THE HAMILTON PROJECT

Proposal 8: Improving Employment Outcomes for Disadvantaged Students

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Introduction

Improving the skills and earnings potential of poor youth and adults should remain a top priority for state and federal policymakers. Poorer people lag behind their more affluent peers in both postsecondary educational attainment and earnings, and raising both would contribute strongly to reducing poverty among current and future generations. Tapping the full potential of public colleges to provide a leg up to those who need the educational push could go a long way toward alleviating poverty.

Students from all family backgrounds already face strong financial incentives to pursue postsecondary education. In response to the higher earnings of college graduates relative to those without college, U.S. enrollment rates have risen dramatically in the past decade, especially during the Great Recession, and degree attainment has increased somewhat at both two- and four-year colleges (Greenstone and Looney 2011; National Student Research Clearinghouse 2011). We have also greatly increased the nation's investment in Pell Grants and other forms of assistance to improve college access for the poor (Holzer and Dunlop 2013).

But the dropout rate among low-income youth and adults in college remains extremely high; even among those who complete certificates or degrees, many choose fields of study that are not well compensated in the labor market (Bound, Lovenheim, and Turner 2009; Robst 2007). These outcomes hurt the poor, and weaken the impacts of large national investments in higher education. Low-income students would clearly benefit from having more postsecondary education or training options that they can successfully complete, and that are more closely linked to the needs of employers in high-demand fields that pay well.

Colleges can expand course offerings in high-demand fields of study, but there are other approaches as well to better align educational skills with the current labor market. One such approach is sectoral training, in which education providers work with employers to educate and train directly for the job requirements of high-demand sectors. This approach appears to have large impacts on earnings in rigorous evaluations. Career pathways are also being developed for these sectors that combine classroom education and work experience in a series of steps that ultimately lead to these jobs. And other models of work-based learning, such as apprenticeships or incumbent worker training, can accomplish many of the same goals.

Many states and localities are trying to build education and training programs in both four-year and community colleges, especially in high-demand fields, and bring them to scale. A report by the National Governors Association (2013) finds that at least twenty-five states are now building partnerships between key employers or industry associations and community colleges for sectoral training and career pathway development, and are trying to integrate these programs with their broader economic development goals.[1]

Anecdotes abound about partnerships and programs developed in specific industries at the state level. But we have few data so far indicating the scale and outcomes achieved, much less data

on the impacts on the education or employment outcomes of the disadvantaged students engaged in these efforts. When considering future investments, maintaining both the quality achieved in the smaller evaluated programs and a focus on the poor remain important, so as not to simply provide windfalls to employers at taxpayer expense.

To improve earnings prospects for recent graduates and to encourage two- and four-year colleges to be responsive to labor market demand, I propose that state legislatures implement financial incentives for colleges to steer students toward high-wage occupations and to industries with especially high labor needs. In addition, while this proposal primarily calls for state-level reforms, I also note opportunities for the federal government to support states in this initiative.

My proposal calls on states to partially base college funding on graduates' reported wages five years following graduation and, where appropriate, on the colleges' provision of courses that are especially important to the local economy. These incentives may also be accompanied by technical assistance for states and colleges, plus supports for students. I also propose that states experiment with generating financial incentives for employers to engage more with colleges in sectoral efforts, and propose that employers expand their own efforts to train and hire more workers.

The Challenge

It is widely known that the earnings of less-educated workers—i.e., those with high school or less education—have greatly lagged behind those of more-educated workers in the past few decades. We also know that poorer people tend, on average, to have low levels of education and achievement (Greenstone et al. 2013). And their children's education and achievement lags behind as well, with the gaps apparently growing wider over time (Bailey and Dynarski 2011; Reardon 2011).

While postsecondary enrollments have risen across the entire income spectrum, it is also evident from data sources that dropout rates are very high among low-income students, especially at community colleges and non-elite four-year colleges. For instance, calculations from the National Educational Longitudinal Survey (NELS) data show that students from disadvantaged socioeconomic backgrounds struggle to complete higher education: only about 30 percent of the students from the lowest quartile of families by socioeconomic status who enroll in four-year colleges complete their bachelor of arts degrees within about six years, less than half of the completion rate of the overall student population (Holzer and Dunlop 2013). This cohort's associate of arts (AA) degree completion rates at community colleges are likewise very low: less than 25 percent of young students at community colleges, and even fewer among older ones, complete an AA degree. These rates are low among poor and nonpoor students alike, but many more poor students attend these colleges (Holzer and Dunlop 2013).

While there are various factors behind these high dropout rates, one important factor may be the perceived imbalance between the costs of attending college—including the opportunity cost of forgone employment—relative to the perceived benefits. Low-income students might not enroll in or complete degree programs in these highly compensated fields if they lack the information about which fields are well compensated or about which fields are in high demand among those that they could actually complete successfully (Jacobson and Mokher 2009; Scott-Clayton 2011).

By most accounts, community colleges vary enormously in their quality and commitment to responding to labor demand. Some are torn between their more traditional academic missions of being feeder programs to four-year colleges and their newer vocational missions. In addition, as public institutions that are mostly paid (through state subsidies or private tuition payments) for student "seat time" rather than education or employment outcomes, they have little incentive to respond to labor market need. In at least some fields of study (e.g., nursing, health technology, and advanced manufacturing), the costs of equipment and instructors are relatively high, deterring community colleges from building adequate instructional capacity in these areas. And the instructors they hire may have little incentive to keep up effectively with newer developments in dynamic fields such as information technology. Accordingly, students report difficulty enrolling in classes they need for their majors in such fields. And the high-skill requirements in some of these areas—such as the math requirements for machinists in manufacturing—also preclude efforts to expand participation, especially among disadvantaged students.

This challenge has not been resolved by the recent expansion in for-profit educational institutions.[2] While for-profits are sometimes described as institutions that serve disadvantaged students and rapidly respond to changing labor market demands (Deming, Goldin, and Katz 2013), these institutions have thus far been largely unsuccessful at appreciably improving postgraduation earnings for low-income students and filling gaps in training and education left by public-sector colleges. Evidence suggests that students who attend for-profit colleges are likely to experience lower earnings, higher unemployment, and higher student debt burdens than they would if they attended public institutions (Deming, Goldin, and Katz 2013). In addition, for-profits operate with

a motivation for generating profits, not for maximizing the social benefits of education and meeting local labor demand. While they appear to generate some benefits, for-profit institutions are, at best, a highly imperfect way to accomplish the policy goals of these proposals.

Instead, a more prudent approach is to create financial incentives similar to those that motivate for-profit colleges to supply high-demand classes in public institutions. This would likely avoid at least some of the negative outcomes associated with for-profit institutions as suppliers of education to the disadvantaged but would still target class offerings toward those in high-return fields. As it stands, public institutions already rely on public funds and make course offering decisions based in part on the set of incentives that results from the structure of those subsidies. The prudent path would be to structure these subsidies in a way that will likely result in colleges offering the classes that students demand and that will generate the highest level of social and economic benefits.

Indeed, several states have already instituted incentives for colleges that are tied to performance. According to the National Conference of State Legislatures (2014), at least twenty-five states have embraced some form of performance-based subsidies for their public colleges, and another five are planning to implement such policies. Table 8-1 summarizes some recent information from the National Conference of State Legislatures on what some states are doing in this area. It shows that most of these states reward colleges for successful course completion, credits earned, and ultimately credentials earned (or successful transfers to four-year colleges). And at least some of the states additionally reward schools for successful outcomes achieved among their low-income or minority populations, which would be an important consideration for antipoverty policy.

But, to date, such policies focus only on student academic outcomes at the colleges and universities, rather than those that occur afterwards in the labor market. Basing subsidies at least partly on job market outcomes will make public colleges more responsive to labor demand, especially by building higher instructional capacity and hiring high-quality instructors in high-demand fields. And, as noted below, it might also be helpful to encourage more employers to participate in such partnerships with colleges, or to directly train, or at least hire, more workers who are somewhere on their career pathways.

A New Approach

My proposal calls on states to encourage public colleges to be more responsive to students' prospects and the job market. One way to accomplish this is by making their public subsidies at least partially dependent on student performance in the job market. In addition, states can incent colleges to offer courses and majors that would better align unmet labor demand with labor supply in local markets. This strategy will reward colleges for focusing more on the labor market outcomes of their students, leading to higher earnings for graduates and stronger local economies. While these proposals are not specifically targeted to low-income individuals, a large segment of the program beneficiaries will be in the lower part of the income distribution, making these policies an effective antipoverty initiative.

State governments can incent public colleges to improve graduates' outcomes through a primary mechanism that partially ties funding to postgraduation reported earnings. Specifically, the earnings of students over the subsequent five-year period beyond graduation would form the basis to reward states. Extra subsidies could be granted, for example, to colleges whose students subsequently earn above the median level for those with such a credential in that state; those whose students have relatively low earnings would get lower subsidies. Rewarding the earnings of minority or low-income students would be critically important as well, since these are the students whose employment in high-demand fields most lags behind. Allowances would be made for graduates who transferred to four-year universities or who sought further education.

In local labor markets that demonstrate a major imbalance between labor demand and labor supply, colleges might also be rewarded for putting students in high-demand occupations and industries within that locality or state. For example, such occupations or industries might include nursing, health technology, or advanced manufacturing. In general, this mechanism is inferior to tying colleges' funding to wages, which represent the market valuation for various types of work. However, in local markets that seem to experience labor shortages—such as being unable to fill nursing slots or to find qualified special-education teachers—there is an argument for using public funds to incent specialized training.[3]

States could also implement concurrent reforms that help colleges better target their curriculum. For example, states could provide technical assistance to their public colleges as they implement reforms that better align courses to the labor market. Networks of states that are developing sectoral programs and career pathways on a larger scale are working with supporting organizations to provide guidance on how to best implement these changes (Choitz 2013).

In addition, a set of supports for students—such as career and labor market counseling—would likely raise completion rates and the earnings of program graduates. Simplifying

TABLE 8-1.

Some States Using Performance-Based Higher Education Subsidies

State	Funding amount	Metrics measuring performance	Type of institution	Administrative body
Arizona	For FY 2013 and FY 2014, $5 million per year was allocated based on performance.	Metrics are based on degrees awarded, completed student credit hours, and external research and public service dollars brought into the university system.	In place at four-year institutions	Arizona Board of Regents
Colorado	Beginning in 2016-17 and for each year that state funding is at or above $706 million, 25% of the amount over $650 million will be appropriated based on each institution's performance.	Metrics are based on attainment, student success, diversity in enrollment, reducing attainment gaps among students from underserved communities, and financial stewardship. Institutions then design separate sets of common and institution-specific metrics.	In transition	Each institution's governing board negotiates a contract with the department of higher education
Georgia	Beginning in FY 2017, all new money appropriated will be allocated based on institutional performance.	Metrics are based on student progression, degrees conferred, success of low-income and adult learners, and institution-specific success on strategic initiatives.	In transition	Higher Education Funding Commission
Illinois	Funding amount is less than 1% of base funding.	For four-year universities, metrics are based on bachelor's, master's, doctoral, and professional degrees, undergraduates per 100 FTE, research and public service expenditures, graduation rate, and cost of attendance. For two-year universities, metrics are based on degree completion, completion rates for "at risk" students, transfers to four-year institutions, remedial and adult education, momentum points, and diversity.	In place at two- and four-year institutions	Illinois Board of Higher Education's Higher Education Performance Funding Steering Committee
Kansas	New state higher education funds are allocated based on performance incentives.	Metrics are specific to each institution, but must be selected from a proscribed list of performance indicators.	In place at two- and four-year institutions	Kansas State Board of Regents, contingent upon each institution meeting its individualized Performance Agreement
Maine	Performance funding will start as 5% of base funding in FY 2014, and increase by 5% increments each subsequent year until it reaches 30%.	Metrics are based on degrees awarded, prevalence of STEM and priority fields, number and dollar value of research grants and contracts received, and degrees awarded per $100,000 of net tuition and fee revenues.	In place at four-year institutions	University of Maine System Board of Trustees
Michigan	For FY 2014, $21.9 million in new appropriations for universities and $5.8 million for community colleges was allocated based on performance metrics.	Metrics are based on completions in critical skill areas, research and development expenditures, graduation rates, institutional support as a percent of core expenditures, with mandatory requirements of limiting resident tuition increases to 3.75% per year, participation in at least three reverse transfer programs with community colleges, maintaining a dual enrollment credit policy, and participation in the Michigan Transfer Network. Separate allocation criteria exist for community colleges.	In place at two- and four-year institutions	Performance funding is included in the annual higher education appropriations

State	Funding amount	Metrics measuring performance	Type of institution	Administrative body
Mississippi	After a base amount is set aside for operational support, 90% is allocated based on completion targets and 10% is allocated based on progress toward established priorities.	The Board of Trustees sets priorities based on a range of specified metrics relevant to attainment, intermediate educational outcomes, research, and productivity.	In place at four-year institutions	Mississippi Public Universities Board of Trustees
Montana	5% of base funding will be at stake during the FY 2015 trial phase. The amount of performance funding for long-term priorities has not yet been determined.	Metrics are currently being developed, but are expected to vary based on the mission of each institution and include measures of completion and retention.	In transition	Montana University System Performance Funding Steering Committee
New Mexico	Performance-based funding is set to increase, but is currently 5% of instruction and general formula funding to colleges and universities.	Metrics are based on number of certificates and degrees awarded in both general and priority areas, degrees earned by at-risk students, grant/contract funding, and momentum points.	In place at two- and four-year institutions	Performance funding is included in the annual higher education appropriations
North Dakota	Nearly all base funding is calculated by the number of credit hours completed.	The funding formula is based on the number of credit-hours completed by students. A completed credit-hour is one for which a student met all institutional requirements and obtained a passing grade.	In place at two- and four-year institutions	The state board of education, based on per-credit dollar amounts specified in legislation
Oklahoma	Performance funding only applies to new appropriations.	Metrics are based on first-year retention, first-year retention for Pell recipients, student completion of twenty-four credits in their first academic year, cohort graduation rates anywhere in the system, degrees granted, and program accreditation.	In place at two- and four-year institutions	Oklahoma State Regents for Higher Education
South Dakota	Nearly all base funding is calculated by the number of credit hours completed.	Metrics are based on funds appropriated according to degrees awarded, STEM degrees awarded, and growth in research expenditures.	In transition	Council on Higher Education Policy Goals, Performance, and Accountability
Texas	Funding amount is 10% of formula-based state higher education funding.	10% of the formula funding is allocated based on developmental education completion rates, number of students who complete first college level course in mathematics, reading intensive and writing intensive courses, interim student attainment, and number of degrees and certificates awarded, with additional points awarded for degrees in STEM or allied health fields.	In place at two-year institutions	Higher Education Coordinating Board
Virginia	50% of funding is expected to be allocated based on performance and incentive funding.	Metrics are based on number of degrees awarded and number of additional degrees awarded each year with emphasis on STEM attainment, degrees earned within 100% of time-to-degree, and degrees awarded to students from under-represented populations.	In transition	State Council of Higher Education

Source: National Conference of State Legislatures 2014.

Note: FY = fiscal year; FTE = full-time equivalent; STEM = science, technology, engineering, and mathematics.

financial aid, and conditioning it on maintaining some adequate level of academic performance, tends to have positive effects on student outcomes. Accelerating remediation efforts, and combining them with labor market information and other kinds of supports, would likely help as well (Bettinger, Boatman, and Long 2013).

While simply creating rewards to institutions and employers based on outcomes might be sufficient, the federal or state governments might also help by paying for some of these supports directly, or by helping to make them more easily available. For instance, high-quality career counseling might be more available to students at community colleges if the Job Centers (formerly known as One-Stop offices) funded by the U.S. Department of Labor were increasingly colocated with college campuses or if Job Centers increased the number of staff available to counsel students.[4]

IMPLEMENTATION OF THE PROPOSAL

This proposal would be implemented by state legislatures in their ongoing budget processes. States would explicitly tie a specified share of two- and four-year college funding to the reported earnings of graduates in the five years following their graduation. In states with specialized labor force needs, state legislatures could also introduce additional funding criteria based on labor force outcomes in designated industries or occupations. Since many states are already tying subsidies to academic outcomes of students, this proposal would call for approximately half of all incentive payments to be based on the subsequent labor market outcomes of students, while the other half might continue to be based on academic outcomes.

The share of funding explicitly tied to employment (as well as academic) outcomes will vary by state. Existing state structures have varied considerably in this respect: Tennessee, for instance, is already transitioning to making student performance the entire basis of its higher education subsidies, while Texas bases just 10 percent of its funding on various educational measures. As recommended by the National Conference of State Legislatures, states may benefit from gradual implementation of their performance-based subsidies, with small but steady increases over time in the percentages of funding based on performance, as Maine is doing. States might also decide to implement these approaches to all new or additional funding above some base level, which Georgia, Mississippi, and Oklahoma appear to be doing.

Quality assurances should also be considered. For instance, it is crucial that the states, their local workforce boards, and their colleges carefully monitor the progress associated with these additional investments, by measuring the numbers of students that participate in these programs, as well as their educational and earnings outcomes. As noted below, states are increasingly generating the data needed to observe these outcomes; to measure the full scale of programs effects, however, data on student participation in occupational programs must also be included (Choitz 2013).

More broadly, the use of state labor market data to monitor employment growth across sectors (as well as job vacancy data to indicate where firms are having difficulty filling available jobs) might enable colleges to better target sectors in which demand remains somewhat unmet, and where investments in training would be most useful. Keeping track also of the full range of credentials achieved by workers, including those provided and recognized by employers and others, is important so that the supply of skills can be measured as well as the demand. Finally, states should also evaluate these programs regularly to see whether their impacts justify ongoing expenditures.

Although most of these subsidies to public colleges and participating employers will be financed by states, the federal government could help as well. For instance, the Obama administration plans to implement the last round of competitive grants in 2014 in its Trade Adjustment Assistance Community College to Career program, worth $500 million. It has already given out $1.5 billion in three previous rounds, with the funding going almost exclusively to individual community colleges or consortia of colleges in each state. There are plans to partner with specific high-demand and high-wage industries. In the last round, the administration will hopefully reward states directly that institute some of the performance measures described above, or offset some of the state financial supports for participating employers. In addition, the administration could use its Workforce Innovation Funds in the Department of Labor to encourage such state activities, or some of the new grants proposed in its FY 2015 budget (Office of Management and Budget 2014). It might also consider using some of these funds to offset additional expenses incurred by the states (or their colleges) in developing the new data systems and analysis that would be needed to implement these proposals, to prevent them from viewing these changes as something like an "unfunded mandate."

EXPERIMENTING WITH INCENTIVES FOR EMPLOYERS

Another challenge that might limit the effectiveness of education or training aimed at high-demand sectors is the reluctance of employers to participate in partnerships with colleges and to hire their trainees, or to directly train more workers themselves.

Employer decisions on whether to train workers involve a set of considerations. As Gary Becker (1996) pointed out, employers have little incentive to invest in general training for workers who might leave at any time. If they question the quality of the workers' basic skills, and their ability to handle technical material, they have even more reason to avoid such investments. Some employers provide such training mostly to their professional and managerial employees (Lerman, McKernan, and Riegg 2004). Many training models, such as apprenticeships and internships and other models of work-based learning, require less-educated workers to largely pay for general training out of their own wages.[5]

To incent more private sector employers to engage in sectoral partnerships and provide employment and/or training to workers, states could offer tax credits or subsidies per employee hired or trained in this fashion. Though the evidence to date on tax credits for employers who hire or train workers is somewhat weak, experimentation by states could add to the available pool of knowledge about what works (or does not work) in this area.[6]

How might such tax credits or subsidies be structured? Activities that cost employers more, such as direct provision of training to new hires (or incumbent workers), might require relatively higher subsidies, while simply hiring those trained by a local community college or other providers might require lower subsidies. Those who implement apprenticeship programs, or other models of work-based learning, might need some encouragement if some of the costs cannot be passed on to the worker or if administrative hurdles are posed. By limiting the subsidies to students with only a high school diploma or GED at the outset, states could more effectively target their lower-income populations with these policies without stigmatizing them as efforts for the poor only.

It is still unclear how large tax credits or subsidies should be to successfully encourage employer participation. But Hollenbeck (2008) reports that spending under $1,000 per worker in participating firms was sufficient to generate more incumbent worker training in Massachusetts. Holzer and Lerman (forthcoming) also report that South Carolina now offers employers $1,000 per apprentice, though we need more evidence on its impacts. Total costs can be further reduced, for example, by limiting such tax credits to employees with less than bachelor degrees in entry-level nonmanagerial jobs.

EVIDENCE OF EFFECTIVENESS

There is no doubt that improving the extent to which low-income students gain high-education credentials will raise their earnings. Rigorous evidence exists on the kinds of education and workforce development programs that have high completion rates and large impacts on the earnings of adults and youth who complete them, such as the sectoral programs mentioned above, where education providers work closely with employers to train workers for existing jobs.

Maguire et al. (2010) provide evidence from a randomized control trial study of three such programs: Jewish Vocational Services in Boston, which trains disadvantaged workers for careers in health care; Per Scholas in New York, which focuses heavily on IT services; and the Wisconsin Regional Training Partnership, which prepares trainees for jobs in construction, manufacturing, and other industries. In addition, Roder and Elliott (2012) used randomized control trial evidence to evaluate Year Up, a program that trains youth for jobs in IT and related industries.

All of these programs, which take roughly six months to complete, generated large impacts on earnings (of roughly $4,000 per year, or about 30 percent higher than earnings of the control groups) within two years of random assignment. Though some important questions remain about whether the impacts fade out over time (especially when workers change jobs and move across sectors as well as firms), and exactly who is served by these programs (some require at least a high school diploma or a GED), these impacts compare very favorably with other education or training programs (Holzer 2013). And, though the training providers in these programs were generally not community colleges, other well-known sectoral efforts (like Quest in San Antonio) rely more heavily on colleges to provide training.

Other evidence also shows large impacts on earnings from other approaches, including work-based learning (from apprenticeship or incumbent worker training). Some of this evidence is based on careful matching studies, rather than on randomized control trials, so they should be viewed as suggestive rather than conclusive, but they are encouraging nonetheless (Hollenbeck 2008, 2012; Reed et al. 2012). Even remediation programs in community colleges appear to be more successful when they integrate labor market information or skills training directly into the remedial classes, as has been done in the LaGuardia Community College's GED Bridge program in New York and the Integrated Basic Education and Skills Training program in Washington state (Martin and Broadus 2013; Zeidenberg, Cho, and Jenkins 2010).

COSTS AND BENEFITS

Perhaps the most obvious private benefits for students who experience a better targeted public college curriculum are higher earnings and improved employment prospects. Jacobson, LaLonde, and Sullivan (2005) find that one year of technically oriented community college education raises

earnings by 14 percent for men and 29 percent for women—at least for a sample of displaced workers. Similar impacts have been found for sectoral workplace training programs. As noted above, experimental studies of the impact of training programs showed wage increases of approximately 30 percent.

In addition, a host of social benefits can be attributed to improved college education and employee training. Higher earnings can move families out of poverty and reduce reliance on social safety net programs. Greater economic success among a local economy's residents also stimulates economic activity and generates tax revenue. And, if the incentives are successful at inducing relatively greater labor market rewards among disadvantaged or minority populations, the states might value this outcome on equity grounds even though the rewards accrue mostly to private individuals. Finally, if public colleges tailor their curriculum to meet critical local labor market shortages—such as those for nurses—consumers of the targeted industry will benefit as well.

Better-tailoring public college curriculum potentially carries very little, or even zero, costs to states and higher education institutions. At least in theory it is possible that the incentives in state subsidies could be implemented with no net increase in costs to the colleges or the state by simply restructuring existing subsidies. But if teaching in the high-demand fields is also costlier to the colleges, due to higher teacher or equipment costs, then the average cost of instruction per credit hour to colleges will rise, which they might view as an unfunded mandate.

If so, how might states and their colleges respond to such higher costs? First, they could keep total costs constant by cutting expenditures on other services (in noninstructional costs), though this might be costly to college outcomes in other ways (Webber and Ehrenberg 2010). Second, they could reduce their instructional offerings and capacity in low-reward (in terms of the labor market) academic fields. Average student completion rates and labor market rewards to students may rise as a result of these changes even if the colleges offer fewer total credit hours of instruction per term to students enrolled there and fewer such enrollments over time. Third, to avoid these options, states may opt to modestly raise tuition costs, perhaps partially offsetting the burden that higher costs may impose on students by higher needs-based scholarship assistance. As noted earlier, the federal government might also provide some financial assistance to states making this transition to help them offset the higher costs they would likely incur.

Subsidies for workplace training could also be limited to modest sums. For instance, Hollenbeck (2008) reported that the sum of expenditures by all states providing incumbent worker training was under $1 billion per year before the Great Recession, and this sum financed incumbent worker training of 1.3 million workers nationally, though it is not clear how much of this training represents net impacts of the expenditures. An estimated expenditure of $2 billion a year nationally by federal and state governments could therefore be associated with the occupational training for as many as 2 million students or new workers in the short-run.

Questions and Concerns

Would colleges and universities have the administrative capacity and data to measure the subsequent labor market performance of their students?

This proposal would create very serious data needs for colleges in each state. But many states are now developing administrative data systems that link education and earnings records (Zinn and Van Kluenen 2014), so the data by which states could measure these earnings outcomes for graduates (as well as nongraduates) of each college are potentially available.[7] Technical assistance from federal and state governments would help colleges follow their student earnings would be crucial here. The federal government might also incent local states in a region to merge their data systems, so that students who move out of state can be tracked as well.[8] In many cases, the state and local workforce boards will have experience using the local earnings data, and can also help local colleges develop an infrastructure for routinely measuring the earnings of their graduates as well as their academic outcomes.

Won't colleges have strong incentives to game the system in various ways, to improve their measured performance along the requisite dimensions?

Poorly designed performance measures for public programs can potentially generate unintended consequences.[9] States do not want to encourage colleges to improve their outcomes through "cream-skimming" from their applicant pool, by raising entrance requirements, nor do they want to improve completion rates by lowering the bar for graduation. Specific rules prohibiting such practices plus careful monitoring to enforce them would be necessary to ensure that such manipulation is not used to improve the outcomes that generate rewards.

If states train too specifically for occupations or industries in high demand, what happens to students if they ultimately leave those fields, or when labor demand shifts over time to other sectors?

There is always some tension between providing workers with the specific skills they need for getting jobs in the targeted sector, and the more general skills they will need in the job

market, especially if/when they leave the jobs they obtain with these skills and even cross into other sectors. To maintain longer-term earnings improvements, especially in dynamic labor markets where high-demand sectors today can become low-demand sectors tomorrow, workers must have at least some skills that are clearly general and portable. Certain approaches, like stackable credentials in the career pathways framework, explicitly aim to achieve this result.[10] The colleges must also be encouraged to be nimble, and to adjust their offerings over time to labor market changes.

Won't the workers who are trained in high-demand fields just displace other workers, who would otherwise have obtained the same jobs?

Economists have worried for some time that their estimates of training impacts for individuals might overstate the aggregate impact due to such displacement (Heckman, LaLonde, and Smith 1999). But evidence from simulations performed by Davidson and Woodbury (1990), in a paper estimating the size of displacements created by incentive bonuses for unemployment insurance recipients to accept employment earlier, find displacement effects that are relatively small. In the short run, with wages fixed, displacement could mean that jobs are rationed away from other workers toward those receiving a particular treatment. But in the longer run there is less cause for concern, as employers will presumably create more jobs in response to an outward shift in the supply of workers with the requisite skills (though perhaps along with some reduction in wages).

Conclusion

State and—and in some instances federal—policymakers should focus on improving the skills and earnings potential of poor youth and adults as an important multigenerational antipoverty initiative. The earnings of less-educated workers have greatly lagged behind those of more-educated workers in the past few decades. Although postsecondary education enrollment is up among all income levels, dropout rates are very high among low-income students, especially at community colleges and nonelite four-year colleges. Educational institutions should be incentivized to better guide students into the workforce and to concentrate the school curriculum on the skills valued or unmet in the local labor market.

Specifically, I propose that states partially base public college funding on graduates' reported earnings five years following graduation and, where appropriate, on the colleges' provision of courses that are especially important to the local economy. Rigorous research and evaluation of training programs have demonstrated that sectoral programs, with associated career pathways, can have the largest positive impacts on the subsequent earnings of disadvantaged workers. I propose to create incentives for more colleges to participate in these programs, along with technical assistance to help them do so. States might also experiment with incentives to encourage employers to participate in partnerships with community colleges or to directly hire and train more workers on their own.

Significant private and social benefits would accrue with carrying out the provisions of this proposal. Most notably, the nation would realize increased productivity, higher earnings, and better opportunity to find gainful employment. The higher earnings can move families out of poverty, reduce reliance on social safety programs, and raise local economies. On the revenue side, better-tailoring public college curriculum potentially carries very little, or even zero, costs.

Finally, the best preparation for low-income students in the long run will give them not only the specific skills they need for jobs in the targeted sectors, but also some general skills that are valued across firms and sectors. Developing curricula and pathways that maintain this balance should be a high priority as well.

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Endnotes

1. The National Fund for Workforce Solutions (http://www.nfwsolutions.org/) is also trying to scale sectoral and career pathway approaches in about thirty cities and regions nationally.
2. Deming, Goldin, and Katz (2013) argue that the for-profit colleges often have stronger incentives than public colleges to keep up with evolving trends in labor demand. Rosenbaum, Deil-Amen, and Person (2006) also argue that proprietary occupational schools do a better job than community colleges of having students complete vocational training and of linking their students to jobs after graduation.
3. The practical difficulty of measuring labor market shortages is emphasized in Barnow, Trutko, and Piatak (2013). States would have to decide how best to measure such shortages, or to simply reward institutions for placing students into occupations showing tightness or strong recent employment growth.
4. Up to one-fourth of the 3,000 or so Job Centers around the country funded by the Workforce Investment Act are already colocated on campuses. One proposal requiring all older (defined as age twenty-five and above) Pell Grant recipients to obtain career counseling at Job Centers appears in the College Board (2013) recommendations for Pell Grant reform.
5. A range of market failures, such as imperfect information, may also contribute to sub-optimal training by firms.
6. Hollenbeck's (2008) evidence is descriptive but not rigorous, as is earlier work by Ahlstrand, Bassi, and McMurrer (2003). Other evidence on targeting tax credits to disadvantaged workers using the federal Work Opportunity Tax Credit by Hamersma (2014) suggests limited effectiveness. A number of other studies looking at localized tax credits for employer location or economic development (Bartik 2010; Busso, Gregory, and Cline 2013; Faulk 2002; Ham et al. 2008) are mixed as well, though many studies have been more positive in the past few years. Holzer, İmrohoroğlu, and Swenson (1993) also find positive effects on worker performance (as measured by reductions in scrap rates) of a program for training grants to small manufacturers in Michigan.
7. The availability of such data at the state level has been encouraged by the State Longitudinal Data Systems grants from the U.S. Department of Education and the Workforce Data Quality Initiative from the U.S. Department of Labor, as well as the Workforce Data Quality Campaign being undertaken by the National Skills Coalition (described in Zinn and Van Kluenen 2014).
8. Alternatively, the rewards might only be based on students who remain in-state.
9. See Heckman, Heinrich, and Smith (2011) for a discussion of how performance measures in workforce programs encourage manipulation by the states of who is admitted to the workforce system and whether they are ever counted among the program exiters, on whose outcomes performance is measured.
10. Stackable credentials are a series of certifications representing specific skills and competencies that might be more portable than one specific occupational or industry certification.

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