



**Atlantic Council**

GLOBAL BUSINESS  
& ECONOMICS PROGRAM

# Training Our Future: Skilled Workers and the Revival of American Manufacturing



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### Acknowledgements

Building a skilled workforce is of crucial importance to the future of US and European competitiveness. With that in mind, the Atlantic Council is engaged with others in analyzing competitiveness in a transatlantic context, bringing together best practices from the US, Europe, and elsewhere to ensure a vibrant and growing transatlantic economy for years to come.

The Atlantic Council would like to thank GE for its generous financial support of this project. Training and educating a skilled workforce that can compete in the global economy is of paramount importance for both GE and the Council. Through its Get Skills to Work program, GE is leading the way in training veterans and its own workers and setting an important example for others to follow.



## A New Day for American Manufacturing

The United States is at a pivotal moment that will determine its manufacturing competitiveness for decades to come. Once discounted by many economists and policymakers as passé, manufacturing—and especially advanced manufacturing—presents an opportunity to foster economic growth and create skilled jobs for those countries that can seize it. Since December 2009, advanced manufacturing in the United States added 500,000 employees, including 139,000 in the first four months of 2012 alone.<sup>1</sup> These are not just jobs; they are what Gallup CEO Jim Clifton has called “good jobs.” As Clifton defines it, “A good job is a job with a paycheck from an employer and steady work that averages thirty plus hours per week.”<sup>2</sup>

Today, cheaper energy from newly accessible domestic shale deposits is driving down the cost of manufacturing. With natural gas prices falling from thirteen dollars per thousand cubic feet to below four dollars, US manufacturing companies could add approximately one million workers by 2025 thanks to energy savings and increased product demand.<sup>3</sup>

Also, labor factors that drove production overseas during the 1980s through the

early 2000s are slowly beginning to reverse. Manufacturing costs in China’s Pearl River Delta rose 11 percent during 2011, while factory wages have increased 10 percent in the manufacturing centers of Guangzhou and Dongguan provinces.<sup>4</sup> Other countries face similar wage pressures as their burgeoning middle classes agitate for better pay and working conditions.

*We need nothing less than a nationwide campaign to improve the manufacturing workforce.*

### A Demand for a Workforce with the Right Skills

Yet it is far from clear that the United States is prepared to take full advantage of this opportunity. Global shifts in economic power and energy production are driving an intense discussion across the country and in Washington about how to best equip workers with the necessary skills to support a manufacturing renaissance.

Surveys of US CEOs show that they see a skills gap hobbling American manufacturing. In

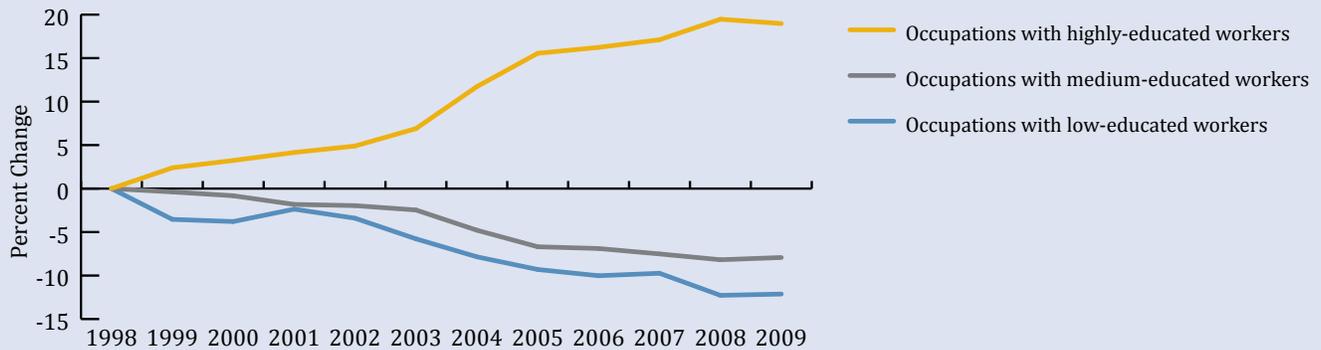
1 US Advanced Manufacturing National Program Office, “US Manufacturing in Context,” [http://www.manufacturing.gov/mfg\\_in\\_context.html](http://www.manufacturing.gov/mfg_in_context.html).

2 Jim Clifton, “The All-Out War for Good Jobs,” *Gallup Business Journal*, February 14, 2012, <http://businessjournal.gallup.com/content/151856/war-good-jobs.aspx>.

3 “Shale Gas: A Renaissance in US Manufacturing?” PricewaterhouseCooper, December 2011, [http://www.pwc.com/en\\_US/us/industrial-products/assets/pwc-shale-gas-us-manufacturing-renaissance.pdf](http://www.pwc.com/en_US/us/industrial-products/assets/pwc-shale-gas-us-manufacturing-renaissance.pdf), 1.

4 Jonathan Woetzel, Xiujun Lillian Li, William Cheng, *What’s Next for China?*, McKinsey & Company, December 2012, <http://www.mckinseychina.com/wp-content/uploads/2012/11/Whats-next-for-China-Jan-22-v2.pdf>.

### Employment in Occupational Groups Defined by Education Level



High level of education refers to tertiary level or more than 15 years of schooling; medium level of education refers to no tertiary but at least upper secondary education or around 12 years of schooling; low level of education refers to less than upper secondary education or 11 years of schooling. See *OECD Skills Outlook 2013*, [http://www.oecd-ilibrary.org/education/oecd-skills-outlook-2013\\_9789264204256-en](http://www.oecd-ilibrary.org/education/oecd-skills-outlook-2013_9789264204256-en), 51.

2011, Deloitte and the Manufacturing Institute polled over a thousand manufacturing CEOs and found that their companies had about a 5 percent vacancy rate, despite a nationwide unemployment rate of 8.9 percent at that time.<sup>5</sup> Extrapolated to all US manufacturing firms, this would mean there are six hundred thousand job vacancies in the manufacturing sector. That would be more than double the number of vacancies being reported by the Bureau of Labor Statistics. A 2012 survey by the ManpowerGroup found that 49 percent of US employers are having trouble filling open jobs, up from 14 percent in 2010. ManpowerGroup further estimates that this may contribute to the unprecedented \$1.8 trillion of liquid assets being held by US companies.<sup>6</sup>

New academic research by the Atlantic Council and the University of Maryland now also identifies evidence of a skills gap. For example, as Georgetown Professor of Public Policy Harry Holzer points out, wages in higher-skilled professions have remained persistently

higher than they should.<sup>7</sup> This suggests that the skills market is not working properly by evening out pay rates as more workers enter a lucrative field. Instead, persistent pay gaps remain in key sectors, implying that there is a shortage of workers with the necessary skills. Manufacturing, particularly advanced manufacturing, is a prime example of a sector where this is happening.

*It is far from clear that the United States is prepared to take full advantage of this opportunity.*

#### New Thinking and New Roles to Train a New Workforce

Businesses, in the form of employer-led training efforts, and government, through its myriad programs, are each trying to build the workforce that can support a renaissance in American manufacturing. Yet they approach this

5 Deloitte and the Manufacturing Institute, *Boiling Point? The Skills Gap in US Manufacturing*, 2011, p.1. [http://www.themanufacturinginstitute.org/~/\\_media/A07730B2A798437D98501E798C2E13AA.ashx](http://www.themanufacturinginstitute.org/~/_media/A07730B2A798437D98501E798C2E13AA.ashx).

6 Manpower Group, *Talent Shortage Survey Research Results*, 2012, 4.

7 The US labor market currently shows persistent and growing earnings inequality between skilled and unskilled labor. Holzer contends that this earnings gap results from a higher demand for skilled labor relative to unskilled, with too small a supply of skilled workers available. Wages, which respond to supply and demand imbalances, are therefore persistently high in skilled labor because of a skills shortage.

problem with different emphases. Businesses seek skilled workers to increase their own productivity and competitiveness. They are not primarily interested in the health of the entire manufacturing sector—including the fortunes of their competitors—nor would their shareholders argue they should be. Thus companies will necessarily target a relatively higher-skilled population that they can “up-skill” quickly to meet evolving needs. Government cares about competitiveness but also has the obligation to reduce unemployment and provide social welfare benefits, which includes training. This drives government to have an additional focus on low-skilled, low-income populations that may lack even basic workplace skills.

manufacturing age. We need nothing less than a nationwide campaign to improve the manufacturing workforce by bringing together government and business strategies.

*Businesses and government are each trying to build the workforce that can support a renaissance in American manufacturing.*

These differing priorities often lead business and government to each pursue their own paths. Cooperation is often ad hoc, with little discussion of how to invest in joint training, how to forge partnerships between the private and public sectors, and how to divide the cost. There are promising signs that business leaders and government officials understand that they must work together, yet both underestimate how their roles must evolve if we are to create large-scale change. There is much happening across the country and around the world to develop new approaches to job training, but much is unproven and experimental.

The task ahead is to bring together the lessons derived from these efforts, match them with research that explains what works, and develop the business strategies and government policies that will educate the skilled workers of a new



## Policy Recommendations

To move from ad hoc coordination to such a nationwide campaign, we should establish a national commission to examine existing programs and help determine what works; launch a nationwide job training strategy for “scaling up” successful programs, while defining who pays for long-term investments workforce development; and launch across-national training methods institute to share lessons about what works here and abroad.

### Establish a National Commission on the Manufacturing Workforce (NCMW)

Understanding what works should drive program design and investment decisions. Without a clear view of the public and private training landscape based on data-driven performance measures, government and business are too often operating in the dark. Despite the intense political and corporate interest in the skills gap, and some snapshots and case studies of programs that seem to work, we have very little hard evidence to guide us. This is true for companies, which often struggle to understand whether their investments are paying off, as well as for government, which too often has only a vague insight into its programs’ effectiveness.

The last federally-sponsored, nationally representative survey of employer-led training took place in 1995. It indicated that while 97 percent of firms with more than twenty employees offered training, much of that was new employee orientation and safety training. Right now, estimates put spending on training by

US employers as between \$50 and \$100 billion per year, but there is little aggregated knowledge of what that employer-provided training includes, and whether it is cost-effective.<sup>1</sup>

On the government side, public investments in 2011 topped out between \$550 and \$800 million for incumbent workers.<sup>2</sup> The vast majority of federal and state training funds go to the unemployed, not those already on the job who want to upgrade their skills or keep current with industry advancements. There are, however, some exceptions in which creative thinkers have used federal dollars to upgrade the skills of incumbent workers (see Box 1 for examples).

There is also very little systematic understanding of what training is currently underway. Different studies of sectoral employment models (which bring together private and government funds) indicate there are over 160 organizations engaged across 22 industry sectors. Actors include Workforce Investment Boards (WIBs),<sup>3</sup> nonprofit groups,

1 Robert L Lerman, *Should Employer Led Training be the Framework for Workforce Development?*, Atlantic Council and University of Maryland School of Public Policy, 2013.

2 Hollenbeck, Kevin, *Public Financing of Job Training for Incumbent Workers*, W.E. Upjohn Institute for Employment Research, May 2013, 10.

3 The Workforce Investment Act (WIA) of 1998 established Workforce Investment Boards to build local partnerships of policymakers, businesses, and other groups to help manage a number of programs WIA established; principally, they were tasked with developing statewide plans for workforce investments and helping establish career “one-stop” centers that would bring together all state employment services under one roof. There are over six hundred WIBs around the country, and their effectiveness has been the subject of considerable debate.

### Box 1. Innovative Training of Incumbent Workers

A key way to lower unemployment is to stop job losses. Yet in today’s business environment, it can be challenging to keep workers who are not gaining new skills. At present, federal rules limit funding to workers who are already employed, focusing instead on the unemployed. This can be an obstacle for companies that want to develop the skills of their existing workforce and for policymakers who would like to prevent layoffs. The US Government Accountability Office (GAO) found several creative ways that local workforce boards—groups established by the Workforce Investment Act (WIA) to help coordinate local workforce training programs—were handling this challenge:

- **Combining funds:** Several groups designed programs with different funding streams for different components. Specifically, workforce boards usually raised money from the private sector to cover incumbent worker training costs and used federal dollars to cover administrative or other costs. This enabled them to design unified programs to train new workers as well as keeping existing ones on the job.
- **Seeking waivers:** Local officials can petition Department of Labor (DOL) for a waiver of the incumbent worker limits. For example, in San Bernardino, California, officials requested a waiver for “layoff aversion,” which saved an estimated 426 jobs. The program also used employer contributions to augment WIA money, creating a larger and more robust program.
- **Using state funds and/or governors’ set aside funds:** States can use their own money, as well as 15 percent of federal funds to cover incumbent workers. This again has to be put together in a larger package. In Michigan, employers and local workforce boards cooperated to design a training program for automotive engineers. The state provided funds from its governor’s set aside money, alongside foundation grants, Recovery Act funds, and others to create a program that served fifteen companies, including GM, Ford, and Chrysler.

All of these initiatives required the active participation of the private sector and an energetic local government effort to think creatively about forging a unified program backed by multiple funders.

foundations, implementers, and community groups.<sup>4</sup>

The federal government, including the Departments of Labor, Education, Health and Human Services, and other agencies with a hand in training, is trying to improve its knowledge base. Most of its efforts are organized under the Cross Agency Priority (CAP) on job training, which was launched by the Domestic Policy Council at the end of 2012.<sup>5</sup> Pulling these threads

together is an excellent step, but progress so far is incremental, and the goals are modest. The group should accelerate its work and set more ambitious goals. But even under the best of circumstances, such interagency working groups lack the profile and urgency needed to be part of a national campaign.

#### Purpose

The secretaries of Commerce, Education, Health and Human Services, and Labor should convene a national commission of high-level experts, with a substantial representation from the private sector, to examine the state of manufacturing job training in the United States today.<sup>6</sup> Specifically, this commission should:

4 *Sectoral Strategies for Low-Income Workers: Lessons From the Field*, The Aspen Institute, <http://www.aspeninstitute.org/publications/sectoral-strategies-low-income-workers-lessons-field>.

5 The cross agency priority (CAP) goal on job training is led by Portia Wu of the Domestic Policy Council and brings together Departments of Labor, Human and Health Services, Education, Agriculture, Defense, Transportation, and Veteran Affairs to provide “continued delivery of effective and efficient job training programs,” “better access to services through better coordination of current programs,” and “increased accountability and information about what works to drive improvement.”

6 The Departments of Agriculture and Defense as well as the Small Business Administration should also be part of the Commission, though given their smaller training roles they need not be present at the cabinet level.

- Catalogue existing public and private training programs: There is a major gap in what we know about who is engaged in training, how much and what type is underway, and how much is being spent. The commission should guide a new federal study that creates a publicly available training database, and surveys employers to find out whether and how they use existing government services.
- Develop performance measures for current programs and how to share results: The CAP process is meant to provide some of these results. The commission should incorporate federal results with private sector data and release its findings publicly.
- Build a coalition of advocates: To maintain a sustained focus on training for advanced manufacturing jobs, the commission should regularly bring together the community of influence that will build the American workforce. Leaving this only to government or to business will mean that efforts at cooperation and innovation will gradually stall, as immediate pressures take priority over working through this longer-term challenge.
- Develop a nationwide job training strategy: As outlined in detail below, we recommend that a commission should launch a national effort that builds on existing employer-led training models. This group must work closely with business and educators on issues including developing a stronger credentialing system and creatively deploying resources.

### Structure

The group would report to the secretaries and be made up of:

- senior government, nonprofit, and business leaders (including a cross-section of small- and medium-sized enterprises);
- state governors and employment officials; and
- leading academics.

The structure and operations should be flexible, and heavily involve state-level actors, who are in many cases ahead of the federal system on these issues. The group should take ideas from the ground up, rather than imposing them from above, and ensure that government, business, and educators have equal input into the process.

These are large tasks, and while none of these outputs will be perfect, they will greatly increase what we know. This will hardly be the first task force or government commission to touch on this issue. Most, however, have addressed a much broader agenda. For example, the President's Council of Advisors on Science and Technology (PCAST), the Advanced Manufacturing Partnership (AMP), and the President's Council on Jobs and Competitiveness have all looked at the skills issue. Some of these groups are essentially inactive at this point, leaving a serious policy gap at the senior levels of government and the business community. The commission would reinvigorate the focus on skills, drawing from and building on the work that PCAST, AMP, and others have done.

### Implement a Nationwide Job Training Strategy that Embraces a Comprehensive Approach based on Public-Private Partnerships

The second major task for a nationwide campaign should be to develop and monitor a nationwide job training strategy. The United States needs nothing short of a galvanizing, transformational campaign to build a skilled workforce.

The Commission could play a useful role by contributing what it learns to the process. American businesses and workers lack the luxury of waiting for perfect data before policymakers and businesses take action. We are not starting at square one in what we know, and so there are some things we can do now to lower the high costs of incoherence that currently plague the job training system. We must, however, ensure that all the levers we can use—government programs, the

## Box 2. Get Skills to Work

In 2012, GE and a group of partners launched Get Skills to Work (GSTW), an employer-led initiative to train the manufacturing workforce that it and other manufacturers need. The program currently focuses on veterans, and is a prime example of leading edge ideas to train manufacturing workers, including:

- **Mobilizing the private sector:** GE recognized that employers could play an important role in worker training, especially by providing funding, helping organize the business community, and providing input into the training design and content. Through a series of regional meetings, and using the presence of its larger companies as an incentive, GSTW has drawn over three hundred companies into its network.
- **Providing leadership and building partnership:** As the GAO noted in its 2012 report, “securing leaders who had the authority, ability, or both to persuade others of the merits of a particular initiative” was crucial to forging effective programs. To accomplish these goals, GSTW takes the initiative to build partnerships between local employers, community colleges, and local policymakers to create a coherent training process that will lead to a job.
- **Promoting credentials:** Industry-backed credentials are the core of GSTW. The program helps veterans map their existing military experience to industry skills, get training to fill gaps, and acquire a recognized credential. Veterans can also acquire digital badges that provide an easy way for employers to understand their skill set.
- **Pre-screening for success:** By focusing on veterans, GSTW effectively pre-screens candidates with an existing skill base. This gives the program a higher likelihood of success, though it also means that GSTW will serve a more limited population.
- **Focusing on small- and medium-sized enterprises (SMEs):** There are a substantial number of SMEs in GSTW. These companies generate 70 percent of new jobs, but often lack the resources to create their own training programs. By participating in GSTW these companies benefit from a larger resource pool and the program achieves greater scale.

The program is too new to evaluate, but it has built significant momentum and has aimed high, seeking to train one hundred thousand workers by 2015. The program should be monitored and its successes and failures reported to the wider community over the course of the next two years.

education system, employer know-how, and the funding that goes with them—are pulling in the same direction. The goal should be to unite the disparate efforts of the public and private sectors and educational system within one, coherent job training strategy aimed at tackling the immediate challenges of filling available manufacturing jobs, as well as addressing the long-term needs of businesses and workers.

It is crucial to note that a “nationwide strategy” does not mean “federally run.” Instead, a new

system of job training should be business led and government supported, with most strategic and tactical implementation residing in the private sector. While government leadership is essential to provide the initial momentum to come together, it cannot and should not dictate the terms moving forward.

With business and government working together, the focus should be on improving and expanding successful models. The strategy should also clearly define the roles of the key players, including determining who pays

for the longer-term, workforce development efforts. In particular:

**1. Employer-led, sectoral training programs should form the cornerstone of this nationwide job training strategy.** Sectoral training has historically been led by foundations and community groups, as well as business firms, and has focused more on higher-skilled groups than on reducing unemployment. Employer-led models are relatively new, but the National Network of Sector Partners finds that “businesses are now far more actively engaged in the ongoing governance structure of initiatives, while initiative design also remains one of the most common ways they are involved.”<sup>7</sup> An example of this is the Get Skills to Work initiative led by GE. Box 2 provides an overview of this approach.

There are several elements of sectoral training, all of which coalesce around a few common elements:

- multiple employers engaged alongside government agencies, including federal, state, and local authorities
- pre-screened and targeted participants
- a single industry focus
- a dual objective of aiming simultaneously to improve the economic competitiveness of a region and its companies while increasing employment, often for low-income or disadvantaged workers
- creating a significant partnership with local community colleges<sup>8</sup>

Comparing the effectiveness of these programs is difficult because of their different designs and objectives, and most evaluations have been case studies that try to bring out best practices. Yet as Harry Holzer of Georgetown University’s Public Policy Institute notes, “sectoral training models...have generated strong earnings

improvements for disadvantaged adults and youth.”<sup>9</sup> One study that utilized randomized control groups to measure results found that sectoral programs increased earnings by 18-29 percent, increased the length of time participants worked, increased the likelihood of attaining a job with higher wages, and helped participants find jobs that offered benefits.<sup>10</sup> The Government Accounting Office (GAO) in 2012 looked at the effectiveness of seven manufacturing-focused sectoral training programs and concluded that “In all the initiatives, partners remained engaged in these collaborative efforts because they...increased supply of skilled labor, job placements, reduced employer recruitment and turnover costs, and averted layoffs.”<sup>11</sup>

**2. Business should help develop a rigorous system of industry-backed credentials.** Companies, schools, and policymakers are increasingly using industry-backed credentials to help them build employable skill sets, and that can help address the targeting challenge. Manufacturing has made some important strides. For example, the National Association of Manufacturers (through its Manufacturing Institute) has endorsed credentials across fourteen (soon to be sixteen) manufacturing categories, working in close partnership with companies. These are meant to be “stackable” credentials that start with basic workplace skills and evolve all the way to advanced degrees (see Box 3 defining stackable credentials).

Yet challenges remain. In theory, businesses know what they get when hiring a certified worker, schools know how to teach to the credential, and government can confidently spend taxpayer money on their attainment

<sup>7</sup> *Sector Snapshot: A Profile of Sector Initiatives*, 2010. National Network of Sectoral Partners. PDF doc., 23.

<sup>8</sup> *Ibid.*

<sup>9</sup> Harry J. Holzer, *Skill Mismatches in Contemporary Labor Markets: How Real? And What Remedies?* (working paper, Atlantic Council and University of Maryland: Washington, DC, November 2013).

<sup>10</sup> Sheila Maguire et al, *Tuning In To Local Labor Markets: Findings from the Sectoral Employment Impact Study*, PPV, Philadelphia: 2010.

<sup>11</sup> US Government Accountability Office, *Workforce Investment Act: Innovative Collaborations between Workforce Boards and Employers Helped Meet Local Needs*, (Washington, DC: January 12, 2012), <http://www.gao.gov/assets/590/587809.pdf>, i.

### Box 3. Stackable, Portable Credentials

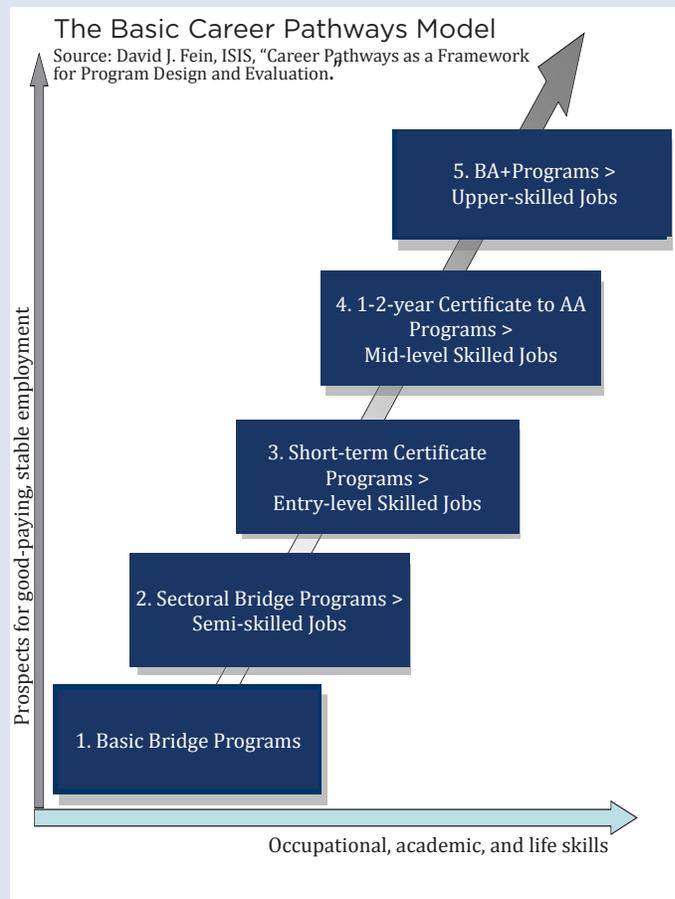
Not only is there a shortage of skilled workers but even those with skills may have a hard time demonstrating their qualifications to employers. As the authors of a study by the McGraw-Hill Research Foundation note, “The skills mismatch is currently made more complicated by the fact that the US lacks a coherent, transparent system for earning and awarding post-secondary credentials.”<sup>1</sup>

Many countries, including the US, are increasingly seeking to develop credential systems that are stackable—workers build skill sets beginning with basic work readiness all the way to a certified skill—and portable—any employer in the sector will recognize them. The challenge is to pull together the many actors needed to create this kind of system, including secondary schools, community colleges, certification groups, employers, and policymakers. As David Fein of Abt Associates points out, “No authority is responsible for coordination overall, or for many broad types of credentials,” and “The connection between certificates and other certifications and degrees and jobs are variable and difficult to discern.”<sup>2</sup>

There are, however, some innovative ideas gaining traction with companies and policymakers. For example, the “career pathways” approach has emerged as a way to bring together the key actors, usually within a specific industry in a specific region, to deliver credentials that are linked to employer needs. Figure 1 shows the basic skills development progression, in which certificate and credential programs play a key part.

For example, the *Carreras en Salud* program in Chicago brings together schools, hospitals, and healthcare employers in the area to offer a series of recognized healthcare certificates. Local healthcare employers are engaged in curriculum development, teaching, and guidance to students on translating their coursework into healthcare careers.<sup>3</sup>

Working together with policymakers and educators, manufacturers should strengthen the credential frameworks in the sector. Employing a career pathways approach could provide a useful framework for then deploying these tools.



1 James T. Austin, et al., *Portable, Stackable Credentials: A New Education Model for Industry-Specific Career Pathways*, McGraw-Hill Research Foundation, November 28, 2012, 8, [http://mcgraw-hillresearchfoundation.org/wp-content/uploads/2012/11/PSC\\_white\\_paper.pdf](http://mcgraw-hillresearchfoundation.org/wp-content/uploads/2012/11/PSC_white_paper.pdf).  
 2 David J. Fein, *The Struggle for Coherence in Emerging US Career Pathways Initiatives* (working paper, Atlantic Council and University of Maryland, Washington, DC, August 5, 2013).  
 3 David J. Fein, *Career Pathways as a Framework for Program Design and Evaluation: A Working Paper from the Innovative Strategies for Increasing Self-Sufficiency ISIS Project* (Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, US Department of Health and Human Services, May 2012), [http://www.acf.hhs.gov/sites/default/files/opre/inno\\_strategies.pdf](http://www.acf.hhs.gov/sites/default/files/opre/inno_strategies.pdf).

because they are an effective investment.<sup>12</sup> At the same time, there is a vast range of certifications and credentials available, but they provide little help to job seekers, business, educators, or policymakers. One study seeking to provide help to high schools in teaching to certifications noted that, “It is very difficult to characterize the way work readiness and industry credentials are used, perceived, and valued by employers. In the words of one observer, ‘beware of lots of proprietary marketing and puffery.’”<sup>13</sup>

Business should work together, and in partnership with schools and policymakers, to strengthen credentials by:

- **Increasing credential integrity:** The industry should continue to strengthen its efforts to ensure the consistency, recognizability, and quality of its certifications.
- **Embedding credentials in schools:** Businesses and educators should work together to better integrate industry certifications into schools at the secondary and technical/community college levels.
- **Removing policy barriers to earning credentials:** Policymakers can facilitate this by clearing away barriers to introducing technical education within high schools, and by promoting the issue at the national level. For example, the Race to the Top, President Barack Obama’s signature school reform initiative, could include incentives for schools that offer career-ready certification options, and that show innovation in partnering with local employers. Credentials

12 For example, researchers at Georgetown University found that, in the electronics sector, men with certificates (usually obtained in under two years at a for-profit school or community college in areas like computer programming and network engineering) earn more than 65 percent of their counterparts who have an associate’s degrees and more than 48 percent of those with a bachelor’s degree. See Carnevale, Anthony P; Hanson, Andrew R; Rose, Stephen J, *Certificates: Gateway to Gainful Employment and College Degrees*, Georgetown University, June 2012, <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/Certificates.FullReport.061812.pdf>.

13 Robert D. Muller and Alexandra Beatty, *Work Readiness Certification and Industry Credentials: What Do State High School Policy Makers Need to Know?*, Practical Strategy LLC, <http://www.achieve.org/files/WorkReadinessCertificationandIndustryCredentials.pdf>, 4.

and certificates should also count in schools’ academic content standards and performance metrics under federal laws.

**3. Business firms, as leaders in this effort, have to work more cooperatively with each other to develop a skilled labor pool.** It is important to note that antitrust rules may restrict how and how much employers work together to build such a labor force. That said, companies should do as much as they can within those limits; doing so increases resources to support training efforts and plays an important role in bringing programs to scale. As one employer noted in their study, “When we steal staff [from each other], we don’t add people to the workforce, and it increases the cost of doing business.”<sup>14</sup>

- **Align needs:** Business should work better together to define their skills needs and provide a single point of contact for educators and policymakers to engage with them. In manufacturing, the National Association of Manufacturers can assist in this effort at the national level, while state and regional chambers of commerce can serve this function at the subnational level.
- **Align strategies and funding:** To the maximum extent possible, businesses should seek ways to leverage funding strategies to build their workforces.
- **Count training as an investment:** As Dr. Robert Lerman points out, “the market underestimates future gains in the high training firms but over time, the added profits associated with training materialize, accompanied by a higher stock price.”<sup>15</sup> Businesses should reflect their training expenditures as investments, not costs, on their financial statements. This will allow them to demonstrate the value of training to

14 United States Government Accountability Office, *Workforce Investment Act: Innovative Collaborations between Workforce Boards and Employers Helped Meet Local Needs*, GAO-12-97, (Washington, DC: GPO, 2012), 28.

15 Robert L Lerman, *Should Employer Led Training be the Framework for Workforce Development?*, Atlantic Council, University of Maryland School of Public Policy, 2013.

#### Box 4. Rewarding Excellence in Community Colleges

Community colleges serve as the gateway for millions of Americans to affordably raise their competence levels in the skills employers are looking for. In order to recognize schools that train their graduates best—and hoping to inspire other colleges to adapt methods that work—the Aspen Institute developed its Aspen Prize for Community College Excellence.<sup>1</sup> The program highlights successful community colleges across the country that achieve both high levels of graduation and workforce placement. Moreover, these schools can also serve as models that promote innovation and create benchmarks for measuring future progress.

The 2013 winners, Walla Walla Community College (WA) and Santa Barbara City College (CA) have both adapted well to the demands of their local communities. When faced with economic turmoil, the colleges focused their programs on industries that their local economies depend on. It sounds simple, but this practical approach that encourages students to study subjects that community businesses need most. Stressing the “community” aspect of “community college,” Walla Walla and Santa Barbara have helped grow the economy through training their students to succeed in the industries that matter locally, from logistics to hospitality to viticulture.

1 The Aspen Institute, “2013 Aspen Prize for Community College Excellence.” November 2013. <http://www.aspeninstitute.org/policy-work/aspen-prize/about>.

their shareholders and increase their ability to pool resources with other firms.

#### 4. Community colleges must be revitalized as the central providers of manufacturing skills.

Community colleges are at the center of the skills discussion as a viable and flexible skills delivery system. They have the potential to play an important role at a crucial middle ground between public and private interests because they can offer the kinds of general training that companies hesitate to provide, and the specialized skills the government is not currently set up to deliver.

Yet, despite serving nearly half of US undergraduate students, the quality of community colleges is extremely varied. The completion rate for these schools is less than 40 percent.<sup>16</sup> One recent study showed that states spent nearly \$3 billion on students who

later dropped out.<sup>17</sup> Some nongovernmental organizations, like the Aspen Institute, have developed competitive grant programs that reward quality schools.<sup>18</sup> These are important efforts, but requirements for excellence should be institutionalized in government funding, and the business community should substantially increase its support for initiatives that reward top schools and push low performers to do better. Businesses should also help community colleges develop curricula to ensure that graduates are getting the training they will need on the job. Improvement in job prospects at the end of a credentialed program is perhaps the best way to ensure higher rates of completion by students.

Over the next several years, a host of federal programs will provide funding grants to these institutions,<sup>19</sup> and foundations and businesses

16 Josh Wyner, “Community Colleges for the Students They Actually Have,” *Chronicle of Higher Education*, October 14, 2012, <http://chronicle.com/article/Community-Colleges-for-the/135090/>; Mark Schneider and Lu Michelle Yin, “Completion Matters: The High Cost of Low Community College Graduation Rates,” American Enterprise Institute, April 2012, <http://www.aei.org/outlook/education/higher-education/community-colleges/completion-matters-the-high-cost-of-community-college-graduation-rates/>.

17 Kevin Carey, “For Community Colleges, A Time to Shine,” *The Chronicle of Higher Education*, December 11, 2011, <http://chronicle.com/article/For-Community-Colleges-a-Time/130064/>.

18 The Aspen Prize for Community College Excellence provides \$1 million for up to three colleges that meet its quality and innovation requirements. The award was given in 2011 and in 2013.

19 The Trade Adjustment Assistance Community College and Career Training (TAACCT) is the largest. In FY 2011, in its third grant round, it provided about \$500 million through thirty-two awards in fifteen states; sixteen of these awards supported manufacturing. For an overview of TAACCT, see [http://www.doleta.gov/taacct/pdf/TAACCT\\_One\\_Pagers\\_All.pdf](http://www.doleta.gov/taacct/pdf/TAACCT_One_Pagers_All.pdf).

are also pinning their hopes on a renewal of the promise that community colleges could offer. There are several key requirements to making this happen:

- **Establish mutual credit and degree recognition:** While competition for students can help improve quality, community colleges increasingly need to find ways to partner, especially in developing mutual recognition standards for how they award credits, certifications, and degrees. Federal programs are now pushing in this direction, and community colleges should embrace the momentum. Better cooperation can include collaborating on national- and state-level strategies to agree on how community colleges will teach skills and provide industry certifications, and work toward mutual recognition of coursework and certificates. Lastly, these institutions should work collectively with businesses to ensure their graduates meet industry needs.
- **Quantify actions:** The American Association of Community Colleges, alone, has documented seventy-seven different industry partnerships in thirty-two states across seventeen sectors.<sup>20</sup> There should be a single storehouse for all programs, as well as a clear way for businesses and policymakers to engage with them.
- **Streamline federal funding:** There are a host of federal programs<sup>21</sup> run through multiple departments that are difficult to negotiate and burden schools with high administrative costs. These programs should be brought together under one roof with one access point, and one common set of application procedures. Efforts to reform these programs have been stymied by inaction on key legislation, notably reauthorization of the Workforce Investment Act (WIA).

- **Collect data:** As noted above, data collection is serious challenge across all elements of skills training, but community colleges in particular lack the resources and incentives to monitor their performance. The federal government and business should partner to provide the necessary resources to community colleges so they can vastly increase the quality of performance data and evaluations.

### **5. Government should make the training of incumbent workers a priority.**

The government training system was designed to serve unemployed and disadvantaged populations. That goal remains an important social imperative, but government can also help drive and facilitate a shift toward creating skilled workers.

- **Place a single federal agency in charge of job training:** While the CAP is a good step to bring coherence to government programs, there should be a single agency charged with tracking data and coordinating program evaluations. This will help make sure that the CAP tasks, which are currently coordinated by the Domestic Policy Council (DPC), will remain in place through changes in administrations.<sup>22</sup>
- **Reach out to states:** The CAP envisions joint outreach to states by Departments of Labor, Health and Human Services, and Education on improving data systems. The federal government should expand that effort to encompass the development of the national strategy and create a permanent forum for federal-state engagement.
- **Make government funds more flexible:** Policymakers should find new ways to utilize federal and state funds to leverage business investments in support of incumbent worker training.<sup>23</sup> The above-

20 *Community College-Industry Partnerships*, American Association of Community Colleges, 2013, [http://www.aacc.nche.edu/AboutCC/Pages/college-industry\\_partnership.aspx](http://www.aacc.nche.edu/AboutCC/Pages/college-industry_partnership.aspx).

21 A small sample (in varying stages of implementation) includes: TAACCT, the Community College to Career Fund, and the American Graduation Initiative.

22 The UK Department of Business Innovation and Skills is good example of policymakers recognizing the need to house labor policy and jobs training centrally under one roof, and it has been reasonably successful.

23 HR 4297, the Workforce Investment Improvement Act of 2012, would accomplish a number of these objectives.

noted success in sectoral programs was often achieved through creatively using federal funds. Implementers should not have to work so hard to use these resources, particularly in a system that is as integrated as that envisioned above, where business, educators, and policymakers are working toward the same targets.

There is emerging evidence that changing the funding model makes sense. Kevin Hollenbeck of the W.E. Upjohn Institute for Employment Research finds that “there is a reservoir of productive skills in incumbent workers, especially frontline, low wage workers that, if tapped, could produce substantial economic benefits for both worker and employers.”<sup>24</sup> Moreover, these benefits meet the moral obligation for federal programs to provide social benefit, especially since “many other employers may lack the necessary incentives to invest in the foundation skills of their employees even if there may be a need as in situations of skill deficit.”<sup>25</sup> Additionally, public partnership with companies can help mitigate the risk of “poaching” and provide additional incentives for employers to offer general skills training.

Congress is a key actor on all of these issues. It drives agency interaction through how it allocates funds, and it can limit interaction between state and federal policymakers. There are fixes to WIA in draft legislation, but Congress has not acted. It should do so urgently, especially given wage stagnation and continued elevated unemployment.

### **The Special Case of Small Business** Small- and medium-sized enterprises (SMEs)

account for 64 percent of new US jobs,<sup>26</sup> yet receive a comparatively small amount of investment.<sup>27</sup> Fewer resources to devote to training, greater vulnerability to business cycles, and challenges accessing information on workforce developments and training options mean that small companies face very different training challenges than multinationals. Specifically, they will require more help—in money and in guidance—to assist in developing their workforces.

SMEs should therefore receive special attention in a national strategy. This should include:

- Resources to help SMEs organize into “training groups” that serve their unique needs, including the provision of training “coaches”<sup>28</sup>
- a special subcommittee of the National Commission dedicated to SMEs, tasked with developing data and assessments of SME needs, as well as skill mapping that would translate informal learning by SME employees into recognized credentials
- special outreach by large companies to engage SMEs in sector-based initiatives (for example, Get Skills to Work now has over three hundred small businesses that can utilize its tools and resources)
- development of online and other remote learning platforms to distribute training and workforce development programs
- learning from the European Commission, which has undertaken a great deal of work on SME training, an area that is far less developed in the United States

<sup>24</sup> Kevin Hollenbeck, *Is There a Role for Public Support of Incumbent Worker On-the-Job Training?* (Kalamazoo, MI: W.I. Upjohn Institute for Employment Research, January 2008), [http://research.upjohn.org/cgi/viewcontent.cgi?article=1155&context=up\\_workingpapers](http://research.upjohn.org/cgi/viewcontent.cgi?article=1155&context=up_workingpapers), 1.

<sup>25</sup> Desjardins, R. and K. Rubenson, “An Analysis of Skill Mismatch Using Direct Measures of Skills”, OECD Education Working Papers, No. 63, 2011, OECD Publishing, DOI: 10.1787/5kg3nh9h52g5-en, 88.

<sup>26</sup> Based on the US Small Business Administration’s definition of less than five hundred employees, see [http://www.sba.gov/sites/default/files/FAQ\\_Sept\\_2012.pdf](http://www.sba.gov/sites/default/files/FAQ_Sept_2012.pdf).

<sup>27</sup> Ernst & Young reports that across the G20 countries, SMEs receive only 6 percent of all business investment.

<sup>28</sup> For example, the government of Austria funds “flexibility coaches” for up to fifteen consulting days (for analysis of circumstances, development of an individual flexibility strategy, etc.). The coaches provide guidance in seven HR-related fields, including training and organizational management. See “Guide for Training SMEs,” <http://ec.europa.eu/social/main.jsp?catId=89&langId=en&newsId=544&furtherNews=yes>.

Local enterprises, including workforce boards and skills development non-profits, can also form an important link to SMEs. Many pathways initiatives and sector-based strategies already make these connections.

### Launch a Cross-national Training Methods Institute

The United States and other developed economies need to make a transformational change if they are serious about building workforces that can meet the needs of a changing global economy. We recommend the creation of a new institute dedicated solely to improving training, which will help ignite the kind of all-out effort needed to improve our understanding of what works. The institute would comprise several elements:

- an annual forum for policymakers, business leaders, and educators from Europe, the United States, and other developed nations to provide political energy—matched with serious funding from each of these groups, to build the definitive resource for training information
- a storehouse of best practices on training covering business, government, and public interest group-led initiatives
- a substantial analytical capacity to provide evaluation and assessment of existing programs, drawing on the expertise of international organizations like the Organization for Economic Cooperation and Development (OECD) and the World Bank
- an advisory service for governments and companies on how to design evaluations and how to craft programs that have an evaluation component embedded in them from the start

The benefits of supporting an institute are clear: a shared resource to build and store badly-needed knowledge about training will increase firms' ability to effectively invest training dollars, and offer governments a clear rationale for directing taxpayer funds to the effort. Funding for this ambitious effort would

come from the private sector, governments, foundations, and other groups with a stake in the issue. The institute would manage funds from each source, which would be pledged at an initial conference designed to launch the creation of the organization.

*The United States and other developed economies need to make a transformational change if they are serious about building skilled workforces for the new global economy.*

European countries, and the European Union itself, are likely to embrace this idea because they face both significant unemployment problems and challenges in gathering data about the effectiveness of their programs. A 2010 European Commission-funded assessment of its education and training reforms concluded that “Considering that all EU-funded interventions in the area of education and training are monitored and evaluated on a mandatory basis and many of these interventions contribute to national reforms, the lack of evidence about their success is striking.”<sup>29</sup> According to a similar study from 2007 looking at the effectiveness of government cofinanced workplace training, found that “rigorous empirical evaluations of their effectiveness are uncommon, and any investigations provide only descriptive statistics...it is not possible at this stage to tell whether these policies have determined sufficiently high gains to compensate for their costs.”<sup>30</sup>

<sup>29</sup> *Assessment of the Impact of Ongoing Reforms in Education and Training on Adult Learning* (Vilnius: Public Policy and Management Institute, March 30, 2010), <http://ec.europa.eu/education/more-information/doc/2010/reforms.pdf>, 5.

<sup>30</sup> Giorgio Brunello, Pietro Garibaldi, Etienne Wasmer, *Education and Training in Europe* (Oxford: Oxford University Press, 2007), 147.

The Programme for the International Assessment of Adult Competencies (PIAAC) underway at the OECD will help provide some clearer data on where OECD countries stand on skill levels, training resources, and what training and education methods seem to produce results. The study is principally devoted to measuring existing skills and how skills translate to a productive workforce. Initial findings were released in October 2013 and are available online.<sup>31</sup> The data gathered over next the several years could help policymakers and others understand what programs are working and be used by the new institute in producing evaluations.

Europe's training priorities are broadly in line with the United States, including the recognition of a skills gap that is hurting its competitiveness, and the understanding that the business community should be involved in helping close it. Compared to the United States, though, Europe faces a more serious demographic challenge, with an aging workforce that will have to be replaced with a substantial number of immigrants.

As always when talking about Europe, it is important to remember that different countries face different circumstances. However, at the EU level, Europeans are undertaking several reforms that mirror US efforts, including:

- reorganizing and streamlining government services under the Erasmus+ program;<sup>32</sup>
- improving the fit between skills taught at schools and available jobs through the Agenda for New Skills and Jobs;<sup>33</sup>

- piloting new sector-based programs through the Sector Skills Alliances;<sup>34</sup>
- fostering innovation through the European Institute of Innovation and Technology,<sup>35</sup> and
- increasing measurement and evaluation through European Centre for Development and Vocational Training.<sup>36</sup>

As in the United States, Europe is launching a number of new programs, while at the same time trying to improve what it knows about effectiveness of existing ones. Partnerships between US and European governments, businesses, and educators could help increase workforce competitiveness and prosperity on both sides of the Atlantic.

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31 OECD, *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, 2013, <http://dx.doi.org/10.1787/9789264204256-en>.

32 The EU has a range of programs that fund lifelong learning, including skills training, vocational education, and other educational services. Under Erasmus+, these programs would be combined from seven down to one in order to make the grant application process clearer for students, reduce fragmentation between the programs, and increase the number of people using the program. See: European Commission, "Erasmus+: Investing in Europe's Education, Training and Youth," [http://ec.europa.eu/education/erasmus-for-all/index\\_en.htm](http://ec.europa.eu/education/erasmus-for-all/index_en.htm).

33 European Commission, "Agenda for New Skills and Jobs," <http://ec.europa.eu/social/main.jsp?langId=en&catId=958>.

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34 European Commission, "Sector Skills Alliances—Selected Pilot Projects," [http://ec.europa.eu/education/calls/results0112\\_en.htm](http://ec.europa.eu/education/calls/results0112_en.htm).

35 European Institute of Innovation & Technology, "Education," <http://eit.europa.eu/education/>.

36 European Centre for the Development of Vocational Training, <http://www.cedefop.europa.eu/EN/Index.aspx>.



## The Way Forward

Business and government will inevitably tend to target different populations. Yet agreeing on whom to help most will be key in developing effective collaborative programs. What is the target skill level, employment status, and income level at the outset? Two particular populations may be especially suitable for pilot programs:

*Veterans are a ready pool of talent that can train for higher skilled jobs now.*

**Veterans:** Veterans are a ready pool of labor that the kinds of partnerships we describe here can help to train for higher skilled jobs now. As Get Skills to Work recognizes, veterans can transfer their military training into civilian occupations relatively easily, especially with the added certifications and education that GSTW provides.

Veterans also acutely vulnerable to unemployment—as of November 2013, fully 10 percent of Gulf War II era veterans and 6.9 percent of all veterans were unemployed.<sup>1</sup> A host of other efforts are already underway to alleviate this problem through federal and state governments, business associations, community

groups, nonprofits, and foundations. Many of these programs and organizations are already collaborative in nature and represent important innovations that seek to implement best practices.

Practically speaking, the groups engaged in these different programs should appoint a working group, led by a neutral party, to design a monitoring and evaluation system for their work. This would be a substantial contribution to the knowledge base of what works and help improve these important programs.

**Youth:** While increasing existing worker skills is crucial, it is also important to pilot new ideas to engage the next generation of workers. It is this generation that must have the right skills if the United States is to see a sustained manufacturing renaissance. Right now, about 16 percent of American youth between the ages of sixteen and twenty-four years old are unemployed.<sup>2</sup> This problem is of course far worse in crisis-hit parts of southern Europe.

In the US, the federal government is already moving ahead on some youth efforts, including a focus on career pathways, in addition to subsidized employment. A bill reauthorizing WIA would add more tools for states. Businesses and educators should engage with federal and state governments to target pilot projects at this population.

1 United States Department of Labor, Bureau of Labor Statistics, "Employment status of the civilian population 18 years and over by veteran status." November 2013. <http://www.bls.gov/news.release/empsit.t05.htm>.

2 "Spotlight on US Youth," International Labour Organization, <http://www.ilo.org/washington/ilo-and-the-united-states/spot-light-on-the-us-labor-market/spot-light-on-us-youth/lang--en/index.htm>.



This area is also ripe for cross-national discussion and exchange of ideas. Europe is undergoing a youth unemployment crisis, with over 23.5 percent of people under twenty-five unable to find work in the first quarter of this year. The European Commission in June 2013 issued a “Call to action on youth unemployment” that will lead to a host of work over the course of the next several years. Now is an excellent time to reach out to Europeans to learn from their efforts.

*The next generation must have the right skills if the United States is to see a sustained manufacturing renaissance.*

Developing a new workforce is a monumental task that demands that we rethink our notions about the roles of government and the private sector in training workers. Government programs can no longer serve only the unemployed and disadvantaged; they have to be strategic and focused on competitiveness. Private sector training can no longer be only about individual companies; businesses have to step up and cooperate in radical new ways. Education can no longer be just about college track and

four year college for all. Instead, high schools and community colleges have to be “worker focused” and provide students with information about what is happening in the workplace and how to go about attaining the necessary skills.

The opportunity facing US manufacturers is too good to let slip by, but seizing it will require an effort akin to a national mobilization. It means having a clear understanding of what works, a coordinated effort that can drive real change, and serious resources well targeted toward the most effective activities. It is crucial for all the different actors to coalesce around the issue as quickly as possible. Other countries are not standing still while the United States works to organize itself.

*The US can lead the world by example of its strong economy and robust, thriving workforce.*

At stake is the United States’ ability to influence global events. The US can lead the world toward open markets and democratic systems by example of its strong economy and robust, thriving workforce. As Richard Haass explained in his latest book, “For the United States to

continue to act successfully abroad, it must restore the domestic foundations of its power.”<sup>3</sup>  
A skilled workforce capable of competing in the global economy and of building prosperity is the cornerstone of these foundations.

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<sup>3</sup> Richard N. Haass, *Foreign Policy Begins at Home: The Case for Putting America's House in Order* (New York: Basic Books, 2013), 1.

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