



STRATEGY PAPER
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Building America's Job Skills with Effective Workforce Programs: A Training Strategy to Raise Wages and Increase Work Opportunities

Michael Greenstone and Adam Looney



MISSION STATEMENT

The Hamilton Project seeks to advance America's promise of opportunity, prosperity, and growth.

We believe that today's increasingly competitive global economy demands public policy ideas commensurate with the challenges of the 21st Century. The Project's economic strategy reflects a judgment that long-term prosperity is best achieved by fostering economic growth and broad participation in that growth, by enhancing individual economic security, and by embracing a role for effective government in making needed public investments.

Our strategy calls for combining public investment, a secure social safety net, and fiscal discipline. In that framework, the Project puts forward innovative proposals from leading economic thinkers — based on credible evidence and experience, not ideology or doctrine — to introduce new and effective policy options into the national debate.

The Project is named after Alexander Hamilton, the nation's first Treasury Secretary, who laid the foundation for the modern American economy. Hamilton stood for sound fiscal policy, believed that broad-based opportunity for advancement would drive American economic growth, and recognized that “prudent aids and encouragements on the part of government” are necessary to enhance and guide market forces. The guiding principles of the Project remain consistent with these views.





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BROOKINGS

Abstract

This paper discusses the importance of effective training and workforce development programs as part of a broader strategy to increase the competitiveness of American workers. Although rapid technological change and increasing global competition have delivered great economic benefits to the U.S. economy overall, the development of new and more productive industries has caused some Americans to experience significant declines in their earnings and job prospects; the Great Recession exacerbated these longer-term trends. Workers with less education and those who have been displaced from long-tenured jobs face particular challenges, and effective job training programs are an important component of policies to help these workers. The Hamilton Project proposes two general principles that can guide policy-makers in improving training programs to aid American workers: 1) training funds should be directed to programs with a track record of success in improving earnings for the specific target population and to those workers who can benefit the most from those programs; and 2) training programs should directly engage employer and industry partners, or actively guide students to career-specific training.

Table of Contents

ABSTRACT	2
CHAPTER 1: INTRODUCTION	5
CHAPTER 2: THE CHALLENGE	7
CHAPTER 3: EXISTING FEDERAL TRAINING PROGRAMS	12
CHAPTER 4: RECENT EVIDENCE ON EFFECTIVE TRAINING	14
CHAPTER 5: CONCLUSION	18
AUTHORS AND ACKNOWLEDGMENTS	19
REFERENCES	20
HAMILTON PROJECT PAPERS ON TRAINING	22

Chapter 1: Introduction

For most of American history, opportunities in the job market have enabled each generation to achieve a higher standard of living for themselves and their families than their parents enjoyed. Innovation and an entrepreneurial spirit fueled robust employment growth, a solid educational system readied workers to take advantage of employment opportunities, and a broad array of safety-net programs helped those who stumbled along the way get back on their feet.

More recently, rapid technological changes and increasing global competition have continued to deliver great economic benefits to Americans, through lower prices for consumer goods or advances in health care that prolong our lives or improvements in the quality and capabilities of everyday products. But this recent wave of change has also left some workers behind, particularly less-skilled workers, by making it more difficult for them to find good job opportunities and by eroding their wages on the job. For instance, recent research by The Hamilton Project shows that over the past four decades the annual earnings of the median man with only a high school diploma have declined by 46 percent. Not since this country has maintained records has such a large group of Americans experienced a similar prolonged period of declining real earnings.

The Great Recession of 2007–2009 exacerbated many of these long-term trends. Although the recession affected all Americans, disadvantaged workers with less education and fewer job-related skills experienced particularly high rates of job loss during this period, and many remain unemployed today. For instance, in 2010 the unemployment rate for people over the age of twenty-five without a high school diploma was 14.9 percent.

Among those who lost jobs in the recession are seven million workers who were displaced from long-term jobs. On average, these displaced workers will be reemployed at lower wages than at their previous jobs; the average such worker can expect to lose roughly \$112,000 in earnings over the remainder of her career.

The Hamilton Project believes that long-term prosperity is achieved not just through economic growth, but also through broad participation in that growth. In today's economy, access to educational and skill-development opportunities is a crucial component of efforts to facilitate that broad participation. Improving traditional education is an obvious first step in preparing workers for well-paid jobs, and The Hamilton Project has examined proposals aimed at raising educational attainment and improving the quality of primary, secondary, and postsecondary education.

However, other forms of workforce development must also play an important role. This paper presents our findings on the importance of developing workers' skills through training and workforce development programs, and examines newly available evidence on policies that boost job opportunities and wages. In a dynamic economy, it is impractical to stand still and wait for old opportunities to reemerge. Rather, workers can take action and gain new and practical skills to improve their reemployment opportunities and find jobs more quickly, or to improve the quality of their jobs and the level of pay they receive. Training programs offer a unique opportunity to improve the well-being of less-skilled and displaced workers.

As the United States continues its economic recovery, there is tremendous urgency to find model training programs that work and can be leveraged more broadly to put Americans

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back to work. There is also mounting pressure to find long-term solutions to the nation's growing economic inequality, and to create opportunities for more Americans to participate in the country's future economic growth. For these reasons, a renewed focus on training is particularly relevant today.

To be sure, worker training is a broad category, encompassing short-term vocational classes run by training providers, certification and technical classes at community colleges, career-oriented classes in secondary schools, apprenticeship programs, and a variety of other programs and institutions that provide workers with job-specific skills.

In the United States, the private sector plays a large role in training, but targets many of these efforts toward workers who already have better skills and better jobs. The federal government plays a major role in training the disadvantaged and displaced, funding many major programs through the Department of Labor (DOL) and the Department of Education (ED); it also funds the complementary and valuable task of providing reemployment services.

Training in and of itself is not a panacea for all that ails the labor market. There is no “one-size-fits-all” approach to training; each worker has different strengths and local employers have different needs. Therefore, training programs must be tailored to fit the specific needs of a community based on available jobs. Moreover, training may not be appropriate in every circumstance and might be only one component of a broader effort to address the skill deficits that some workers face. For these reasons, many observers have become frustrated that some existing training programs are unable to successfully address the significant issues these workers face and have failed to adapt effectively to the changing economy.

At a time when the need for skill development is great, there are important lessons to be learned from a new and promising body of research that has emerged in only the past five to ten years that has identified successful programs that match workers to jobs and that raise their earnings.

Findings from recent experimental evaluations of programs operated by states and nonprofit organizations, and careful studies of community colleges suggest that employment-focused programs, often developed in cooperation and collaboration with employer or industry partners, have been tremendously successful, producing returns for workers that far exceed the social cost of the programs.

After exploring the evidence on effective training programs, The Hamilton Project proposes two general principles that can guide policy-makers in improving training programs to aid American workers.

1. Training funds should be directed to evidence-backed programs and to workers who can benefit from those programs. Recent research has identified some training programs as particularly effective at getting Americans to work, or back to work at higher wages. The available evidence suggests that the most effective programs closely match the type and intensity of training to the needs and circumstances of the workers. The lessons learned from these successful programs can help inform future choices on how to allocate training funding.

2. Training programs should directly engage employer and industry partners, or actively guide students to career-specific training. Successful training programs often rely on input from or partnerships with employers and industry partners in order to direct trainees to invest in courses and fields of study relevant to available jobs. Without this type of collaboration, newly trained or retrained workers may find themselves without the skills needed by industry, skills that are required for long-lasting labor market success.

Two new Hamilton Project discussion papers present policy proposals that reflect these principles, and that are tailored to the needs of disadvantaged and displaced workers. Each proposal addresses the specific needs of its target population and builds on the evidence and experiences from existing effective programs.

In his 2011 Hamilton Project Policy Innovation Prize-winning paper, “Raising Job Quality and Skills for American Workers: Creating More-Effective Education and Workforce Development Systems in the States,” Harry J. Holzer of Georgetown University proposes developing sectoral training programs for disadvantaged workers that provide participants with the skills that employers demand by directly linking their education and training with the needs of the labor market.

In their 2011 Hamilton Project discussion paper, “Policies to Reduce High-Tenured Displaced Workers’ Earnings Losses Through Retraining,” Louis S. Jacobson of New Horizons Economic Research, Robert J. LaLonde of the University of Chicago, and Daniel G. Sullivan of the Federal Reserve Bank of Chicago focus on the problem of retraining displaced workers who have experienced significant earnings losses. Their paper lays out a comprehensive set of reforms that starts with the establishment of a Displaced Worker Training program that provides grants for longer-term training and includes guidance, structures, and incentives to direct trainees and educators to the most relevant and timely instruction to meet labor-market needs.

Chapter 2: The Challenge

In a time of economic turmoil, policy-makers face growing demand for new and better education and training programs to better prepare America's workers for opportunities in an increasingly competitive global economy—and to do so with fewer budgetary resources. Training programs have been a traditional and vital role of government. But the historical record is mixed: while many types of training programs have been tried, not all have proven effective, creating uncertainty regarding how to structure programs and leading some to doubt whether training programs are a good use of scarce resources. New and rigorous research sheds light on these questions and provides evidence on what makes a training program most effective, and which workers will respond best to those resources.

The Hamilton Project focuses on two groups of workers for whom training may be especially beneficial: the disadvantaged and the displaced. While these groups do not encompass all workers who could benefit from training, they represent groups where research presents a particularly compelling case both because they experience significant hardship and because evidence suggests that training can improve their situations.

DISADVANTAGED WORKERS

Disadvantaged workers are individuals with less traditional education, often living in high-poverty or distressed areas, or those from low-income backgrounds. These workers are characteristically affected by frequent bouts of unemployment, fewer job opportunities, and lower pay. Less-educated workers also are more vulnerable to economic ups and downs. The number of workers with only a high school diploma who are employed has fallen 8 percent since 2007, when the Great Recession began. The number of high school dropouts

employed has plummeted even more, by 16 percent. Over this same period, the number of college graduates employed has grown by 2 percent.

More broadly over the past forty years, globalization and technological progress have reduced the job opportunities for those with only a high school education, and many of these workers now opt not to work at all. High school graduates today find that additional postsecondary training or certification is needed for better career opportunities in many growing fields. Forty years ago, the employment rates of male high school graduates were the same as employment rates for male college graduates, but in the past forty years, the two groups have diverged (Greenstone and Looney 2010). In 2010, the employment rate for male high school graduates was only 75 percent, compared with 91 percent for college graduates. Median annual earnings are just \$26,000 today—about half of the \$50,000 the median man with a high school diploma brought home forty years ago. This fall in employment and earnings for men with a high school diploma only is shown in Figure 1.

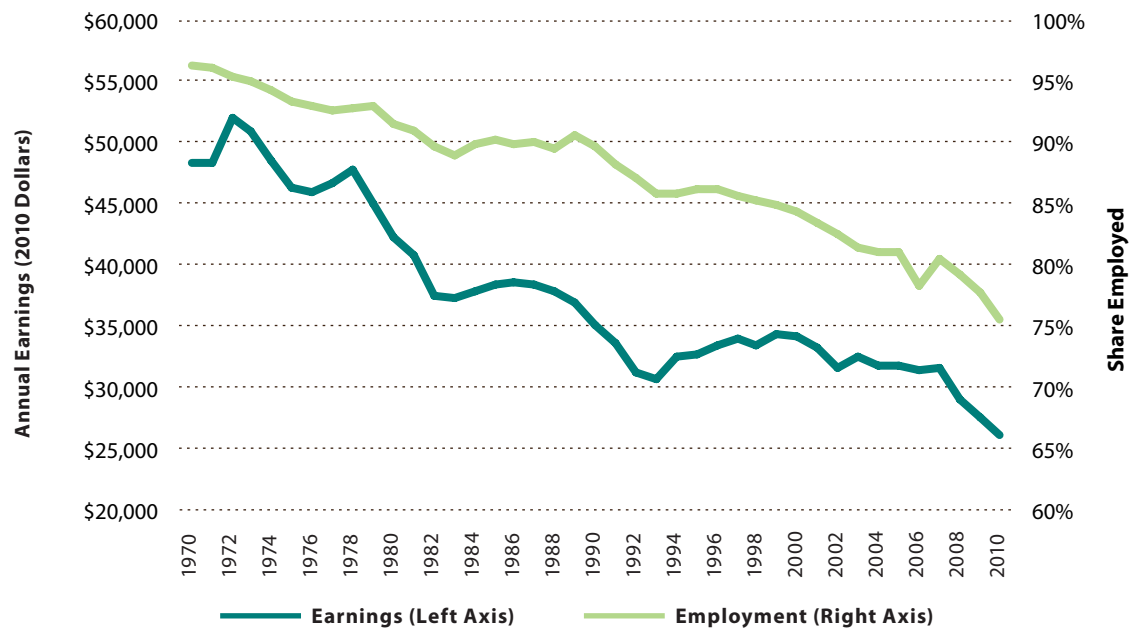
Looking at men and women together is more complicated due to tremendous social and cultural changes over the last forty years. At all levels of education, women have entered the workforce and have seen large increases in earnings. However, even when looking at all workers with a high school diploma, earnings are down 20 percent. Nationwide, the employment rate for recent high school graduates is 64 percent, compared with 88 percent for recent college graduates (Greenstone and Looney 2011).

Both high school dropouts and high school graduates, especially those graduating from low-performing schools, experience these problems, but high school dropouts face

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FIGURE 1

Annual Earnings and Employment of Men with a High School Diploma Only, 1970–2010



Source: Current Population Survey (CPS 1971-2011); Data on the institutionalized population come from the U.S. Census and American Community Survey (U.S. Census 1970-2010).

Note: The sample is restricted to non-Hispanic whites and blacks aged twenty-five to sixty-four to control for changes in the share of immigrants in the population. A direct identifier of immigrant status is unavailable before 1994 for annual earnings data.

especially severe challenges in the labor market. In 1970, a high school diploma was not even required for a middle class job; forty years later, fewer than a third of high school dropouts are middle class, and the trends suggest that share will continue to decline (Carnevale, Smith, and Strohl 2010). In recent years, as many as 25 percent of young Americans have failed to graduate from high school, making them ill-prepared for the jobs available in a highly competitive marketplace (Heckman and LaFontaine 2010). As many as 65 percent of blacks and Hispanics leave high school without a diploma. Including those with General Educational Development (GED) certificates raises the high school overall completion rate somewhat, but studies have shown that GED certificate holders are more similar to high school dropouts than they are to high school graduates in terms of social and economic outcomes (Heckman and LaFontaine 2010). The problem is especially vexing in urban areas. In cities such as Detroit, Denver, Philadelphia, and Los Angeles, high school graduation rates are below 50 percent (Editorial Projects in Education Research 2011). Certain distressed communities, such as Detroit, face unemployment rates above 14 percent. The evidence suggests that today's least-skilled workers are most at risk of being the most negatively affected by economic change.

DISPLACED WORKERS

In another category, displaced workers find themselves dislocated from long-term jobs when plants close, shifts are eliminated, or industries downsize. These workers are often well-established employees who developed a specific skill or craft over many years on the job. When positions are eliminated or firms close, these workers are often left to look for new jobs in an economic environment in which their skills have become less valuable or even obsolete. Although displaced workers may find new employment quickly, aided by their strong employment histories, all too frequently their new jobs do not pay as much as their old ones. As a result, the real cost of displacement is not the period of unemployment, which can be short and which is partially cushioned by unemployment insurance, but the lower wages they will earn for many years after losing their previous job. The problem is especially severe today, with more than 15 million workers displaced from their jobs between 2007 and 2009, roughly half of whom had been at their job for at least three years.

On average, the displaced workers with three or more years of experience in their previous job, known as “high-tenured displaced workers,” find new employment within a year of losing their job, but at a lower wage (Jacobson, LaLonde, and Sullivan 1993). Naturally, these workers may receive raises as time goes on or find jobs that are better matched with their skills and thus pay more, but the average high-tenured displaced worker will earn 11 percent less twenty-five years after displacement relative to a peer who did not lose her job (Davis and von Wachter 2011). The cost is likely to be especially high today because evidence suggests that the impact of displacement is higher during recessions.

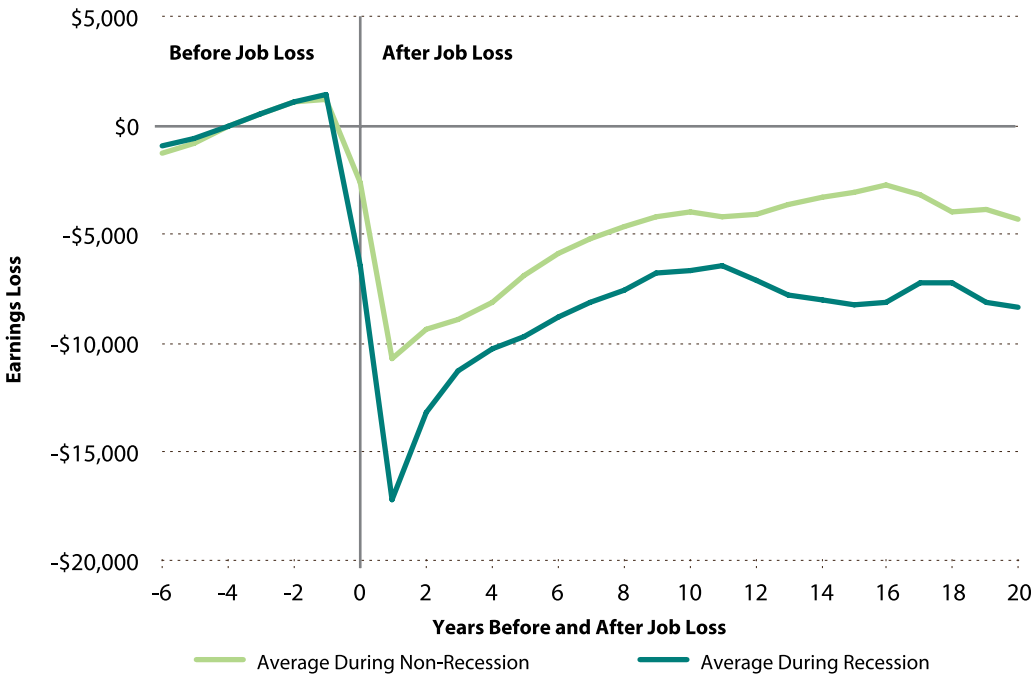
As illustrated in Figure 2, the earnings gap suffered by displaced workers varies depending on the health of the economy. Workers displaced during non-recessionary periods suffer lifetime earnings losses that are 10 percent of their lifetime earnings, compared with more than 19 percent earnings losses for workers displaced during times of economic recession (Davis and von Wachter 2011). In present value, lost earnings for workers displaced during recessions can exceed \$110,000 for each worker over twenty-five years.

Furthermore, the evidence shows that the longer a displaced worker was employed at a previous job, the larger his or her earnings loss is likely to be. This would suggest that displaced workers possess specific skill sets that were highly valued in their previous jobs, but that are less relevant to currently available employment opportunities. For displaced workers with six or more years of tenure in their previous jobs, average earnings were a mere 70 percent of their previous wage four years after their job loss.

The situation is somewhat different for those without significant tenure in their previous job. Four years after job loss, the average earnings of those with one and a half to three years of experience in their previous job were 90 percent of their previous wage (Jacobson, LaLonde and Sullivan 2005b).

America’s displaced workers will feel the impacts of job loss for years to come in the form of lost earnings, as well as in their health and well-being. For high-tenured workers, mortality rates in the year after displacement are 50 to 100 percent higher than average (Sullivan and von Wachter 2009).

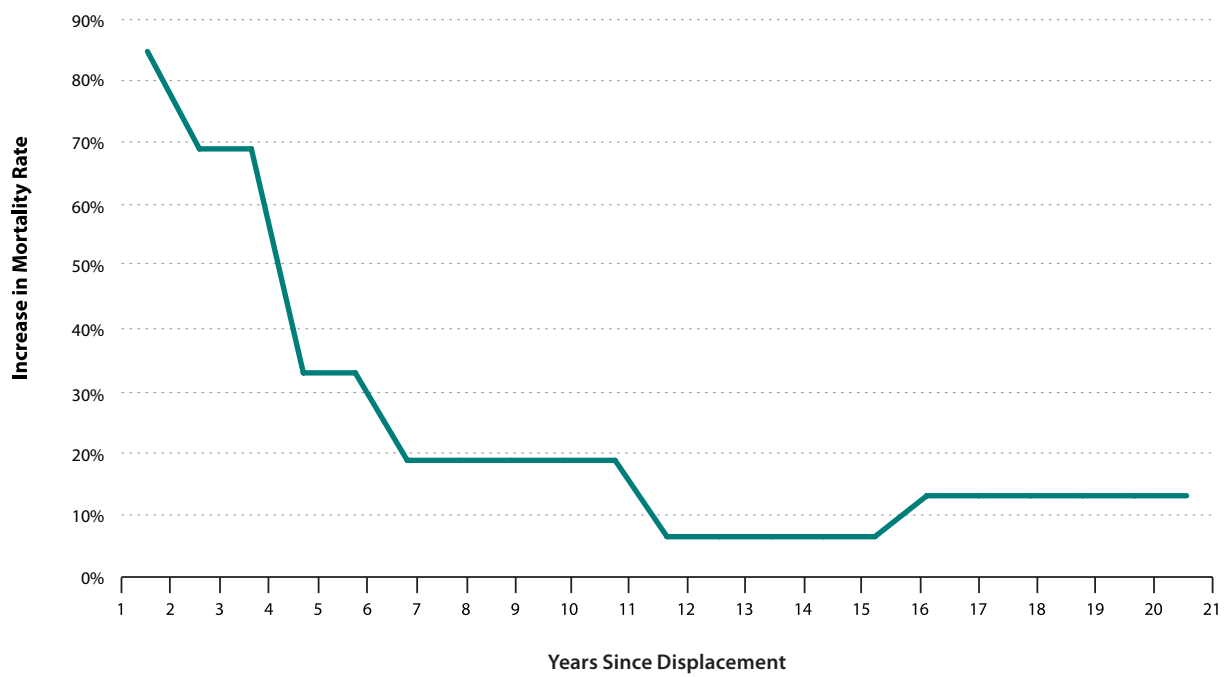
FIGURE 2
Average Annual Earnings Losses For Workers Displaced in Recessions and Non-Recessions



Source: Davis and von Wachter (2011).

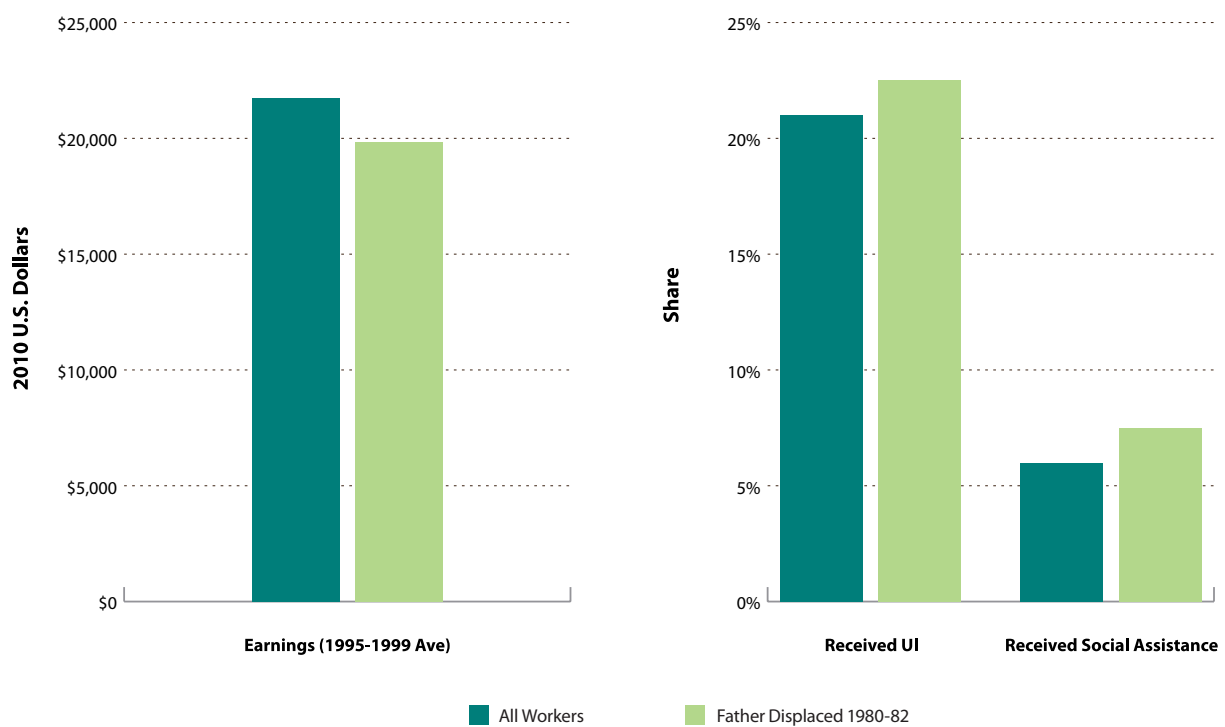
Note: Sample includes men with at least three years of job tenure before job loss.

FIGURE 3
Mortality Impacts of Job Displacement



Source: Sullivan and von Wachter (2009).
 Note: Mortality impact from a job displacement in the 1980s among workers with tenure in 1979 of at least six years and a history of stable employment.

FIGURE 4
Son's Outcome Twenty Years After Father's Displacement



Source: Oreopoulos et al. (2008).
 Note: Earnings converted to 2010 U.S. dollars.

The increase in mortality falls over time, but even twenty years after displacement these workers still have a higher rate of mortality than their peers who did not suffer job loss.

The increase in mortality for displaced workers implies a reduction in life expectancy of one to one and a half years (Figure 3). (In comparison, a forty-year-old man experiences roughly the same reduction in life expectancy from being about forty pounds overweight.)

The effects of dislocation leave lasting scars on workers' children as well (Figure 4). Children whose fathers were displaced in the 1980s earned about 9 percent less, on average, each year as adults than did children whose fathers had not experienced dislocation. They were also more likely to receive unemployment insurance and social assistance (Oreopoulos, Page, and Stevens 2008).

THE IMPORTANCE OF SKILLS

The importance of job skills for America's disadvantaged and displaced workers is readily evident, but addressing their skill deficits is far more complex. As noted above, every worker and every community is different and faces a unique set of challenges, which necessitates flexible programs that can be customized to meet the demands of each situation.

Many disadvantaged workers have already slipped through cracks in the traditional educational system and lack basic job-related skills that provide a basis for finding and holding a meaningful job. While improvements in formal education are likely to be the best way to improve these skills, such changes will take time and often require many additional working years to justify their costs. Moreover, traditional educational credentials such as a high school diploma no longer suffice for many jobs. And while many Americans would benefit from a college education, a four-year higher education degree may not be the right fit in every case. Although more and more people rely on community colleges for skill building, graduation rates in these institutions are poor. Among students who matriculated to obtain an associate's degree in 2003, six years later only 35 percent had graduated with a degree or certificate, 47 percent had left without a degree, and 18 percent were still enrolled (National Center for Education Statistics [NCES] 2009).

The challenges to displaced workers gaining better skills arise, in part, because they are often more established, have families to support, and therefore focus on finding another job as quickly as possible. At this point in their lives, they may not have access to student loan programs that would allow them to invest in skill building through higher education, may not have time to invest in full-time training given their

reemployment, and seldom qualify for aid because they have jobs—even though those jobs do not pay as much as their previous ones.

These workers experience employment difficulties not because they are unskilled, but because their skills may no longer be relevant for available jobs. In this case, the purpose of retraining workers is to retool their skills to reduce the earnings loss they face when changing professions. A return to formal education, such as a traditional college program, may not be ideal for older workers who have families to support and only a few years before retirement to benefit from the returns to education.

Policy-makers have long recognized the needs of displaced workers and have developed numerous programs to address those needs. The most successful of these programs facilitate job search and provide reemployment services. Fewer programs, however, actually attempt to develop skills. Furthermore, most educational and training resources are not available to workers who have found reemployment, thus preventing many workers who must support their families from building their skills base for a better long-term job.

From a policy perspective, there are important gains that come from equipping workers with better skills. Workers earning higher wages means increased tax revenue for federal, state, and local coffers, and reduced expenditures for other government benefits such as unemployment insurance, trade adjustment assistance, and disability insurance. As one example, research by David Autor and Mark Duggan (2003, 2006, 2010) suggests that in recent years job displacement has led to substantial increases in Social Security Disability Insurance enrollment. The average new enrollee in that program will receive a total of \$274,000 over her lifetime in 2010 dollars, a substantial cumulative addition to already strained budgets.

The social benefits of retraining programs can be equally significant, by helping to insulate workers from long-run harm that can befall them, their families, and their communities.

Chapter 3: Existing Federal Training Programs

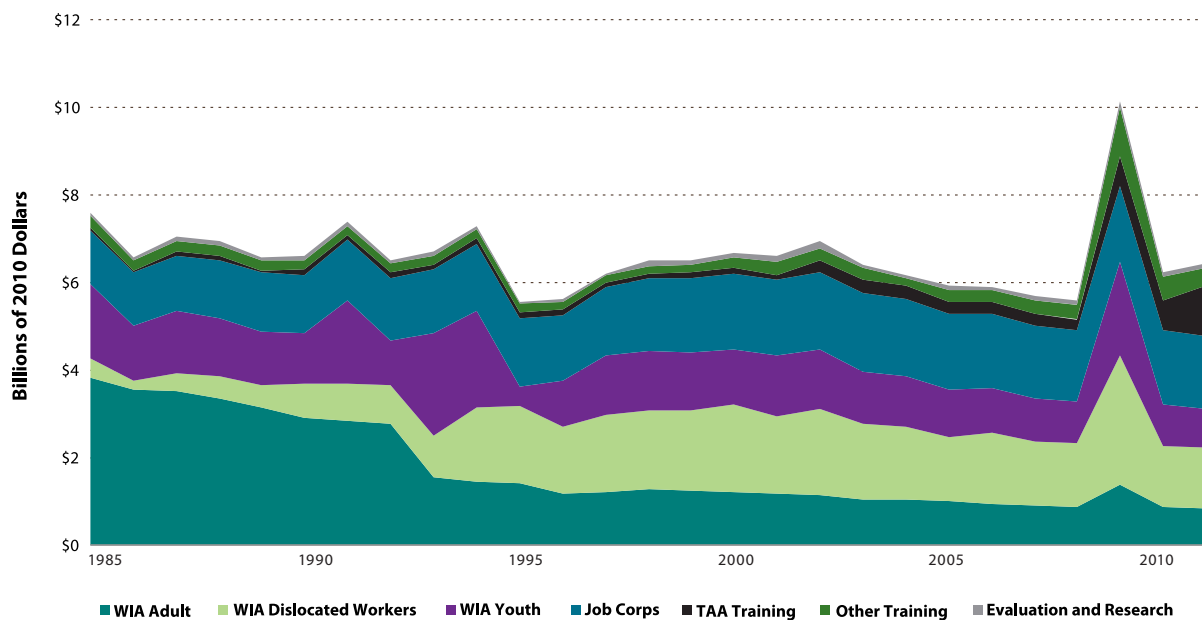
As workers struggle to adapt to a changing global economy, demands for new and better opportunities for training continue to grow. Existing resources have been stretched thin to meet the needs of a growing number of unemployed workers seeking assistance for their efforts to find reemployment. Raising the employment prospects of these workers requires more than just more funding existing systems—a thorough evaluation of existing programs is needed in order to ensure that scarce resources are directed toward proven programs and models.

Current federal training programs for disadvantaged and dislocated workers operate mainly through the DOL. The federal workforce development system includes a collection of education, training, and employment programs operated by a variety of federal agencies. Other agencies fund programs for specific target populations, including the Veterans Administration's Vocational Rehabilitation and Employment

Service for returning veterans with disabilities, and the Department of Health and Human Services' programs for welfare recipients. The federal government also provides financial support for vocational education and postsecondary schooling through grants from the ED and the Pell Grant program.

DOL programs provide the most prominent worker training programs for disadvantaged and displaced workers. DOL training expenditures are small relative to other federally sponsored investments in human capital, despite the fact that investments in training appear to provide returns comparable to other investments in education. For example, in 2010 the federal government authorized more than \$50.5 billion for elementary, secondary, and vocational education, much of it for grants to state and local governments, and more than \$12.6 billion on higher education (Office of Management and Budget [OMB] 2010, Table 5.1.). Meanwhile, the budget

FIGURE 5
Federal Funding for DOL Training Programs, 1985–2011



Source: Employment and Training Administration, DOL (2011a, 2011b, 2011c).

Note: The funding reported for Workforce Investment Act (WIA) Dislocated Workers, WIA Adult, WIA Youth, and Evaluation and Research was administered prior to 1998 under the Job Training Partnership Act (JTPA), which was repealed and replaced by WIA in 1998. Prior to 1992, the WIA Adult category represents JTPA Block Grant funding, which was replaced by a combination of JTPA Adult and JTPA Youth funding in 1993.

for training programs through the DOL was just over \$6 billion. Furthermore, although federal funding makes up a small portion of K–12 spending and less than half of higher education spending, worker training programs rely primarily on federal funding. Figure 5 shows funding for DOL training programs over time.

Spending on training has fallen from a high in the early 1980s, staying relatively constant apart from a 2009 bump from the American Recovery and Reinvestment Act and some recent new expenditures. In the late 1970s, funding for JTPA itself was more than \$15 billion (LaLonde 2003). Training budgets have since fallen to around \$6 billion in recent years, and the spike from the Recovery Act brought the 2009 total to just under \$10 billion.

The largest group of programs was established by Workforce Investment Act (WIA), which includes programs targeting three different populations: disadvantaged adults, disadvantaged youth, and displaced workers, at a budgetary cost in 2011 of about \$3 billion. The adult and displaced worker programs operate primarily through One-Stop Career Centers around the country, which offer three levels of services for these workers. Core services at One-Stops include providing job listings and other labor market information, computer and internet workstations, and workshops on résumé writing, job searches, and interview skills. Intensive services include assessments, individual and group counseling, development of employment plans, and placement assistance. Finally, some workers may receive actual training, most of which is provided through vouchers, or Individual Training Accounts, that must be used for training from the state's list of eligible training providers. WIA also can directly fund on-the-job training, customized training offered by employers, and other specialized training. The youth program offers an expanded selection of services, including tutoring, alternative schools, summer employment, leadership development, and mentoring.

Training in the WIA Disadvantaged Adult program has shown promise of producing modest improvements in earnings, but the WIA Displaced Worker training services have not been proven successful (Heinrich, Mueser, and Troske 2008). The WIA Youth program remains largely untested (Decker and Berk 2011).

An earlier Hamilton Project discussion paper by Louis S. Jacobson (2009), “Strengthening One-Stop Career Centers: Helping More Unemployed Workers Find Jobs and Build Skills,” examines ways to make One-Stops more effective through improved performance measures and the introduction of an accountability system.

The next-largest program administered out of DOL is Job Corps, which serves disadvantaged youth and young adults. Participants live in Job Corps centers and receive a combination of vocational training and academic education. A rigorous evaluation of the program found sustained postprogram increases in earnings for participants in their early twenties but not for others (Schochet, Burghardt, McConnell 2008).

The programs that operate under WIA provide important services to participants and serve large populations. These programs were established during a different era, however, with a primary focus on short-term job training for workers in order to accelerate reemployment—and not to train displaced or disadvantaged workers with new skills. These programs have been successful in reducing the duration of unemployment for workers, but less so at raising the long-term wages for transitioning workers. Indeed, it is troubling that in today's rapidly changing economy relatively few resources are available for longer-term training whose purpose is to ready workers for high-quality jobs and to develop long-term earnings gains.

As times and circumstances change, so can our government's policy responses. Indeed, federal training programs have evolved considerably over time, with the most recent reformulation occurring with the passage of WIA in 1998. This revision of workforce development policy emphasizes the historical precedent of evaluating the effectiveness of these training programs to ensure they still meet the needs of today's workforce in a cost-effective manner. The challenge today is not just of matching workers to jobs and brushing up their résumés and interviewing skills, as might have been the case in the late 1990s: today's workforce requires development of new skills through training opportunities that allow workers to compete in the global economy.

Indeed, it is troubling that in today's rapidly changing economy relatively few resources are available for longer-term training whose purpose is to ready workers for high-quality jobs and to develop long-term earnings gains.

Chapter 4: Recent Evidence on Effective Training

MODELS OF SUCCESS

With an increasing need for longer-term skills, states and not-for-profits have become the laboratory for new training programs. Recent evidence from such programs has emerged in the past decade that indicates how training programs can be used to raise earnings and employment and as an alternative to formal education. Through this research, lessons are emerging on how to structure effective programs to fit the needs of a target populations in the workforce.

Multiple policies aimed at youths and adults from disadvantaged backgrounds have been shown to produce positive results. Starting within high schools and targeting disadvantaged youth, Career Academies provide a small, personalized learning environment that combines traditional academic courses with vocational education. Students in the academies are taught in small classes with the same teacher from year to year and the curriculum is designed around a career theme—such as finance, hospitality and tourism, information technology, or engineering—with both academic and vocationally oriented classes. The program includes a broad cross-section of students, and has been especially successful in producing sustained increases in earnings and employment for young men who were considered to be at risk of dropping out of high school (Kemple and Willner 2008). Using randomized controlled trials, researchers found that the program boosted the earnings of graduates by more than 11 percent over students who did not enter the program, and the effects persisted even eight years after the program ended.

Similarly, National Guard Youth ChalleNge, another program that targets at-risk-youths, teaches both academic and life skills in a military boot-camp-style residential environment. Participants who successfully complete a two-week orientation period enter a twenty-week program, which is structured around a curriculum focused on leadership and followership, responsible citizenship, service to community, life-coping skills, physical fitness, health and hygiene, job skills, and academic excellence. Days are highly structured, with almost no free time. Most program sites help participants study for the GED tests. After graduating from the program, participants are placed into jobs or further education

programs and are mentored. The structured postprogram plan smoothes the transitions back into old neighborhoods and encourages participants to maintain the good habits learned in the program. Three years later, graduates of this program are more likely to have earned a GED, and earn on average 20 percent more than nonparticipants (Millenky, Bloom, Muller-Ravett, Broadus 2011).

Yet more examples of success are found in three sectoral employment programs—training programs that focus on a certain industry—that have improved job outcomes for low-income adults who were struggling in the labor market. In Boston, workers were trained in medical billing and accounting; in New York, they were trained in information technology; and in Milwaukee, they were trained in manufacturing, construction, and health care. The Boston program provided longer-term job-specific occupational training, and the New York curriculum was designed with the industry A+ certification—a credential for service technicians used by many IT companies—in mind. In Milwaukee, programs were designed to fill specific immediate needs, sometimes at the direct request of employers. The programs ranged from up to eight weeks in Milwaukee to around twenty weeks in Boston.

Evaluated in the Sectoral Employment Impact Study, in the year after the program, trainees in these three programs earned about \$4,000 more than nonparticipants per year—a 29 percent increase (Maguire, Freely, Clymer, Conway, Schwartz 2010).

Another program in Boston, Year Up, provided six months of intensive technical training and a six-month internship placement for low-income young adults and boosted earnings by 30 percent in the year after the program (Roder and Elliott 2011).

Almost all of these programs include close cooperation with employers and sectoral partners to determine the most useful set of skills for participants. The training in these programs was geared toward technical skills, sometimes in combination with basic education. Among adults, this focus on very practical and marketable skills produced the most promising results shown in any training program. Not surprisingly, the success of these programs is linked to their intensity. These

training programs tend to last for months and are more costly to administer relative to other programs designed with a shorter-term focus on getting trainees quickly into the labor market.

For displaced workers, the key to successful training has proven more difficult to find. Workers from different backgrounds in various parts of the country—of different ages and educational backgrounds—can all find themselves displaced from their jobs due to a range of factors. But valuable lessons have been learned from recent research on some remarkably successful training initiatives.

A key study tracked displaced workers who engaged in training at local Washington State community colleges and used these data to determine what kinds of classes were most successful in helping them find jobs with comparable earnings to their previous positions (Jacobson, LaLonde and Sullivan 2005a,b,c). The study finds a stark contrast between more technically oriented vocational and academic math and science courses and less technically oriented courses, including academic social sciences and humanities courses and courses in other areas such as business, sales, basic skills, and physical education. While an academic year of technical, math, and science classes raise earnings by about 14 percent for men and 29 percent for women, other classes yield very low returns that probably do not outweigh the costs of attending school. This evidence can guide policy-makers to several important conclusions: (1) Career counseling to steer workers toward the most high-return programs that fit their abilities is important. (2) More and better classes and training programs are needed in high-return fields like science and math because workers in these fields are often in short supply. (3) Scarce resources should be directed toward those academic programs that provide the highest returns for American workers and their families.

The effectiveness of the technical classes contrasts with the results from the WIA Displaced Worker training programs, where the net benefit of training was close to zero or even negative (Heinrich, Mueser, Troske 2008). The training provided by WIA is less intensive than community college courses, and so does not provide returns to displaced workers, who tend to already have basic skills and who need training that is more advanced to compensate for their earnings losses.

Figure 6 provides a summary of earnings impacts from rigorous evaluations of training programs for disadvantaged and displaced workers. The figure illustrates that a wide range of impacts exist, ranging from impacts that could be results of randomness (the unfilled bars) to earnings gains in the thousands. The programs highlighted above and a variety of other programs raise participant earnings by substantial amounts.

A complete analysis of these programs would compare their long-run impacts on earnings with the upfront costs to determine whether the total benefits exceed the costs. Unfortunately, this information is not generally available for most programs, making it challenging to identify the programs with the biggest bang for the buck. For example, the earnings gain is frequently only measured for the first few years after training. Thus, the persistence of training effects over time and the extent of “fade-out”—the rate at which earnings impacts disappear in the years after the program—is frequently unknown. The cost measures also are often incomplete. A full accounting would include a comprehensive measurement of program costs, including direct budgetary costs and other costs, such as workers’ forgone earnings.

Some examples help to illustrate this point. In order to be considered cost-effective, intensive programs that cost more must necessarily produce more benefits. Job Corps, one program where cost estimates are readily available, appears to generate small increases in earnings, but at a cost that outweighs these benefits. On the other hand, JTPA and WIA are relatively inexpensive programs, and so they appear cost-effective despite producing smaller impacts. The broader point is that greater transparency of budgetary costs and a more complete analysis of long-run labor market outcomes are necessary to make sound policy judgments about how to best spend training dollars.

Using the common elements of successful programs, The Hamilton Project proposes two principles to define a path forward for future training efforts:

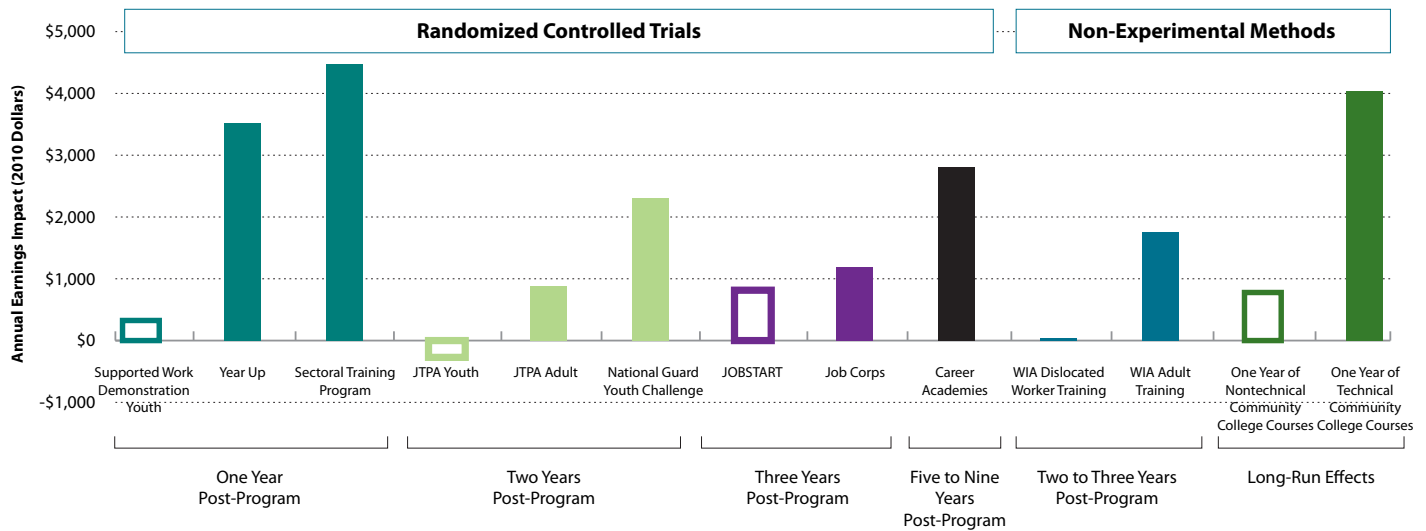
1. TRAINING FUNDS SHOULD BE DIRECTED TO EVIDENCE-BACKED PROGRAMS AND TO WORKERS WHO CAN BENEFIT FROM THOSE PROGRAMS.

The demand for new skills is high and training resources are limited. Meeting both these needs requires directing resources to only the most effective programs. This means offering training in high-return fields, and putting in place the infrastructure to guide workers toward the most effective training programs that fit their abilities. New evidence identifies programs that are successful in achieving these goals and some that are not. As more data continue to emerge, a key challenge for policy-makers will be to use that evidence to target funds to the most effective forms of training—whether through new or through existing programs.

One important finding is that the skills, abilities, and circumstances that workers bring to training matter for whether that training is effective. For example, the needs of displaced workers are different from the needs of disadvantaged adults, and disadvantaged youths may require environments that are different from either adult group.

FIGURE 6

Training Program Earnings Impacts by Years After Training



Source: Bloom, Orr, Bell, Cave, Doolittle, Lin, and Bos (1997); Cave, Bos, Doolittle, and Toussaint (1993); Heinrich et al. (2008); Jacobson, Lalonde, and Sullivan (2005c); Kemper, Long, Thornton (1981); Kemple and Willner (2008); Maguire et al. (2010); Millenky et al. (2011); Roder and Elliott (2011); Schochet et al. (2008).

Notes: The bars indicate the earnings gain from participating in each program. Solid bars indicate results that are unlikely to have occurred by chance (i.e. results that are statistically significant at the 10% level). In general, impacts here are for the latest postprogram years that were reported. Impacts are intent-to-treat for experimental studies. For JTPA and community college, impacts are averages of (1) impacts for men and (2) impacts for women.

While basic education combined with shorter-term technical training may be appropriate for disadvantaged workers in the Sectoral Employment Impact Study, displaced workers likely require programs that are more intense to gain enough skills to recover their earnings. Conversely, disadvantaged workers may not have enough basic skills to undergo the more technical and intensive coursework that benefits displaced adults.

The newly available evidence drawn from existing training programs can provide guidance today about where to target scarce resources. But in order to continue improving the quality of training available to American workers the states, agencies, and organizations that provide training must be willing to subject their programs to scrutiny and to run the types of experiments that give rigorous evidence on cost-effectiveness and overall success. Moving forward, transparency in outcomes will be essential to providing the best possible outcomes for the people for whom training is intended.

Finally, the evidence suggests that training is not a panacea for all workers. Research shows that lifetime returns to retraining for displaced workers diminish with age since older workers have fewer working years left. For this population, retraining may not be the right path and there may be cases in which other forms of social support would be better suited to mitigating the deleterious effects of job loss and unemployment. For example, for older displaced workers, wage insurance could

provide compensation proportional to their earnings loss at their new job, thus protecting them from the full damage of displacement but not forcing them to retrain at a cost to them and to society. Two earlier Hamilton Project discussion papers, “Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts” by Jeffrey Kling (2006), and “Reforming Unemployment Insurance for the Twenty-First-Century Workforce,” by Lori Kletzer and Howard Rosen (2006), provide alternative approaches to wage insurance.

2. TRAINING PROGRAMS SHOULD DIRECTLY ENGAGE EMPLOYER AND INDUSTRY PARTNERS, OR ACTIVELY GUIDE STUDENTS TO CAREER-SPECIFIC TRAINING.

The most successful training programs either coordinate directly with employers and industry partners to ensure that their participants receive training in skills that are in demand, or include career-oriented counseling that steers trainees to the most valuable coursework. It is clearly important that participants in training programs receive practical, marketable skills necessary for available jobs, but it is not always easy for prospective trainees or even traditional educators to identify which skills are important.

One approach is to draw on employers and industry partners, who know best what skills their employees need, to help direct training. Programs developed using this model include the three programs within the Sectoral Employment Impact Study, Career Academies, and Year Up. In these programs, employers direct the focus of training; these partnerships have all paid off for workers in subsequent years of employment. A common element to these programs is a focus on technical and vocational skills that translate immediately to higher wages and opportunities in the marketplace.

But direct partnerships with employers are only one way to steer students to those technical or vocational skills that the market most needs. Training providers and institutions, such as community colleges, can be more attuned to labor market trends and respond by providing the high-return courses in these areas and counseling participants to help them understand the disproportionate benefits of training in more technical fields. Displaced workers, in particular, may be further removed from their years of schooling and often lack information about the available courses or programs, and the fields with the highest economic return.

Finally, a more general problem for individuals seeking to invest in education and training is finding objective and easy-to-access information on how graduates from various programs fare in the labor market. In an earlier Hamilton Project and Center for American Progress discussion paper, “Grading Higher Education: Giving Consumers the Information They Need,” Bridget Terry Long (2010) suggests changes to the way information on the costs and economic benefits of different educational programs are collected and disseminated to educational consumers. Consumers of educational services, including disadvantaged or displaced workers interested in upgrading their skills, require accurate and transparent information on the value of different choices in order to make the right decisions.

Two new Hamilton Project discussion papers describe policy proposals tailored to disadvantaged and displaced workers. Each proposal addresses the specific needs of its target population, building on the evidence from existing effective programs.

In his 2011 Hamilton Project Policy Innovation Prize-winning paper, “Raising Job Quality and Skills for American Workers: Creating More-Effective Education and Workforce Development Systems in the States,” Harry J. Holzer of Georgetown University builds on the success of sectoral training programs for disadvantaged workers to create a competitive grant system. This system will give states funding for creating partnerships between training providers and employers or industry groups. The grants would fund a more effective workforce and education system that gives students

and training participants the skills that employers demand by directly linking their education and training with the labor market. Holzer outlines criteria for the grants, which can be used for planning or implementation, and proposes that applications be judged on the strength of the partnership, the evidence base for the grant proposal, plans for evaluation, and how well the proposal leverages existing resources, among other requirements.

In their 2011 Hamilton Project discussion paper, “Policies to Reduce High-Tenured Displaced Workers’ Earnings Losses through Retraining,” Louis S. Jacobson of New Horizons Economic Research, Robert J. LaLonde of the University of Chicago, and Daniel G. Sullivan of the Federal Reserve Bank of Chicago focus on the problem of retraining displaced workers who have experienced significant earnings losses. Current training programs do not provide adequate resources to finance the long-term training needed by displaced workers to meaningfully offset their losses, nor do they provide the right incentives to access longer-term training. The paper lays out five comprehensive reforms targeted specifically at training-ready displaced workers experiencing significant earnings loss: (1) establishing a Displaced Worker Training (DWT) program administered by the DOL to provide sizeable grants for longer-term training; (2) using honest brokers to assess and counsel grantees to increase the returns to the DWT program; (3) providing incentives and performance standards for participants and institutions; (4) evaluating retraining programs and disseminating best practices; and (5) shoring up community colleges’ capacity to provide high-quality retraining, especially during tough economic times.

Past Hamilton Project papers offer proposals to strengthen other aspects of the workforce system, which complement these two proposals for disadvantaged adults and displaced workers. In addition to Louis S. Jacobson’s proposal for strengthening One-Stop Career Centers (2009) mentioned above, these proposals include a paper focusing on people released from prison: “From Prison to Work: A Proposal for a National Prisoner Reentry Program” by Bruce Western (2008), which provides an overview of the evidence on employment training programs for this population and synthesizes the literature into a proposal for a national prisoner reentry program providing transitional jobs with other support services.

Chapter 5: Conclusion

American workers today participate in a rapidly changing marketplace. International competition and technological change, among other forces, are constantly changing the landscape of opportunity. A lack of basic skills and education has greatly diminished job possibilities for some workers. Other workers who developed skills, built careers, and enjoyed long-term success only to have those gains vanish with the decline of industries or employers face the daunting challenge of finding a new job at a wage comparable to their previous position in order to maintain a stable standard of living for themselves and their families.

Education and training programs have been an important policy tool to help American workers find good jobs. But as the marketplace changes, so must these initiatives. New evidence highlights the importance of training in high-return fields that can help prepare workers for well-paid jobs of the

future. This requires counseling to help guide participants to the best training programs for their abilities and ample opportunity to participate in these programs, which are often in short supply due to their expense. For other workers, more structured education and training programs can help build basic skills that allow them to fully participate in the labor market—sometimes for the first time.

If the United States is to remain a global economic leader, we cannot leave large segments of the population behind. Some of America's most vulnerable populations—disadvantaged and displaced workers—are at risk of being left out of the nation's economic recovery due to skills deficits that inhibit their full participation in the workforce. By scrutinizing existing programs to identify best practices and prioritizing scarce dollars toward the most effective models, we can begin retooling our training agenda to meet the needs of today's economy and begin building America's workforce for the future.

Some of America's most vulnerable populations – disadvantaged and displaced workers – are at risk of being left out of the nation's economic recovery due to skills deficits that inhibit their full participation in the workforce.

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References

- Autor, David H., and Mark Duggan. 2003. "The Rise in the Disability Rolls and the Decline in Unemployment." *Quarterly Journal of Economics* 118 (1): 157–206.
- Autor, David H., and Mark Duggan. 2006. "The Growth in the Social Security Disability Rolls: A Fiscal Crisis Unfolding." *Journal of Economic Perspectives* 20 (3): 71–96.
- Autor, David H., and Mark Duggan. 2010. "Supporting Work: A Proposal for Modernizing the U.S. Disability Insurance System." Center for American Progress and The Hamilton Project, Brookings Institution, Washington, DC.
- Bloom, Howard S., Larry L. Orr, Stephen H. Bell, George Cave, Fred Doolittle, Winston Lin, and Johannes M. Bos. 1997. "The Benefits and Costs of JTPA Title II-A Programs: Key Findings from the National Job Training Partnership Act Study." *Journal of Human Resources* 32 (3): 549–576.
- Carnevale, Anthony P., Nicole Smith, and Jeff Strohl. 2010. *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Washington DC: Georgetown University Center on Education and the Workforce.
- Cave, George, Hans Bos, Fred Doolittle, and Cyril Toussaint. 1993. "Jobstart: Final Report on a Program for School Dropouts." MDRC, New York. Accessed at <http://www.mdrc.org/publications/337/full.pdf>.
- Current Population Survey (CPS). Integrated Public Use Microdata Series [Machine-readable database], Version 3.0, by Miriam King, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. Minnesota Population Center, Minneapolis, MN.
- Davis, Steven J. and Till von Wachter. 2011. "Recessions and the Costs of Job Loss." *Brookings Papers on Economic Activity*. Conference draft. Accessed at www.brookings.edu/economics/bpea.aspx.
- Decker, Paul T. and Jillian A. Berk. 2011. "Ten Years of the Workforce Investment Act (WIA): Interpreting the Research on WIA and Related Programs." *Journal of Policy Analysis and Management* 30 (4): 906–926.
- Department of Labor (DOL). 2011a. "State Unemployment Insurance and Employment Service Operations Account, Federal Unemployment Benefits Account, and Advances to Unemployment Trust Fund Account." Author, Washington, DC. Accessed at <http://www.doleta.gov/budget/docs/suiesobah.pdf>.
- Department of Labor (DOL). 2011b. "Summary of Discretionary Funds, FY 2003–2012." Author, Washington, DC. Accessed at <http://www.dol.gov/dol/budget/2012/PDF/CBJ-2012-V1-02.pdf>.
- Department of Labor (DOL). 2011c. "Training and Employment Programs: Summary of Budget Authority, FY 1984 to 2009, By Year of Appropriation." Author, Washington, DC. Accessed at <http://www.doleta.gov/budget/docs/tepbah.pdf>.
- Editorial Projects in Education. 2011. "Diploma Counts 2011: Beyond High School, Before Baccalaureate: Meaningful Alternatives to a Four-Year-Degree." Bethesda, MD.
- Greenstone, Michael, and Adam Looney. 2010. "The Problem with Men: A Look at Long-Term Employment Trends." The Hamilton Project, Brookings Institution, Washington, DC. Accessed at http://www.hamiltonproject.org/files/downloads_and_links/1110_jobs_men.pdf.
- Greenstone, Michael, and Adam Looney. 2011. "How Do Recent College Grads Really Stack Up? Employment and Earnings for Graduates of the Great Recession." The Hamilton Project, Brookings Institution, Washington, DC. Accessed at http://www.hamiltonproject.org/files/downloads_and_links/05_jobs_graduates.pdf.
- Heckman, James J., and Paul A. LaFontaine. 2010. "The American High School Graduation Rate: Trends and Levels." *The Review of Economics and Statistics* 92 (2): 244–262.
- Heinrich, Carolyn J., Peter R. Mueser and Kenneth R. Troske. 2008. "Workforce Investment Act Non-Experimental: Net Impact Evaluation." IMPAQ International, LLC, Columbia, MD.
- Holzer, Harry J. 2011. "Raising Job Quality and Skills for American Workers: Creating More-Effective Education and Workforce Development Systems in the States." Discussion Paper 2011-10, The Hamilton Project, Brookings Institution, Washington, DC.
- Jacobson, Louis S. 2009. "Strengthening One-Stop Career Centers: Helping More Unemployed Workers Find Jobs and Build Skills." Discussion Paper 2009-01, The Hamilton Project, Brookings Institution, Washington, DC.
- Jacobson, Louis S., Robert J. LaLonde and Daniel G. Sullivan. 1993. "Earnings Losses of Displaced Workers." *The American Economic Review* 83 (4): 685–709.
- Jacobson, Louis S., Robert J. LaLonde and Daniel G. Sullivan. 2005a. "Estimating the Returns to Community College Schooling for Displaced Workers." *Journal of Econometrics* 125 (1–2): 271–304.
- Jacobson, Louis S., Robert LaLonde, and Daniel Sullivan. 2005b. "Is Retraining Displaced Workers a Good Investment?" *Economic Perspectives* QII: 47–66. Federal Reserve Bank of Chicago, Chicago, IL.

- Jacobson, Louis S., Robert J. LaLonde and Daniel G. Sullivan. 2005c. "The Impact of Community College Retraining on Older Displaced Workers: Should We Teach Old Dogs New Tricks?" *Industrial and Labor Relations Review* 58 (3): 398–415.
- Jacobson, Louis S., Robert LaLonde, and Daniel Sullivan. 2011. "Policies to Reduce High-Tenured Displaced Workers' Earnings Losses Through Retraining." Discussion Paper 2011-11, The Hamilton Project, Brookings Institution, Washington, DC.
- Kemper, Peter, David Long, and Craig Thornton. 1981. "The Supported Work Evaluation: Final Benefit-Cost Analysis." MDRC, New York.
- Kemple, James J., and Cynthia J. Willner. 2008. "Career Academics: Long-Term Impacts on Labor Market Outcomes, Educational Attainment, and Transitions to Adulthood." MDRC, New York.
- Kletzer, Lori, and Howard Rosen. 2006. "Reforming Unemployment Insurance for the Twenty-First-Century Workforce." Discussion Paper 2006-06, The Hamilton Project, Brookings Institution, Washington, DC.
- Kling, Jeffrey. 2006. "Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts." Discussion Paper 2006-05, The Hamilton Project, Brookings Institution, Washington, DC.
- LaLonde, Robert J. 2003. "Employment and Training Programs." In *Means-Tested Transfer Programs in the United States*, edited by Robert A. Moffitt. University of Chicago Press: Chicago.
- Long, Bridget Terry. 2010. "Grading Higher Education: Giving Consumers the Information They Need." Center for American Progress and Hamilton Project, Brookings Institution, Washington, DC.
- Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. "Tuning In to Local Labor Markets: Findings from the Sectoral Employment Impact Study, Executive Summary." Public/ Private Ventures Publications, Philadelphia.
- Millenky, Megan, Dan Bloom, Sara Muller-Ravett, and Joseph Broadus. 2011. "Staying on Course: Three-Year Results of the National Guard Youth Challenge Evaluation." MDRC, New York.
- National Center for Education Statistics (NCES). 2009. "2003-04 Beginning Postsecondary Students Longitudinal Study, Second Follow-up (BPS:04/09)." Accessed through Powerstats at <http://nces.ed.gov/datalab/>.
- Office of Management and Budget (OMB). 2010. "Fiscal Year 2012: Historical Tables." Author, Washington, DC.
- Oreopoulos, Philip, Marianne Page, and Ann H. Stevens. 2008. "The Intergenerational Effects of Worker Displacement." *Journal of Labor Economics* 26 (3): 455–483.
- Roder, Anne, and Mark Elliott. 2011. "A Promising Start: Year Up's Initial Impacts on Low-Income Young Adults' Careers." Economic Mobility Corporation. Accessed at <http://www.economicmobilitycorp.org/uploads/A%20Promising%20Start.pdf>.
- Schochet, Peter Z., John Burghardt, and Sheena McConnell. 2008. "Does Job Corps Work? Impact Findings from the National Job Corps Study." *The American Economic Review* 98 (5): 1864-1886.
- Sullivan, Daniel, and Till von Wachter. 2009. "Job Displacement and Mortality: An Analysis Using Administrative Data." *The Quarterly Journal of Economics* 124 (3): 1265–1306.
- U.S. Census. Integrated Public Use Microdata Series [Machine-readable database], Version 5.0, by Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Minnesota Population Center, Minneapolis, MN.
- Western, Bruce. 2008. "From Prison to Work: A Proposal for a National Prisoner Reentry Program." Discussion Paper 2008-16, The Hamilton Project, Brookings Institution, Washington, DC.

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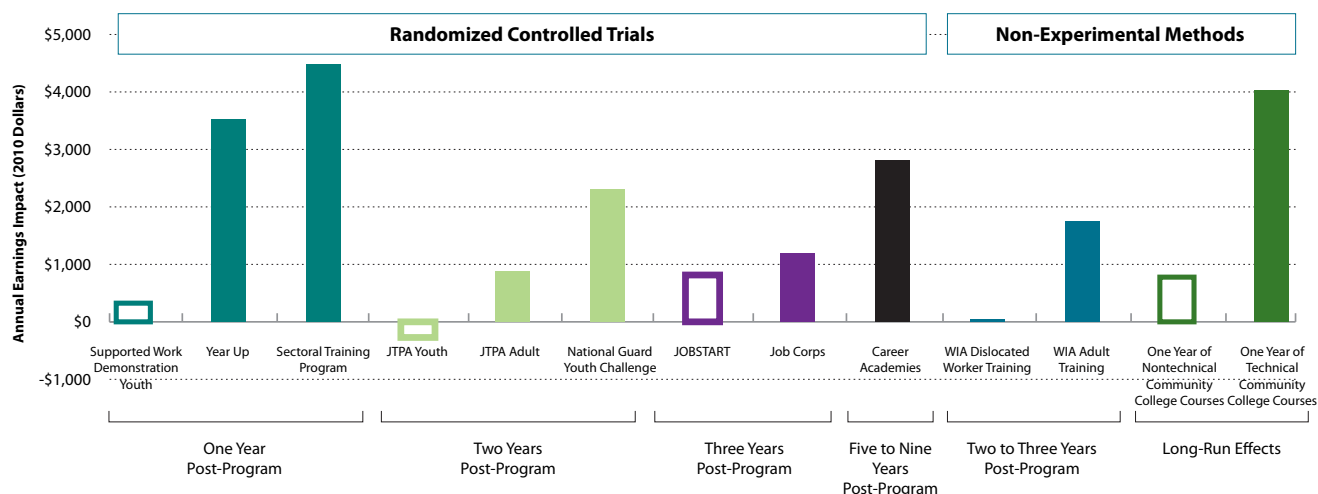
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Training Program Earnings Impacts by Years After Training



Notes: The bars indicate the earnings gain from participating in each program. Solid bars indicate results that are unlikely to have occurred by chance (i.e. results that are statistically significant at the 10% level). In general, impacts here are for the latest postprogram years that were reported.
Source: See text.

In today's weak labor market and challenging fiscal environment, the demand for new, relevant skills is high, yet training resources are scarce. Meeting the demand for training under current budget constraints requires directing resources to only the most effective programs. Newly available evidence can offer guidance about where to target training funds in order to provide the best possible outcomes for students and trainees. Rigorous evaluations of training programs for disadvantaged and displaced workers have revealed a range of impacts from different approaches. The figure above illustrates the increase in earnings associated with a variety of workforce development programs. Different approaches appear to have different payoffs, with certain programs providing greater benefits than others. As the United States continues its economic recovery and American workers continue to face a rapidly changing marketplace, it will be essential to find model training programs that work and that can be leveraged more broadly to put Americans back to work.