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This issue of Fast Focus *introduces an award-winning proposal by Harry J. Holzer that takes on the challenge of connecting less-educated and less-skilled unemployed Americans to education and training programs, and ultimately to employers that need more-specialized workers. He shows that there are good-paying jobs that do not require a four-year college degree, but not enough skilled workers to fill them. His plan is to create more effective education and training systems to improve workers' success and connect employers to the skilled workforce they need in the global labor market. This would be done through competitive grants from the federal government to states that expand proven training programs for the disadvantaged and, more generally, encourage education and workforce institutions to align themselves more closely with growing sectors that provide good-paying jobs. Evidence suggests that such grants could generate benefits that far outweigh their costs, including lower unemployment rates and higher earnings among the disadvantaged. Holzer presented his proposal at a forum hosted by the Hamilton Project at the Brookings Institution on November 30, 2011, on training programs geared toward the needs of today's workforce. Holzer received the Hamilton Project's 2011 Policy Innovation Prize for the best proposal to create jobs and enhance productivity. The broader proposal appears in* Raising Job Quality and Skills for American Workers: Creating More-Effective Education and Workforce Development Systems in the States*, The Hamilton Project, Brookings Institution, Washington, DC.*[1]

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Boosting the employment and productivity of American workers

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In 2008 and 2009, in the midst of the Great Recession, the U.S. economy shed more than 8 million jobs. Since then, the economy has created only about 3 million. Economists predict that the labor market will continue to recover slowly over the next several years. Meanwhile, millions of Americans are unemployed and many others find themselves in jobs that pay significantly less than their previous positions. Especially hard hit are those with the lowest levels of education, who have slipped through the cracks in the formal education system and lack the skills to prosper in the increasingly global labor market. Federal and state governments will need to make a concerted effort to provide these workers with the skills they need to succeed in today's workforce and to be constructive contributors to the economy.

As we look to getting less-educated, less-skilled, and disadvantaged Americans back to work, we need to be as concerned about the *quality* of jobs as we are about the *quantity* of opportunities. What we need are good-paying jobs with generous benefits, which means we need to boost the skills of the workers who will fill them. My proposal seeks to raise the employment and productivity of American workers through a plan that builds on research evidence to create education and training systems that are linked to the labor market and create win-win partnerships with employers.

The challenge

The loss of jobs during the economic downtown is only part of the problem inhibiting employment of low-educated, less-skilled workers. Over the past several decades, the labor market has followed a trend in which one's employment and earnings depend more and more heavily on their education.

Table 1
Distribution of Employment (Percentages) within Job Quality Quintiles, 1992 vs. 2003

	1992 Job Quality Quintile (1=Highest)					2003 Job Quality Quintile (1=Highest)				
	1	2	3	4	5	1	2	3	4	5
Industry										
Agriculture	0.2	0.6	0.8	1.2	6.0	0.2	0.5	0.7	1.1	5.2
Mining	0.9	0.3	0.2	0.2	0.1	0.5	0.2	0.1	0.1	0.0
Utilities	3.2	1.4	0.3	0.1	0.0	2.3	1.0	0.2	0.1	0.1
Construction	5.9	4.9	3.1	2.2	1.7	6.7	5.6	3.9	2.7	1.7
Nondurable Manufacturing	12.5	13.7	9.4	5.9	6.4	9.2	9.9	6.3	4.1	3.2
Durable Manufacturing	24.0	12.6	7.7	5.5	3.4	15.2	9.3	6.0	4.1	2.1
Wholesale Trade	7.0	5.6	4.4	2.7	2.1	7.8	5.7	4.8	2.6	2.0
Retail Trade	4.3	4.7	12.4	21.4	15.5	5.8	5.8	14.7	21.4	13.6
Transportation	2.4	4.9	4.2	3.3	3.1	2.6	4.5	4.2	3.5	2.8
Services Information	7.9	2.4	1.7	1.6	1.6	7.8	3.1	1.4	1.2	1.5
Finance	6.2	9.6	6.3	3.2	0.5	8.1	9.6	4.4	2.4	0.5
Real Estate	1.1	0.9	1.1	1.0	1.3	1.4	1.1	1.3	1.2	1.5
Professional Services	11.0	3.5	2.1	1.2	2.1	13.5	3.8	2.1	1.5	3.2
Management	1.6	1.1	0.4	0.3	0.2	1.5	1.3	0.5	0.2	0.2
Administrative	2.5	2.2	3.3	6.9	10.3	4.2	3.6	4.8	9.0	13.8
Education	0.2	2.8	12.3	19.7	12.5	0.6	2.7	12.9	21.2	13.4
Health Care	2.8	15.8	17.5	8.0	6.8	4.5	16.7	18.4	8.5	7.6
Entertainment	0.4	0.4	0.8	1.8	2.8	0.6	1.0	1.2	2.0	3.6
Accommodation and Food	0.6	1.1	3.3	9.4	18.9	1.1	1.6	3.1	8.3	19.0
Other	1.5	1.3	1.4	2.0	3.0	1.5	1.5	1.6	1.8	3.4
Public Administration	3.7	10.2	7.1	2.6	1.7	5.0	11.5	7.4	2.8	1.7

Note: Columns sum to 100 percent. Job quality is measured on the basis of firm fixed effects using longitudinal data from the Longitudinal Employer Household Dynamics program, U.S. Census Bureau.
Source: H. Holzer, J. Lane, D. Rosenblum, and F. Andersson, *Where Are All the Good Jobs Going? What National and Local Job Quality Dynamics Mean for U.S. Workers* (New York: Russell Sage Foundation, 2011).

Unfortunately, the growth in Americans' education levels has not kept pace with the labor market's demand for skills, leading to earnings stagnation and growing inequality.[2] Some 25 percent of Americans fail to finish high school, much less obtain a postsecondary credential, and 69 percent of 25- to 34-year-olds do not have a four-year college degree.[3] Given the very high return of education in the U.S. labor market, those with less schooling, especially the disadvantaged, are plagued by low earnings throughout their working lives.[4]

My previous research shows that not all good-paying jobs require a four-year degree. While declines in manufacturing are real among less-skilled workers, they are minor among the highest-skilled manufacturing workers. Meanwhile, there are other sectors that are growing.[5] The new labor market offers good-paying occupations in professional and financial services, health care, construction, and even the high end of retail trade, all fields that do not require a bachelor's degree, but usually require some postsecondary training and certification (see Table 1). Furthermore, employers should be willing to create more jobs that pay well if it becomes easier for them to find workers with the skills they need.

Despite the value of the skills required for these jobs, certain well-documented problems in our education and workforce systems result in too few workers making investments that would enable them to fill these good-paying jobs. Many students attend two-year or four-year institutions but they don't achieve enough to improve their labor market outcomes. Dropout rates are extremely high, especially in community colleges, where many students—especially those from minority or low-income communities—are stuck in remedial classes and completely separated from the classes that could provide relevant occupational training. Data from the American Association of Community Colleges indicate that 12.4 million students attended community college in the fall of 2008, about 7.4 million of them for credit, yet fewer than a million associate's degrees or certificates were awarded in the 2007 to 2008 school year.[6]

Even at the high school level, we have underinvested in the development of high-quality career and technical education (CTE). Successful models do exist, however, that could inform U.S. efforts. In Germany and elsewhere in Europe, training that helps workers prepare for good labor market opportunities is delivered through high-quality CTE. Such systems have not developed in the United States, at least partly because of historical controversies here over "tracking" minority students away from college.[7] At its best, CTE would not deter students from attending postsecondary

institutions, and could be structured to better prepare and encourage more students to do so.

Another problem is the relative lack of career counseling for most students in high school or college. Generally, it is not until disadvantaged workers have entered the labor market and become unemployed that they receive their first valuable career guidance. Such guidance is provided, cost-effectively, to workers at more than 3,000 One-Stop offices around the country, funded through the U.S. Department of Labor's Workforce Investment Act (WIA) in the form of "core" and "intensive" services plus limited training.[8] In contrast, high school and community college students are provided little career guidance—especially guidance based on local or state labor market data.[9]

Furthermore, our colleges and these workforce institutions are largely isolated from one another in many states. Local workforce boards, which disperse funds provided through WIA, do not always effectively represent the employers with the best-paid jobs with strong demand in growing industries, and are not always integrated with state and local economic development efforts. As a result, not only do too few workers obtain certificates and degrees, but also those obtained are often not well matched to labor market demands in key sectors. Thus, when employers create high-paying jobs at the middle and high ends of the skill spectrum, they often have difficulty filling them with skilled workers. In fact, the job vacancy rate has averaged 2.2 to 2.5 percent over the past year, which is relatively high, given an unemployment rate of about 9 percent.

All of this suggests that programs designed to improve the skills and productivity of U.S. workers, if they also work carefully with targeted employers and industries, could fill some vacant jobs that currently exist and perhaps encourage employers to create more jobs over time. The programs should thus help reduce unemployment and job vacancies in the short term while also raising worker earnings in the longer term.

A new approach—without reinventing the wheel

One path to creating good jobs for disadvantaged workers involves raising their skills and productivity to make them more attractive to potential employers. A rigorous body of evidence suggests that certain education and training efforts can cost-effectively address these issues, even when brought to substantial scale. This presents a solution that doesn't require reinventing the wheel. Research reveals some particularly strong examples that demonstrate the effectiveness of education and training that target good-paying jobs on the demand side of the labor market and that are coordinated with employers.[10]

Compelling evidence comes from the Sectoral Employment Impact Study, which demonstrated that training programs in which the curriculum was based on the needs of employers, raised earnings by $4,000 on average after training had been completed.[11] The study used randomized controlled trials to evaluate three successful training programs, all of which had strong relationships with employers that allowed them to understand what skills would be most valuable in the labor market and offered training targeted toward a specific occupation or sector.

Career Academies have also been proven (in random assignment studies) to raise earnings for young men who are at risk of dropping out of high school. These high school programs feature small learning communities within schools that combine academic and technical education with a career theme and provide students with critical work skills and feature partnerships with local employers.

Based on this evidence, I propose that the U.S. Departments of Labor and Education jointly award $2 billion in competitive grants to states so workers can gain skills they need to find good-paying jobs in high-demand sectors. These grants could directly fund short-term sectoral training for about 250,000 less-skilled workers. The grants also could leverage funding already in the system by funding partnerships between existing training programs and employers, for broader impact.

Under my proposal, states would submit a single application for joint approval by the secretaries of the agencies. Applications could be for either planning grants, to identify appropriate training models and sectors, or implementation grants, to fund training, support services, and programs that integrate training with employer demand. States would apply for funding on behalf of high schools, postsecondary institutions, and nonprofit organizations that provide career training and that have or will form strong ties to growing employment sectors that will likely generate good-paying firms and jobs.

A winning approach would be judged by the following criteria:

- **Establishes partnerships between training providers and employers.** This requirement is based on recent evidence on effective training models for less-skilled workers from randomized control trials, as described above. In a number of states, partnerships between industry associations, education providers and intermediaries have been successful at training workers for jobs in high-demand fields.
- **Targets trainees and sectors.** During the planning process, states would be required to more systematically identify underemployed groups of workers—including but not limited to disadvantaged youth and adults—who might benefit from new "career pathway" models at different levels of skill. States also must identify the sectors where demand will likely remain strong and will likely generate good-paying firms and jobs. Intermediaries with strong ties to those promising employment sectors,

such as workforce development organizations, should also be included in the planning stage.

State plans also should allow for shifts in labor market demands, indicating the extent to which the education and training provided are general and likely portable across specific sectors if such unanticipated demand shifts occur. The best plans will also include funding or technical assistance, or both, for employers that might need modest retraining for workers.

- **Takes broader measures to support training in high-demand fields.** The grants would be used to encourage more responsiveness to the labor market at two- or four-year colleges. For example, the grants could be used to expand high-quality CTE programs in high schools and career counseling at colleges, and to encourage educational institutions to expand instructional capacity in high-demand areas based on labor market data. States could be rewarded for tying their subsidies for community colleges to rates of certificate or degree completion.

  Some funds would be available to pay for tax credits for technical assistance to good-paying employers that participate in sectoral training programs and other efforts to upgrade their incumbent workers. More broadly, states should indicate that their education and workforce systems are also part of broader economic development plans to assist industry development and employment growth, especially in underserved geographic areas.[12]

- **Funds direct services for trainees.** Grants to states should recognize that barriers workers face to obtain training include the costs of training and education, and the need for supportive services such as child care. Successful programs would pay for some direct service provision that is not already available to Pell grantees and other lower- or middle-income postsecondary students. Grant programs could provide assistance for a broader range of programs that adopt evidence-based models for training, or they could offer supplemental stipends for paid work experiences such as apprenticeships, internships, or on-the-job training.

- **Promotes sustainability by leveraging existing funding.** States applying for funding would be required to generate plans to sustain their efforts over time, using other public and private sources of funds so eligible workers can find good-paying jobs over time. The grants could build on rather than duplicate other efforts and encourage states to consolidate currently uncoordinated programs into a more effective system. Possible private and public funding sources that states could leverage include the Trade Adjustment Assistance Community College and Career Training (TAACCCT) program, which develops training programs suitable for people who have lost their job due to negative impacts of trade.

  This model of implementation could generate lasting benefits through systemic changes similar to those encouraged by other recent federal grant programs such as the U.S. Department of Education's Race to the Top competition for K–12 education.

- **Explicitly creates cost-benefit analyses and an evaluation plan.** The criteria provided here are in part based on the evidence about what creates a successful training program, but the state plans should explicitly indicate the extent to which their proposals reflect evidence of cost-effectiveness based on rigorous research analysis, such as the studies cited in this brief. Successful states would prove their capacity to conduct rigorous evaluations of their own programs at both the institutional and state levels.

Grant program cost-benefit analysis

To estimate the benefits of a grant program such as I outline here, I rely on evidence from randomized control trials. Perhaps the best models for the grant program are the sectoral training programs evaluated by the Sectoral Employment Impact Study, as noted above (see also note 10). In those programs, average costs per participant were $6,000. Thus, $1.5 billion in direct funding for training programs could serve 250,000 participants in any given year.

Using the effects of training from this study, I estimate that the increase in earnings from the program outweighs the cost of the program even under conservative assumptions, and that the increased wages generated by the grants will likely be 3.8 times the cost. The grants also could enable and encourage existing training programs to adopt models based on this new evidence and thereby make those programs more effective.

Conclusion

To raise employment levels and earnings in the United States, I propose a new set of grants to fund more-effective education and workforce systems at the state level, which would especially be more supportive of firms that create good-paying jobs. The grants would fund partnerships of employers, training providers, and intermediaries at the state and local levels, and would fund a range of specific services and activities. Criteria have been laid out for the awarding of grants, including the extent to which they target underserved populations and growing sectors, the extent of services provided, the extent to which other sources of public and private funding are leveraged, and plans for rigorous evaluation of outcomes and impacts.

My proposal builds on a body of research showing that targeted training towards firms and sectors that create good-paying jobs works. It does not reinvent the wheel or duplicate existing programs, but instead is specifically designed to build on efforts that already are underway in many places. If effectively designed and implemented, such a grants

program could significantly improve the employment rates as well as the earnings of disadvantaged American workers over the next few years and beyond.■

[1]To read the full paper, visit http://www.hamiltonproject.org/papers/raising_job_quality_and_skills_for_american_workers_creating_more-effe/.

[2]See, for example, C. Goldin and L. Katz, *The Race Between Education and Technology* (Cambridge, MA: Harvard University Press, 2008).

[3]D. Autor, "The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings," Center for American Progress, Washington, DC, and Hamilton Project, Brookings Institution, Washington, DC, 2010; A. Carnevale and S. Rose, *The Undereducated American*, Georgetown Center on Education and the Workforce, Washington, DC, 2011; J. Heckman and P. Lafontaine, "The American High School Graduation Rate: Trends and Levels," Working Paper No. 13670, National Bureau of Economic Research, Cambridge, MA, 2007.

[4]See, for example, R. Blank, S. Danziger, and R. Schoeni, eds., *Working and Poor: How Economic and Policy Changes Are Affecting Low-Wage Workers* (New York: Russell Sage Foundation, 2007).

[5]H. Holzer, J. Lane, D. Rosenblum, and F. Andersson, *Where Are All the Good Jobs Going? What National and Local Job Quality Dynamics Mean for U.S. Workers* (New York: Russell Sage Foundation, 2011).

[6]American Association of Community Colleges (AACC), "Fact Sheet 2011," retrieved from http://www.aacc.nche.edu/AboutCC/Documents/FactSheet2011.pdf.

[7]N. Hoffman, "A Fresh Look at Career and Technical Education," unpublished paper, Jobs for the Future, Boston, MA, 2011; W. Symonds, R. Schwartz, and R. Ferguson, "Pathways to Prosperity: Meeting the Challenge of Preparing Young Americans for the 21st Century," Graduate School of Education, Harvard University, Cambridge, MA, 2011.

[8]D. Besharov and P. Cottingham, "The Workforce Investment Act: Implementation Experiences and Evaluation Findings," W. E. Upjohn Institute for Employment Research, Kalamazoo, MI, 2011.

[9]L. Soares, "Community College 2.0," Center for American Progress, Washington, DC, 2010.

[10]C. J. Heinrich, P. R. Mueser, K. R. Troske, K-S. Jeon, and D. C. Kahvecioglu, "New Estimates of Public Employment and Training Program Net Impacts: A Nonexperimental Evaluation of the Workforce Investment Act Program," Discussion Paper 4569, Institute for the Study of Labor (IZA), Bonn, Germany, November 2009; C. J. Heinrich and C. King, "How Effective Are Workforce Development Programs?" paper presented at the 40th Anniversary Conference of the Ray Marshall Center, University of Texas at Austin, October 19, 2010; H. Holzer, "Workforce Development Programs as an Antipoverty Strategy: What Do We Know? What Should We Do?" in *Changing Poverty, Changing Policies*, eds. M. Cancian and S. Danziger (New York: Russell Sage Foundation, 2009).

[11]For more about the study and its findings, see http://www.ppv.org/ppv/initiative.asp?section_id=29&initiative_id=66.

[12]T. Bartik, "Bringing Jobs to People: How Federal Policy Can Target Job Creation for Economically Distressed Areas," discussion paper, Hamilton Project, Brookings Institution, Washington, DC, October 2010; R. McGahey and J. Vey, *Retooling for Growth: Building a 21st Century Economy in America's Older Industrial Areas*, Brookings Institution: Washington, DC, 2009.

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