America’s low-skilled workers need access to the education and training that will afford them the opportunity to advance and grow. The White House, among others, has recognized this need. While the focus and emphasis on upskilling incumbent workers is welcome, there is a challenge in defining the right skills and the best delivery mechanisms. Unlike the standard higher education agenda focused on degree attainment, the outcomes here are more nuanced—they are about understanding what combination of knowledge, skills, and mindsets are necessary to allow workers to successfully climb the career ladder. Because there is currently no agreed-upon set of metrics for determining how to successfully upskill these workers, the purpose of this current study, The Impact of CBE on Upskilling Frontline Workers, is to begin to establish those metrics. Furthermore, we aim to apply these measures to help inform the calculation of an employer’s return-on-investment (ROI) of upskilling its incumbent frontline workers.

Here at College for America (CfA), we have examined the existing literature for research that will support the case for employee education programs. For example, we looked at studies demonstrating the value of these programs to business and those that identify the markers of effective programs. Additionally, we determined which metrics have been used to gauge the success of employee education programs and how the returns on investment were calculated. What follows is the information gleaned from the various reports, all of which has served to shape our own research.
Making the case: demand exceeding supply

In a 2015 survey, over 95% of the 200 CEO members of the National Network of Business and Industry Associations reported a skills shortage within their companies.\textsuperscript{1} Similarly, a 2016 Adecco survey of 500 business executives revealed that 92% believed the American workforce lacks the skills needed on the job.\textsuperscript{2} It is likely not a coincidence, then, that as many as 5.9 million jobs were left unfilled according to an August 2016 report by the Bureau of Labor Statistics.\textsuperscript{3} The Centre for Economics and Business Research estimates the impact of this labor shortage to be $160 billion annually.\textsuperscript{4}

One contributing factor to this gap is the mismatch between the number of degree holders in the workforce and the number of jobs requiring postsecondary credentials. According to Georgetown University’s Center on Education and the Workforce, a projected 65% of all jobs in 2020 will require some form of postsecondary credentialing.\textsuperscript{5} Yet, UpSkill America reports that, currently, as many as 24 million Americans working on the frontlines\textsuperscript{6} lack the skills and credentials needed to fill that unmet demand. Consider also, that of the $177 billion employers spend on formal employee training programs every year\textsuperscript{7}, 58% is invested in workers who already have a college degree.\textsuperscript{8} A rethinking of those investments may be necessary to address the skills needs of both businesses and frontline workers.

The importance of investing in frontline workers

The Conference Board’s Committee for Economic Development cited three beneficial outcomes to increasing education beyond high school. The first is the correlation between education and earnings with a bachelor’s degree almost doubling a worker’s income potential. Second, employers also see the benefit of

\textsuperscript{2}“Watch the Skills Gap: See How U.S. Executives See the Skills Gap Impacting the American Workforce,” Adecco, October 4, 2016.
\textsuperscript{5}Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, “Recovery: Job Growth and Education Requirements Through 2020,” Georgetown University Center on Education and the Workforce, 2013, 15.
\textsuperscript{7}Anthony P. Carnevale, Jeff Strohl, and Artem Gulish, “College is Just the Beginning: Employers’ Role in the $1.1 Trillion Postsecondary Education and Training System,” Georgetown University Center of Education and the Workforce, 2015, 3.
\textsuperscript{8}Carnevale, et al., “College is Just the Beginning,” 5.
investing in education and training programs, which can result in improved recruitment, greater productivity, higher employee retention rates, and a stronger bench. The third benefit is to society as a whole—with the education they need to succeed, these workers contribute more in taxes, spend more money in the community, and are less likely to be involved in criminal activity. The Conference Board study further revealed that while companies tend to use their tuition assistance program passively—as a recruitment and retention tool (most focus on training investments for skills attainment), they have witnessed a “positive impact on office and corporate culture, improved communication skills, employee satisfaction, and retention. Often companies see that ‘it’s just good business practice’: better-trained employees can lead to increased profitability.”

A 2012 study by Corporate Voices for Working Families explored the value of “learn and earn” programs to a company’s bottom line and found that the various companies studied shared a goal to “strengthen their talent pipeline of current and future workers.” Specific outcomes of the programs studied included cost savings at Pacific Gas and Electric Company (PG&E) by way of a quicker path to productivity; improvements in recruitment, retention, career mobility and job performance at Verizon Wireless as a result of their implementing their employee LearningLink program; and a stabilizing of the call center workforce at Convergys, which led to greater bench strength. More recently, the Institute for Corporate Productivity (I4CP) found that 89% of employers offer upskilling programs for their frontline workers, and 98% of those plan to maintain or grow those programs. Eighty-three percent of survey respondents indicated that a goal of frontline worker development is to provide a “better experience for their customers.” Among the indicators determining effective implementation and high utilization of the

frontline worker development programs is the percentage of frontline workers who are rewarded with higher-skilled jobs and/or higher wages.\textsuperscript{15}

**Hallmarks of effective programs**

I4CP’s research uncovered promising practices of companies that they refer to as “high performance organizations” with respect to developing their frontline workforce. These include encouraging frontline workers to take advantage of development opportunities, rewarding those who do upskill with promotions and higher wages, and holding managers and supervisors responsible, and rewarding them for developing frontline workers.\textsuperscript{16} The Conference Board found that employees were unclear as to how increased education or training would lead to the next rung on the career ladder.\textsuperscript{17} Thus, a stronger link between educational and vertical advancement might increase participation. The Conference Board also found that substantial time and effort are required to ensure that partnerships between “corporate leadership, frontline workers, and higher education partners” lead to the appropriate outcomes for businesses and workers.\textsuperscript{18} Benefits such as tuition assistance and flexible scheduling can “be the determining factor as to whether or not an employee earns a degree or credential.”\textsuperscript{19} A University of Chicago study found that almost half of service workers in the U.S. are provided their work schedule with seven days or fewer advance notice.\textsuperscript{20} A 2012 study of retail workers by The Retail Action Project found that “only 17% of workers surveyed have a set schedule.”\textsuperscript{21} This “precarious work schedule” hampers the ability of these workers to participate in synchronously-delivered education and training programs, and suggests that many would be better served by the asynchronous delivery of online settings. The National Network of Business and Industry Associations Connecting Learning and Work reported that “the most successful work-and-learn models...may include:

\textsuperscript{15} Institute for Corporate Productivity, “Developing America’s Frontline Workers,” 5.

\textsuperscript{16} Institute for Corporate Productivity, “Developing America’s Frontline Workers,” 4.

\textsuperscript{17} The Committee for Economic Development, “The Role of Business,” 11.

\textsuperscript{18} The Committee for Economic Development, “The Role of Business,” 16.


• Multiple funding sources;
• Competency-based learning progressions;
• Attainment of industry-recognized credentials;
• Assessments (e.g., third-party, observational, standardized) of the learning;
• Learners' acquisition of academic credit;
• An emphasis on mentorship;
• Integration of common employability skills (e.g., critical thinking, communication, teamwork) into the learning progression;
• Work elements that reflect the regional/local economy;
• Support or operation by a third party, including industry associations, chambers of commerce and community colleges; and
• Strong community partnerships among the business, industry partners, government and educational institutions.”

**Metrics for measuring ROI**

I4CP found that among the metrics employers utilize to validate their programs are employee engagement, retention, and individual productivity improvements. Similar metrics for return on investment of tuition assistance programs were uncovered by Bersin and Associates in a study they conducted for EdAssist. Their research pointed to the primary goals of tuition assistance being employee retention, mobility, succession planning, and improved performance.

**Calculating ROI**

Accenture, with support of the Lumina Foundation, has broken new ground with its study and calculation of the ROI of tuition assistance programs. Accenture developed a methodology and “ROI maturity model” to calculate the value of investments made by employers. Included in the revenue side of that model were
items such as productivity output, product or service innovation, new skills, employee engagement, customer satisfaction, brand recognition, loyalty, time savings and efficiency, risk avoidance, turnover, promotions, internal transfers, and absenteeism. They defined costs as training/tuition fees, administration and evaluation, productivity loss, replacement costs, and employee salary and benefits. Employer ROI was then determined by subtracting the total investment in the programs from the total benefits, dividing that difference by the total investment, and multiplying that quotient by 100.\textsuperscript{25} Accenture worked with Cigna to apply this methodology to its Educational Reimbursement Program (ERP), and found that for every $1 spent on ERP, the company enjoys an ROI of $1.29.

\textit{Impact of CfA}

For its extended study on the impact of upskilling frontline workers, CfA seeks to build on the research described here. We hope to adapt a methodology specifically for frontline worker development, similar to that used by Accenture, by utilizing CfA programs as the laboratory for the study. Additionally, we seek to isolate the specific skills and competencies that can propel a worker toward career success even in the absence of an earned degree. Through this work we hope to shed new light on how to address the skills mismatch, reinforce the importance of investing in frontline workers, identify best practices for the creation and implementation of frontline worker development programs, and validate nascent methods for measuring and calculating ROI.

\textsuperscript{25}“Talent Investments Pay Off: Cigna Realizes Return on Investment from Tuition Benefits,” Lumina Foundation, 2016, 4-5.