative education and training delivery models; expanding economic opportunity, especially for low- and moderate-income populations; and reducing other state costs, including safety net program costs.

State policymakers could then use these cost-effectiveness and target efficiency comparisons to develop more comprehensive approaches to increasing the proportion of their residents who have postsecondary credentials. For example, state policymakers could set aside a portion of new state funding to offer incentives to employers to pilot-test employer–higher education partnership models in high-demand fields that explore innovative, scalable delivery models for reaching low- and moderate-income populations without college degrees.

They could also use some of this additional funding for pilot-testing incentive programs to improve the target efficiency of employer TAPs and support new employer partnerships models with universities, colleges, and nonprofit community-based organizations designed to expand credential attainment among disadvantaged populations served through safety net programs. This more comprehensive approach would provide additional incentives for public colleges and universities to explore innovative delivery models that improve productivity; it would provide additional incentives to these institutions and other education and training providers to improve quality, affordability, and access in the credentialing marketplace.



## Summary and Conclusions

This paper has explored how state policymakers could provide incentives to employers to increase their investments in postsecondary education and training that leads to credentials. In the process, it has discussed three major state strategies that have the potential to increase employer investment in ways that more directly drive economic growth and expand economic opportunities for low- and moderate-income populations that currently do not have postsecondary credentials. It also explored how these strategies could be used to improve productivity through more cost-effective delivery models and to promote overall quality and affordability. The paper concluded with four recommendations for how states can assess these three strategies through pilot programs and evaluations of these pilots relative to other options, such as increased state spending and productivity improvements at public universities and colleges. This comparison of overall costs and benefits among options will provide state policymakers with information on which combinations of options will produce the highest returns during a time of severe constraints on tax revenues and spending.

