

# Pathways to Prosperity: Preparing Workers for the Jobs of the 21st Century

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***F**or over a century, the U.S. has been a leader in most measures of educational success. In the 1970s, the U.S. was #1 in high school graduation rates among its peer industrialized countries, but has fallen to 13th in the first decade of the 21st century. As the U.S. has lost its educational leadership, virtually all the growth in new jobs has required some postsecondary education. For example, well-paying, middle-skill jobs such as electricians, law enforcement officers, and many positions in the healthcare industry require an associate's degree or occupational certificate. To produce prepared, highly motivated workers requires school reform based on a vision of multiple pathways to a meaningful career. Also, employers need to become fully engaged partners, and opportunities need to be expanded for work-linked learning.*

One of the most fundamental obligations of any society is to prepare its adolescents and young adults to lead productive and prosperous lives as adults. The United States has historically been a leader in providing access to education that equips young people for success. For over a century, starting from the time of the Civil War, the U.S. was #1 by most measures of educational success. However, there is now growing evidence that the U.S. falls behind many other industrialized nations in terms of educational attainment and achievement, and in equipping its young citizens with the skills required for jobs paying a middle-class wage.<sup>1</sup> For example, when high school graduation rates are compared among peer industrialized nations, the U.S. has fallen from 1st place in the 1970s to 13th place in the first decade of the 21st century.

Even as the U.S. has lost its leadership, education has become more important than ever before to success in the workforce. Today, over 40% of the U.S. workforce is comprised of workers with a high school education or less. This is concerning for two reasons: (1) Virtually all of the net job growth in the past third of a century has been generated by jobs that require at least some post-secondary education, and (2) The earnings gap between those with a high school education and those with a post-secondary degree has widened.<sup>2</sup>

## **Skills and Opportunity Gaps: Non-College Bound Youth and Youth Employment**

The result is that the U.S. is increasingly failing to prepare many of its youth to lead successful lives in the 21st century. This growing population of young people has been called “the forgotten half,” since their problems are often overlooked. The forgotten half typically has little education—often no more than a high school

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degree—and also lack skills and access to employment opportunities that pay a livable wage.<sup>3</sup> Today’s employers complain that job applicants and workers with only a high school degree lack both:

- hard skills (e.g., reading, writing, and other mechanical skills necessary to perform job functions) as well as
- soft skills (e.g., professionalism, creativity, decisionmaking).

Moreover, many of these skills are not fully integrated into high school curricula emphasizing college readiness, which tends to favor academic achievement. A cross-national study of 15-year-olds known as the PISA assessment is conducted every three years. In this test designed to assess a range of problem-solving skills highly valued by employers, the U.S. has consistently performed at a mediocre level over the past decade.

One trend that holds promise for youth who do not pursue 4-year college degrees is the increasing demand for workers to fill “middle-skill” occupations (e.g., electricians, many positions in the healthcare industry, law enforcement officers). Many of these jobs can be accessed with an associate’s degree or occupational certificate, and these types of jobs tend to pay significantly more than jobs available to those with just a high school degree.<sup>4</sup> Industries like health care have witnessed a boom in recent years in job openings for middle-skilled professionals. Job openings are also projected to spike in fields like construction, manufacturing, and natural resources as baby boomers retire in larger numbers.<sup>5</sup>

Even before the Great Recession of this decade began, opportunities for youth employment had declined. Just under half of all teens (16-19) were employed in 2000; as of June 2010, this percentage had fallen to under 30%, with the largest drops evident for low-income, minority youth. Fewer than 10% of low-income black teens are employed today, as are 15% of low-income Latino youth, compared to over 40% of upper-middle-income white teens. The recession has further intensified these disparities. The percentage of teens and young adults who are now working is at the lowest level since the end of the Great Depression. Given that these early work experiences are linked to future employment and earnings potential, and reduced likelihood of negative outcomes (e.g., delinquency, teen parenthood), this trend should be particularly concerning.

In recent years, the United States has placed enormous emphasis on the idea that all young people should go to college. And often, “college for all” is understood as 4 years of college. But despite this campaign, the reality is that in 2011, the majority of young people do not earn a college degree. Today, only about 4 in 10 Americans have obtained either an associate’s or bachelor’s degree by their mid-twenties; another 10% have earned a professional certificate. Of those who enroll in a 4-year college, only 56% attain a bachelor’s degree within six years, and less than 30% of those who enter a community college obtain an associate’s degree within three years (see <http://nces.ed.gov/ipeds/> and <http://www.nchems.org/>). Only 30% of black and 20% of Latino young adults have an associate’s degree or higher by their mid-20s. Given that the racial and ethnic diversity of working-age adults

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continue to increase in the U.S., such disparities pose a significant problem. Given these realities, the “college for all” rhetoric should be modified to become “post high school credential for all.”

There is a gender gap in post-secondary educational attainment, as well. In the U.S., women now account for 57% of college students. They earn 57% of college degrees, and earn 60% of graduate degrees.<sup>6</sup> As the baby boom generation continues to retire, these trends will only deepen the skills and opportunity gaps evident in the current labor force.

### **Why Our Current System Fails so Many Youth**

The vast majority of youth understand that a high school education can no longer assure them of access to the middle class. Yet, although aspirations for a college education are high among middle school students and college enrollment continues to escalate, both high school and college dropout rates remain high. Every year some one million students leave high school before earning a degree. And while we send many high school graduates to college, many never earn a degree and leave college with nothing more than a huge debt. Today, the U.S. has the highest dropout rates in the industrialized world.

While people drop out of high school and college for a myriad of reasons, it is fair to say that for a substantial portion, there is a perceived disconnect between the classroom and the “real world.” This is due, in part, to poor or inadequate guidance to youth, who often end up feeling their classes are boring and irrelevant. Many adults over the age of 25 have discovered that community colleges offer programs leading to well-paying jobs; however, recent high school graduates are often poorly represented in such programs.

### **How Other Countries Train Youth for Jobs**

What is needed is a broader set of options or multiple pathways to prosperity so that youth, with adequate guidance, can make more informed choices about their future. Vocational education in northern and central Europe offers insight as to how this might look. In these regions, vocational education and training is a mainstream pathway to adulthood. For example, in Austria, Denmark, Finland, Germany, the Netherlands, Norway, and Switzerland, after 9th grade between 40% and 70% of youth opt for a curriculum that balances classroom and workplace training over the next three years.

Vocational education and training (VET) generally takes the form of one of two models. In the first, referred to as the apprenticeship or “dual” system, students spend 3-4 days per week in paid company organized training at the workplace, with the remaining time spent in related classroom work. A second model involves more classroom or school-based learning. Students are introduced to a broad range of occupations before narrowing the focus of training in the third year.<sup>7</sup>

There is growing evidence that this approach to education is helping many of these countries leapfrog the U.S. Last year, the Organisation for Economic Co-

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operation and Development (OECD), of which the U.S. is a member, published the most sweeping studies ever of vocational education across countries.<sup>8,9</sup> The OECD studies found that an emphasis on vocational education often helps raise graduation rates, because students in these programs tend to be more engaged. Perhaps surprisingly, high-quality vocational programs can also raise student performance on academic exams, because the best programs integrate academic concepts into vocational instruction—so that the students readily understand the importance of learning the concepts. The study authors noted that school learning is abstract, theoretical, and organized by disciplines; in contrast, work-based learning is concrete, specific to the task, and organized by problems or projects. The effective connection of these two educational worlds should be considered key to meeting present day labor market demands.

A second OECD report, “Jobs for Youth,” focused on the transition from school to employment.<sup>10</sup> These authors note that in the current economic crisis, youth who lack relevant work skills risk being excluded from the labor market altogether.

Employers play a huge role in supporting these types of apprenticeship systems. They define occupational qualifications, provide paid apprenticeships in collaboration with educators, and in some countries (e.g., Germany) fund about half of the expenses associated with the system. The rationale for this is simple: German employers believe that the best way to get a highly qualified workforce is to invest in the development of young workers, and participate directly in their workplace training and socialization.

These systems are hardly perfect, and have some drawbacks that would not be acceptable to most Americans. For example, in Germany and Switzerland, there is a heavy emphasis on “tracking” students at a young age, in order to separate out the academically gifted from more mediocre students. It is unlikely that this practice of early tracking would be accepted in the U.S.; however, it is worth noting that students completing a VET program in German and Swiss apprenticeship systems have qualifications roughly equivalent to U.S. students who complete a technical degree from a community college.

In countries like Finland and Denmark, students are taught in common until the 9th or 10th grade, at which point students and families (not schools) decide which type of curriculum they will pursue. This type of practice is likely to be more acceptable to U.S. families, but it could require forgoing some of the existing academic tracking practices in elementary and middle schools. What is common across the different models, though, is an expectation that student trainees have a solid academic foundation and strong work ethic. Apprenticeship programs are not necessarily equipped to deal with chronically failing students.<sup>11</sup>

***Vocational education that integrates work and learning is a superior way to learn.***

Taken together, the two OECD reports provide compelling evidence that vocational education that integrates work and learning is a superior way to learn. VET programs provide a structure to support the transition from adolescence to adulthood that is consistent with the developmental needs of teens. Also, such programs teach youth about “working life” and give them soft skills as well as training and experience in a career area. Not surprisingly, youth who participate in such programs do better at finding jobs than their peers in the non-college bound path.

## The Road to an American Solution

Pathways to Prosperity offers three essential strategies for tackling the problems facing the “forgotten half.”

- (1) Multiple Pathways.** The first strategy involves a broader vision for school reform that incorporates multiple pathways to a meaningful career as the foundation. The current system in the U.S. places too much emphasis on the “college for all” philosophy. As we have seen, this strategy only works for a minority of youth: since only 30% of young adults have actually earned a 4-year bachelor’s degree by the age of 27 (nine years out of high school). The U.S. system would be greatly strengthened by clearly detailing the pathways to all major occupations from the point of entry into high school. Students would retain the freedom to make choices and change paths. However, they would have a solid understanding of the courses and skills required for specific occupations, and would therefore be able to make better decisions consistent with their abilities and interests. This strategy presumes a foundation of basic academic skills, such as literacy and math skills. It also requires adequate career guidance and counseling—the current system is inadequate to meet this foundational requirement given student-to-guidance counselor ratios averaging 500 to 1. Other OECD countries make career guidance an integral part of the curriculum beginning as early as middle school.
- (2) Engage Employers.** The second critical strategy required is an expanded role for employers. Business leaders and employers have historically left the job of educating U.S. youth to the school system. If new career pathways are to be developed for youth in middle and high school, employers would need to become deeply engaged in the process. They would need to help set standards and design programs, advise youth, and provide on-the-job training opportunities. In essence, they would need to become full partners in the national effort to prepare young adults for success. In return, employers would be major beneficiaries of an eventual pipeline of employees who have already proven themselves on the job and who have relevant skills.
- (3) Work-Linked Learning.** Employers are especially important in realizing another major policy emphasized by the *Pathways* report: work-linked learning. There is growing evidence that work-linked learning—which ranges from job shadowing and internships to full-fledged apprenticeships and coop jobs—is extremely effective at increasing student engagement, skill development, degree attainment and eventually, success on the job. Such opportunities could begin at the secondary school level, and should be tailored to different age groups. For example, younger students could take workplace tours, attend job fairs, and participate in other efforts to enhance exposure to various fields, whereas older students could work with career mentors and take part in workplace learning through internships. Cooperative learning models, wherein work experience is carefully monitored by the school, constitute a successfully tested model of work-based learning that is sparsely used in the U.S. This type of model would require significant shifts in U.S. practice even within existing apprenticeship

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programs. The evidence from other countries, though, suggests that cooperative learning models effectively increase the pipeline of prepared, highly motivated workers for the kinds of jobs available in today’s labor economy.

## What States are Doing to Train Youth

**California.** The “Linked Learning Initiative” in California combines rigorous academics with demanding technical education, work-based learning, and counseling support. The average cost per student is \$1,500, but if this approach raises achievement, reduces dropout rates, and increases post-secondary persistence and career success, the benefits will far outweigh the costs. So far, 11 school districts have developed plans for integrating the linked learning approach.

**Florida.** In 2007, the Florida Legislature passed a law that mandated new career and training education (CTE) programs to be designed to meet a real workforce need, and further mandated that students of these programs should earn high-quality, industry-recognized certifications. The law also considers CTE courses equivalent to other advanced academic courses in the state’s grading system for high schools. A core aim of Florida’s approach is to raise the graduation rate by offering students more high-quality, relevant programs of study.

**Massachusetts.** Massachusetts has a statewide network of regional vocational technical high schools. Students at these schools generally spend half of their time in career education, and academic instruction is integrated with technical education. The results have been overwhelmingly successful. These schools have some of the state’s highest graduation rates, and well over half of the graduates go on to post-secondary education. In 2008, 96% of the students at these high schools passed the state’s rigorous high-stakes graduation test—surpassing the performance of students at more conventional comprehensive high schools.<sup>12</sup>

**Tennessee.** This state has a network of 27 technology centers that provide training leading to certificates and diplomas in more than 50 occupational fields. These centers have a graduation rate of over 75%, more than three times that of the state’s separate community college system.

**Washington.** Washington State’s Integrated Basic Education and Skills Training (I-BEST) program integrates remedial English and math skills training into college-level CTE programs in fields ranging from auto repair to nursing. A recent evaluation found that I-BEST students earned more credits and certificates, and were more likely to persist with their studies, than students in regular remedial courses of study.<sup>13</sup>

**Wisconsin.** One home-grown example is the Wisconsin Youth Apprenticeship Program, now the largest apprenticeship program for high school students in the country serving approximately 2,000 students at any one time across the state. Apprenticeships are offered in fields ranging from health care and manufacturing to information technology, hospitality, and agriculture. Over three-quarters of graduates from this program go on to enroll in a technical college or university,

***Over three-quarters of graduates of the Wisconsin Youth Apprenticeship Program completed a technical college or university degree at rates higher than the national average.***

and over 60% complete their degrees—far higher than the national average. Upwards of 85% of graduates are employed after leaving high school, and employers are overwhelmingly positive about the program.

## A New Social Compact with Youth

To achieve the goals outlined in this chapter, a new social compact with youth is required. This compact should spell out what educators, employers, and governments will do to provide pathways, and how they will support young people as they navigate them. In addition, it should clarify what we expect from young people. Many other countries with nationally-integrated VET programs uphold a philosophy of mutual obligation.

By the time young adults reach their early 20s, they should expect that they will be equipped with the education and skills needed to be successful on the job. This, of course, requires urgent attention to the high school completion rate in the U.S. High school dropouts contribute about \$300,000 less to society than the average high school graduate.<sup>14</sup> It also requires extending support to low-income youth to enable them to complete their chosen path of learning, whether at a 4-year college, community college, or technical school.

The new compact would essentially help to bolster and uphold the deeply rooted belief in the “American Dream,” which has actually remained elusive for a substantial percentage of American youth for decades. The problem has been that the American Dream requires relevant opportunities for young people to succeed and prosper in the workplace.

The Social Compact is certainly not a new concept in America. In effect, the nation embraced such an approach during World War II. After Pearl Harbor was attacked, all young men—and many young women—were called to serve their country. Following the War, the GI Bill provided the means for many of them to go to college. Ultimately, this approach produced what became known as “the Greatest Generation,” since so many of its members achieved so much. Today, if we don’t reverse current trends, we are in danger of creating a “Wasted Generation,” because so many of our young are not prepared for success.

The lessons from Europe strongly suggest that well-developed and high-quality vocational education programs provide excellent pathways for many young people to enter the adult workforce. But these programs also advance lessons for training youth. From late adolescence onward, most young people learn best in structured programs that combine work and learning, where learning can be applied in a workplace context. Significant social and financial investments must undergird any shift toward this model of learning if it is to occur at a meaningful scale.

*William C. Symonds directs the Pathways to Prosperity Project, which is based at the Harvard Graduate School of Education. The Pathways Project released a major report in February, 2011 to find promising solutions to our increasing national failure to prepare many young adults for success. To date, Symonds has spoken on the report in about one third of the states, and hopes to work with several states that*

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would like to implement the Pathways vision for better preparing their young people for work. Symonds helped create the Pathways Project while he was a senior fellow at Harvard's John F. Kennedy School of Government in 2007-08. Prior to that, he spent nearly 25 years as a senior correspondent and bureau chief for "Business Week Magazine." During his career at Business Week, he covered business in the U.S. and abroad, and led bureaus in Pittsburgh, Denver, Boston, Toronto, and Rome, Italy. He also served as Business Week's chief education correspondent for many years, and wrote extensively about the role of U.S. business in school reform.

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## Glossary

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### **Apprenticeship (training)**

Apprenticeship is an educational method featuring on-the-job training. “Apprentices are employees at the firms and organizations where they are training, and combine productive work along with learning experiences that lead to demonstrated proficiency in a significant array of tasks. The programs usually last three to four years and require students to complete course work that includes math, verbal, and occupation-specific content ... The course work is generally equivalent of at least one year of community college. In completing apprenticeship training, workers earn a recognized and valued credential attesting to their mastery of skill required in the relevant occupation.”<sup>1</sup>

### **Associate’s Degree**

A two-year program combining “technical skills with general education, such as math, communications, and social sciences.”<sup>2</sup>

### **Career Academies**

An educational intervention that operates as a school-within-a-school. Typically, 150 to 200 high school students attend classes together with the same teachers and staff, use a curriculum combining regular academic courses and technical courses related to employment, and are partnered with local businesses to provide opportunities for job shadowing and work experience.<sup>3</sup>

### **Hard Skills**

Technical or administrative skills, often confirmed by certification or apprenticeship.<sup>4</sup>

### **Middle Skill Jobs**

“Jobs that require postsecondary education or training but less than a 4-year college degree.”<sup>5</sup>

### **Occupational or Professional Certificate**

Certificate programs are short, often one year or less, and “provide focused, career-centered learning ... Certificate programs fulfill the needs of local business [and] provide training for specific skills that are in demand” (p. 151).<sup>6</sup>

### **Organisation for Economic Co-operation and Development**

An organization that provides a forum for governments to work together and seek solutions to common problems. The 34 members span the globe including many of the world’s most advanced countries, but also emerging countries like Mexico, Chile, and Turkey.<sup>7,8</sup>

### **PISA Assessment**

“The Programme for International Student Assessment (PISA) is an internationally standardised assessment that was jointly developed by participating economies and administered to 15-year-olds in schools.”<sup>9</sup> The PISA uses survey methods to assess

the following questions: “Are students well prepared for future challenges? Can they analyze, reason and communicate effectively? Do they have the capacity to continue learning throughout life? [PISA] answers these questions and more, through its surveys of 15-year-olds in the principal industrialized countries. Every three years, it assesses how far students near the end of compulsory education have acquired some of the knowledge and skills essential for full participation in society.”<sup>10</sup>

### Soft Skills

“Nontechnical skills, abilities, and traits required to function in a specific employment environment: delivering information or services to customers and co-workers; working effectively as a member of a team; learning or acquiring the skills necessary to perform a task; inspiring the confidence of supervisors and management; and understanding and adapting to the cultural norms of the workplace.”<sup>11</sup>

## Glossary Endnotes

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