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A “Race to the Top” in Public Higher Education to Improve Education and Employment Among the Poor



HARRY J. HOLZER

Although many disadvantaged students now attend college, their completion rates are low—especially at community colleges—and many receive associate’s degrees in fields with little labor market value, such as liberal or general studies. To address this problem, I propose a federal “Race to the Top” competitive grants program for states. Community colleges would get a well-targeted infusion of resources in return for greater accountability in state funding, based on the subsequent earnings of their minority or disadvantaged students. Funds could only be used to expand teaching capacity in high-demand fields, support services such as career counseling, and work-based learning like apprenticeships. Although the grants would begin as one-time efforts for selected states, ongoing funding to sustain any reforms implemented would be important as well.

Keywords: community colleges, disadvantaged, accountability, high-demand

One of the biggest obstacles preventing low-income Americans from earning more in the labor market is their relatively low level of academic achievement and educational attainment. Children from low-income households obtain postsecondary degrees less frequently than those from middle- or high-income households; if anything, the gaps in higher educational attainment (as well as academic achievement) between low- and high-income children appear to be growing over time (see Reardon 2011; Bailey and Dynarski 2011).

This occurs despite the fact that college en-

rollments among poor youth and adults have risen quite dramatically. Unfortunately, completion rates in postsecondary education have fallen over time, and more so for poor students than for anyone else. Linkages to the labor market at many high schools and colleges are weak as well, which means that many students there fail to gain education credentials and work experience that the labor market rewards.

In this article, I propose a federal policy designed to improve the academic and employment outcomes we observe for low-income or minority college students. The proposal is a

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“Race to the Top” (RttT) for the nation’s community colleges. Through such a policy, the federal government would provide badly needed and carefully targeted additional resources to these colleges, in ways that are designed to increase credential attainment in high-wage fields in the job market among poor students. The states in which these resources are provided would also need to embrace greater accountability in terms of how they subsidize their colleges, among other reforms, to ensure that they encourage better performance in education and employment outcomes among their disadvantaged students.

THE PROBLEM

The labor market rewards to higher education have roughly doubled since about 1980 as a result of changing market and institutional forces.¹ In response, student postsecondary enrollments in the United States have risen quite dramatically in the past few decades, as economic models of human capital investment predict.² If anything, enrollments have risen more among low-income students than anyone else because they stand to benefit greatly from higher education (for evidence that the returns to postsecondary credentials in Florida are as high or higher among minorities and poor students as for other, see Backes, Holzer, and Velez 2015).³ Pell grant funding by the federal government, which helps low-income students enroll at a higher rate, has also risen quite dramatically in the past decade (for evidence on the

growing generosity of Pell grants, see Long 2013).⁴

Unfortunately, the growth over time in postsecondary credential attainment has been slower than in enrollments, indicating that completion rates of college programs have declined over time (Goldin and Katz 2008), especially among disadvantaged students (Bound, Lovenheim, and Turner 2010). Benjamin Backes, Harry Holzer, and Erin Velez indicate that this is true in both two- and four-year public colleges, and at any level of achievement (2015).⁵

Although the average return to a college credential is high, there is a great deal of variation across fields of study. For example, the labor market pays a premium for students in science and technology (or STEM), and for many applied fields (like business or law) rather than liberal arts. The latter can still provide rewards for students who get degrees from flagship four-year institutions or attend graduate school, but generally not for those with terminal associate’s degrees. Unfortunately, in some states, too many students obtain associate’s in arts (AA) degrees in general studies or liberal studies, rather than associate’s degrees with more market value, such as associate’s degrees in science (AS) or applied science (AAS) in health care and other technical fields, or even occupational AAs in fields such as business or protective services. Even certificates in high-demand fields (such as health technology, advanced manufacturing, and transportation or

1. Economists largely agree that both market and institutional forces have contributed to rising labor market inequality, though they differ on the relative importance of each (for two views, see Autor, Katz, and Kearney 2008; Card and DiNardo 2002).
2. Gary Becker’s seminal analysis on human capital investment was one of the first to suggest that college enrollments would rise in response to higher labor market rewards for college degrees (1996).
3. Timothy Bartik and Brad Herschbein present evidence suggesting this is not true over the long run, though their evidence is based on cohorts of young people a few decades ago (2016). Even in their analyses, the returns to higher education attainment among young people from poor families are still quite substantial.
4. The evidence shows that Pell grants clearly raise college enrollment rates among the poor, especially at four-year institutions.
5. Benjamin Backes and his colleagues show that, among students in the top quartile of high school achievers, BA enrollment and completion rates (where the latter is conditional on enrollment) are 0.46 and 0.55 for the poor and 0.60 and 0.67 for the nonpoor respectively. At community colleges, more poor than nonpoor students from the top quartile of achievers enroll (0.52 versus 0.48) but fewer enrollees complete AA or AS degrees (0.41 versus 0.47).

logistics) that the market clearly values generate a stronger economic return to students than associate's in the humanities (see Holzer and Baum 2017).⁶

In the meantime, many students pile up a great deal of debt. Economists usually emphasize that not all student debt is harmful; for those completing their degrees in fields with strong market rewards, students get good returns on their higher education investments. But debt is rising even for those who are not finishing, and especially at those attending for-profit institutions. And tens of billions of dollars in Pell grants and state aid are also spent each year on students who fail to complete their programs or even attain any credits (on Pell grants and college attainment, see Long 2013; on college debt, see Looney and Yannelis 2015; Baum 2016).

Why have college completion rates been declining, and especially why are they so low among disadvantaged students? According to John Bound and his colleagues, low completion rates among poor students reflect a mix of both personal student characteristics as well as those of the institutions they attend (2010).

On the personal side, low-income students face many obstacles when it comes to higher education performance. They often enter college with low achievement in their K–12 years, and are often diverted into unproductive developmental (remedial) education before they can take classes for credit, causing many to drop out before accumulating many credits (for evidence on remediation, see Bettinger, Boatman, and Long 2013; Long 2014; Clotfelter et al. 2013). But, even among students with high levels of high school achievement, college attainment rates are considerably lower for low-income students than others. Why is this true?

First, the financial costs of higher education have risen over time, especially in recent years as state subsidies for higher education have declined; for families with limited financial

wealth, liquidity constraints will limit the ability of students and their families to finance investments in higher education (on subsidies and rising prices, see Baum, Kurose, and McPherson 2013; on liquidity and college enrollment, see Lovenheim 2011; Brown, Scholz, and Seshadri 2009).

Even when they have Pell grants, not all tuition and fees are covered at some institutions; and, especially among parents of young children, the time needed to work and parent while in college and enroll part time greatly limits success rates there. Finally, a lack of information and weak social capital networks limit their knowledge of how to succeed in college, especially among those who are first-generation college, the first in their families to enroll there (on part-time attendance, social capital, and student outcomes, see Goldrick-Rab 2010).

But, as well as their personal characteristics, the attributes of the institutions most low-income students attend compound their problems. Poor college students are heavily concentrated at community colleges and lower-tier four-year colleges (as well as the for-profit colleges) with relatively low funding and weak student outcomes. Even among low-income (or first-generation college) students with stronger achievement, their limited knowledge of the postsecondary world often leads them to enroll at the community or four-year college nearest to their own homes, which might not be very high in quality.

Bound and his colleagues show that lower resources per student provided to these institutions by their states at least partly account for the weaker outcomes observed among the students who attend. This makes sense, because fewer resources can mean fewer required classes from which to choose (especially among those who work full time), lower instructor quality, and fewer support services (such as academic tutoring, career counseling, or child-

6. Backes and colleagues document the much stronger labor market returns in Florida to AS than liberal arts AA degrees (which have virtually no return above a high school diploma) among the vast majority of community college students who do not transfer and get a BA, and even the relatively strong market returns to certificate programs which the poor or lower achievers can complete in a range of fields. Nevertheless, more than 40 percent of students who complete an AA or AS credential do so in humanities (usually liberal studies or general studies) with no market returns at all.

care) that might help these students overcome these challenges (see Bettinger, Boatman, and Long 2013). In contrast, the for-profit institutions increasingly attended by many poor students have more resources, but often even lower completion rates and much higher debt loads borne by students after attending (see Cellini and Chaudhury 2012; Deming, Goldin, and Katz 2013; Deming et al. 2016).

In addition to the problem of too little funding, the community colleges many students attend face too few incentives to improve the academic and labor market outcomes of their students. For instance, public colleges are subsidized by the state for “seat time” rather than successful student outcomes; higher student attainment perhaps brings better reputation for institutions but no direct reward from the state.

In addition, the costs of expanding teaching capacity in certain high-demand fields—especially the more technical classes in health care and elsewhere—are also much higher, due to the high costs of instructors and especially equipment in those fields. But the colleges obtain the same subsidies and tuition dollars for all classes. So the incentives for them to spend scarce dollars on expanding teaching capacity in these high-demand fields are therefore low (see Holzer 2014; Kim and Stange 2016; Dougherty et al. 2016).

Also, vested interests are strong—especially among tenured faculty—to continue teaching the liberal arts classes in which they are trained, rather than newer occupational fields in which they are not. Also, regular instructors in high-demand fields are likely to have fallen behind the technical frontiers in many areas, in contrast to newer instructors and especially adjunct faculty drawn from more current industry employees.

Besides the problems created by personal student characteristics and institutional funding and incentives, a few other factors likely contribute to the weak outcomes we observe among students at community colleges. For one thing, the generally low level of academic and career counseling there might be one rea-

son why many students choose generic liberal arts programs of study there with weak labor market returns, rather than those with higher market returns described. A number of additional factors likely reinforce these choices: many have particularly weak backgrounds in math and science, or these fields simply do not appeal to them. For those who remain undecided about what to study, liberal arts or general studies are default categories into which they automatically are placed in many states.

Additional characteristics of the community colleges reinforce this pattern. According to Tom Bailey and his coauthors, many community colleges provide very little structure to guide students through their programs of study, either within or across institutions. They compare these colleges to cafeterias in which students face enormous amounts of choice but little guidance in making them. Accordingly, they call for the creation of more “guided pathways” as students move from general background courses to more specific academic or occupational fields of study (see Bailey, Jaggars, and Jenkins 2015; Scott-Clayton 2011).

An additional, though related, problem is likely: according to high-ranking officials at several community colleges, most students arrive intending to transfer to four-year colleges and universities after one or two years.⁷ Yet only about one-fourth of community college students actually transfer, and only about half of them complete a bachelor’s degree. These students likely could benefit from more accurate information and guidance about ultimate success rates in transferring, and in choosing a field of study that will provide the remuneration right after college that many seek.

In addition to traditional occupational AA and AS degree programs, newer efforts to more effectively link students to the job market—including adult students returning for part-time degree or certificate programs as well as younger or full-time students out of high school—have been developed in recent years. For instance, sector-based training efforts involve partnerships between industry groups

7. This point was emphasized in conversations I had with the provost of Miami-Dade College, Rolando Montoya, and with the president of Macomb Community College, Jim Jacobs.

and community colleges, often guided by a knowledgeable intermediary, to train workers for well-paying middle-skill jobs in health care, advanced manufacturing, information technology, and some service industries. In addition, career pathways are being built that combine a stackable set of academic credentials and competencies, plus relevant work experience, on the way to careers in health care or other high-demand industries. For example, such a pathway might start with a certified nursing assistant credential and move toward a licensed practical nurse (LPN) associate's degree and even a bachelor's in science in registered nursing (see Conway and Giloth 2014; Fein 2014).

Evaluation evidence on the ability of sector-based training to raise earnings among low-income students has been very strong; and evaluations of some well-known career pathway programs are under way (see Maguire et al. 2010; Michaelides, Mueser, and Mbwana 2015; Hendra et al. 2016).⁸ But states are wrestling with how to replicate the best programmatic models, and how to bring them to scale. Community colleges will often lack the knowledge of how to scale them, or the incentives to invest significant resources in doing so. And employers might also be reluctant to participate, given the skepticism many have about engaging with the public sector in any serious way.

Thus, to encourage states and community colleges within them to expand their sector-based and career pathway approaches while maintaining their quality and links to employers might require not only technical assistance to these institutions but also changes in the funding and incentives that many now face.

THE PROPOSAL

In response to these problems, I propose a multiyear “Race to the Top” program for state funding of community colleges. A competitive grant program would be established to provide significant new federal grants to states that implement performance-based funding with strong emphasis on the outcomes—both academic and employment—of their disadvantaged students.⁹ If successful, this effort might be incorporated into the Higher Education Act to provide more continuous funding for states receiving competitive grants. States could focus exclusively on their community colleges in such efforts or also include their lowest-tier four-year college colleges and universities, where low-income students also tend to concentrate.¹⁰

Such a program would build on other efforts of states and of federal government in recent years. For instance, the U.S. Departments of Education and Labor have provided a range of competitive grants to states in both the George W. Bush and Obama administrations to improve community college links to the job market. The largest and best known of these, the Trade Adjustment Assistance and Community College to Career Training (TAACCCT) grants, dispersed about \$2 billion of funds to states, regions, and institutions to build greater capacity in community college programs that respond directly to local labor market needs. A series of Workforce Innovation grant programs from the Department of Labor, education innovation grants from the Department of Education (known as Investment in Innovation, or I3), and Social Innovation Fund (SIF) grants have contributed as well.¹¹ The recently reauthorized Workforce Innovation and Opportu-

8. There are other evaluations now under way for the Health Professions Opportunity Grants and Pathways to Advance Careers and Education programs funded by the U.S. Department of Health and Human Services.

9. Although the performance incentives would not have to be limited only to outcomes of disadvantaged students, their outcomes specifically must receive heavy weight in any performance-based funding scheme to receive additional funding.

10. This mechanism would not be applicable at private nonprofit or for-profit institutions, which do not receive direct funding from the state to lower tuition levels. It should also not apply to flagship universities, where large percentages of students major in liberal arts and then go onto graduate school for professional training.

11. For instance, the National Fund for Workforce Solutions combined private contributions from several major foundations with SIF grant funds to build effective sector-based training programs in more than thirty locations. The Obama administration also funded states to build their higher education and workforce data capacities

nity Act) also requires states to build sector-based training models and to measure performance consistently within and across them (for more, see the Center on Law and Social Policy 2015).

Somewhat separately, the states have also begun changing their funding structures for higher education to encourage more successful education outcomes, such as higher completion rates. Indeed, more than half of all states have begun to use performance-based (or outcomes-based) funding of higher education, to create more accountability in their higher education institutions. The National Conference of State Legislatures (NCSL) tracks these developments, and details about them appear in their website (2015). Some states have moved more rapidly, or put relatively more weight on the performance-based measures in their higher education funding formulas, than others.

But, as the NCSL website indicates, most such efforts to date focus only on academic measures of outcomes—such as credit or credential attainment—rather than subsequent employment measures of their students, such as future earnings. Many put too little emphasis on the outcomes of minority or disadvantaged students, which is our primary interest here, and pay too little attention to the two-year colleges where most disadvantaged students are concentrated.

And, to date, most states have implemented accountability schemes without providing additional resources to expand teaching or service-delivery capacity at the institutions that mostly serve low-income students. Consequently, the improvements generated in student outcomes so far from these accountability schemes appear quite modest, though the research to date is thin.

More specifically, Kevin Dougherty and his colleagues note that the research to date mostly evaluates early accountability efforts in the states, in which only bonuses—but not underlying funding levels—depended on student outcomes; so perhaps it is not surprising that the estimated impacts are weak. They also note that three states with strong accountability

schemes—Indiana, Ohio, and Tennessee—have experienced improved completion rates in recent years, though they cannot necessarily attribute those improvements to accountability.

In contrast, the goal of our proposal is to improve both higher education and employment outcomes, particularly for the disadvantaged or minority students, and to provide more resources and stronger incentives (as well as information and technical assistance on best practices from research) for community colleges to do so. The focus on community colleges (and perhaps the lowest-tier four-year schools), where most low-income students in higher education are found, would concentrate the additional resources and incentives where they are most needed and most likely to generate real improvements in outcomes. Indeed, accountability schemes focused on this population are often successful in changing institutional behavior; evidence from K–12 data suggests that, under strong accountability schemes, institutions will do more of what they are rewarded for doing (Deming and Figlio 2016), though care must be taken to avoid “gaming” in the process (as we discuss shortly). The federal government would reward states for basing more of their community college funding decisions on these outcomes, and primarily for low-income populations.

The model on which this initiative would be based is the Race to the Top program, implemented by the U.S. Department of Education during the Obama years, to encourage pre-K and K–12 education accountability. Through this program, the Department of Education dispersed about \$4.35 billion to eighteen states and the District of Columbia. Although various analysts debate the relative merits and effectiveness of this program, that Race to the Top substantially affected K–12 school operations in states throughout the country is less contested (Howell and Magazinnik 2017), even among those states that did not obtain (but competed for) RttT funding (for other views on Race to the Top, see Miller and Hanna 2014; Weiss and Hess 2015; Hess 2015). It is such an impact on state programs and institutional pro-

through State Longitudinal Data Systems grants from the Education Department and the Workforce Data Quality Initiative from the Department of Labor (see Zinn and Van Kluenen 2014).

cedures, especially those that affect disadvantaged students, that we hope to achieve through our own RttT proposal.

HOW IT WOULD WORK

Under a new RttT for community colleges, the federal government would create a competitive grants program, in which chosen states would get a substantial infusion of federal resources in return for imposing stronger accountability on these institutions, based on the academic and employment outcomes they generate among low-income students, and for implementing needed reforms to improve these outcomes.

To receive new funding, states would need to argue that the new resources they would receive and the new incentives they would generate will likely improve the capacity and willingness of these institutions to successfully address the current challenges faced by their disadvantaged student populations, by providing more effective supports and services (such as remediation, tutoring, career counseling, and childcare), and also by expanding credential programs with labor market value in which such students could be successful. But, within the accountability schemes, institutions would need to show actual improvement in outcomes to receive and retain funding over time.

Accordingly, within the competition for the resources, states would need to specify:

- the nature of the accountability systems they would create for funding public higher education;

- how their community colleges would spend the additional resources they receive; and

- other reforms they would undertake to improve outcomes for disadvantaged students there.

Proposals would reflect a collaborative effort between state-level administrators who set higher education policy and the community college administrators who spend the resources and implement reforms on the ground.

Accountability

States would need to specify in advance the performance-based incentives they plan to use

in funding their community colleges. At least two criteria for such incentives would be established: a strong emphasis on subsequent employment outcomes of their students, and not just their academic outcomes; and a primary focus on the outcomes of disadvantaged students, to ensure that improved outcomes are strongest for the poor.

The new financial incentives for both kinds of outcomes must be large enough, relative to total funding, that the community colleges feel like they have real “skin in the game” regarding improving outcomes for disadvantaged students (Deming and Figlio 2016). In their proposals, the states would need to indicate that they are developing their administrative higher education and earnings databases to monitor these outcomes, along with the capacity to analyze them. Using accountability measures based specifically on the outcomes observed among minority or disadvantaged students would also help ensure that these institutions provide students with more access to and supports in any programs affected by states receiving grants.

Of course, using employment outcomes to create incentives could create their own problems—if, for example, they discourage colleges from offering their students enough capacity in certain less-compensated fields (like social services) that create strong “public goods,” or for students whose earnings do not rise until several years out of college or after graduate school (Deming and Figlio 2016). Focusing the incentives only on the outcomes of community college students mitigates these concerns, to some extent, because relatively few community college students enter these fields or attend graduate school. And the earnings of students would have to be measured over enough years afterward to not punish colleges for those who take longer to find higher compensation, especially for those who transfer to four-year colleges and ultimately obtain BAs (which should be captured by the academic attainment as well as earnings measures used for accountability among such students).

Rewarding institutions whose students obtain more high-demand and high-value credentials (in fields identified earlier), instead of higher earnings in the future per se, might

be another way of dealing with these complications—as long as these credentials will likely continue to be highly valued and demanded in the labor market over time. Improving successful transfer rates to four-year colleges and universities should certainly be an allowable use of federal funding. But, given the extremely low rates of successful transfer (including BA attainment) among community college students currently, expanding opportunities for students to obtain sub-BA credentials with market value should be a higher priority.

States would also need to indicate that the measures they will use for accountability are not easily “gamed” by colleges and creating unanticipated consequences, which is always a risk when using performance measures to allocate public funding (for examples, see Barnow and Smith 2004). For instance, with credit attainment and completion rates as the only accountability measures, states could be tempted to raise admissions requirements (known as cream-skimming to improve measured outcomes) or to lower completion standards within their academic programs.

To eliminate the incentives of colleges to “cream” in admissions, the states might use certain types of value-added or risk-adjusted measures of academic and employment outcomes, which would control for earlier achievement or earnings capacities of their students. But such measures might be too complicated to be easily understood by or transparent to the public (Deming and Figlio 2016).

Instead, using outcomes for disadvantaged students and especially lower-achieving students in funding formula should help mitigate this problem.¹² Indeed, Anna Cielinski and Duy Pham advocate the use of such equity outcomes to improve the targeting of accountability measures on the disadvantaged as well as to reduce gaming (2017). Because adult students returning to community colleges have somewhat

lower completion rates relative to more traditional (younger) students but higher enrollments in certificate programs linked to employment, decisions on how to treat them in accountability measures would be very important. And, to keep measures simple and transparent, they might simply reward colleges that achieve certain predetermined levels of improvement over time in credentials obtained and earnings observed among their poor or low-achieving students.

Thus, to give an example, states might base a third to a half of their community college funding on how much individual colleges raise the percentages of minority or disadvantaged students there—particularly with low earlier achievement—who obtain BAs or sub-BA credentials with high market value. Some amount of funding could be reserved for simply obtaining a certain minimum threshold in these measures, in levels or increases over time; while the rest could be distributed competitively for those showing the strongest improvements over time.¹³

Planned Expenditures

States would also need to specify how they intend to spend the new resources. If they choose, states might include lower-tier four-year public institutions as well as just community colleges in their program. At whichever institutions are included, allowable spending of new federal resources would be limited to

- expanding teaching capacity in programs that offer credentials with strong labor market rewards, either for occupational associate’s degree or certificates programs;

- offering support services for the poor, such as additional merit-based financial aid, career counseling and coaching, job placement services, childcare, and access to other public supports; and

12. Even when establishing specific goals for disadvantaged or minority student populations, there can be “creaming” within these categories. But focusing on students with initially low achievement would counter the tendency to cream within demographic groups.

13. David Deming and David Figlio argue that simple thresholds of this type are highly transparent, well-targeted, and less likely to be gamed by the institutions (2016).

providing stipends for work-based learning activity such as apprenticeships.

Proposals to expand teaching capacity in high-demand fields, such as nursing and other health technician fields, would require some evidence to be provided by the states that labor market demand and compensation in those fields remains and will continue to be strong. For instance, states could use data on recent employment trends or current job vacancies in such fields, as well as on the earnings of recent hires in those fields.¹⁴ Some evidence that such capacity is currently limited in those fields—for instance, by currently enrolling fewer than the number of students who seek to enroll—would be helpful, though student enrollments there might also rise if career counseling were improved.

And some efforts to make these classes accessible to disadvantaged students who might struggle academically—perhaps through improved remediation or tutoring—would be important as well. These efforts could include “bridge” programs designed to prepare students before they arrive on campus, or efforts to identify and remedy important achievement gaps among college-bound students while they are still in high school.¹⁵

The additional support services that could be provided to disadvantaged students should, as much as possible, be based on evidence of what actually works in this regard. For instance, rigorous evidence now indicates that accelerating remediation and embedding it within job training or labor market information can improve its efficacy; making some kinds of academic counseling mandatory seems to improve its effectiveness. Using adults to coach disadvantaged students, and even frequent text messaging regarding schedules and assignments,

can improve performance as well (on these approaches, see Bettinger, Boatman, and Long 2013).

Making a variety of such supports available all at once in a coordinated and intensive fashion might well make all of them more effective. This seems to be a lesson drawn from the Accelerated Study in Associate Programs (ASAP) program at the City University of New York (CUNY), which has doubled completion rates among students who need remediation and are also willing to attend full time (see Strumbos, Linderman, and Hicks 2018; for the impacts of ASAP, see Scrivener et al. 2014).¹⁶ On the other hand, because ASAP at CUNY only applied to full-time community college students, and since over half of treated students still did not complete their programs in the ASAP evaluations, the colleges should not depend exclusively on this approach (Scrivener et al. 2014).

Effective career counseling for students seems critically important if students are to make sensible choices about what and how to study. As research in the field of behavioral economics frequently reminds us, simply making labor market information available (especially in online formats) is unlikely to change student behavior very much; such information must be clearly and directly communicated to students to be effective.

One such way of delivering such information is to open satellite offices on college campuses of the One-Stop shops (now called American Job Centers) funded around the country by the Department of Labor (through the Workforce Innovation and Opportunity Act). Indeed, more such centers are being collocated on such campuses. These shops provide both staff-assisted access to general labor market information and more personalized testing and counseling services. Although they must remain accessible to

14. The most relevant data would be at the metropolitan or state levels, which are the relevant labor markets for most such occupations, since relatively few workers with sub-BA credentials migrate over time across states. Such data are also quite available now from Census data sources such as the Longitudinal Employer Household Dynamics program on industry-level employment or various sources of job vacancy data.

15. States are beginning to reach out to high school students who express an interest in higher education, in their junior and senior years, to identify gaps in math and reading preparation and to address them before they arrive on campus. One such example is the Florida College and Career Readiness Initiative.

16. Of course, whether the program would work at other colleges besides CUNY, and with students unable to attend full-time, remain unclear.

nonstudent workers as well, this might be a relatively low-cost method of delivering the needed information and counseling to students who need it. Continually upgrading the quality of information provided, as technology creates new and improved data sources, would be an important undertaking of states as well (for a recent update, see Reamer 2015). Opening “Single Stop” offices, which help low-income students gain access to available public income supports and services, on more campuses would be helpful as well (Single Stop 2017).

Finally, stipends for work-based learning, such as apprenticeships, might be an additional way of enhancing student success. It is well known that the labor market strongly rewards early work experience among young people, and that low-income or minority students gain too little such experience. Too much work experience while students attend high school or college can also be harmful, but when linked to their fields of study such work appears to be more valuable to career progress (on the impacts of apprenticeships on earnings, see Reed et al. 2012).

The evidence on the effectiveness of apprenticeships for low-income workers is particularly strong, and evidence that disadvantaged youth are more motivated to continue education or training when paid is substantial as well.¹⁷ Although private employers are the ones who usually provide payment for work performed, in some instances an incentive payment to these employers from the state might help engage them; and at other times public subsidies of the privately paid wages, or direct payment for services provided to the public, are worthwhile as well.¹⁸

The attractiveness of a state proposal for RttT funding might also well be enhanced by their stated intent (and plans to implement)

reforms in a variety of areas to improve education and employment outcomes for disadvantaged students. As noted, reforming developmental education is a very high priority, given the evidence that such remediation is often ineffective, and perhaps even harmful to students.

Other Reforms

Reforms in developmental education might include the implementation of coterminous remediation, which might even be embedded within the material being taught, rather than stand-alone remediation, which serves as a prerequisite for enrolling in the actual classes needed for a credential.¹⁹ Also, instead of simply requiring the same remediation (such as passing an Algebra I test) for all, remediation might be customized to what is needed by students in their chosen programs of study. Focusing on practical use of math, rather than Algebra I—which is done in a variety of newer programs (such as Quantway or Statway) with some evidence of success—would also help. And even the delivery of remediation can be changed in new models that use technology to deliver the needed instruction (see Long 2014; Bailey, Jaggars, and Jenkins 2015).

Building more sector partnerships (or expanding their capacity) between colleges and industry, and more career pathways into well-paying jobs, could be another component of a serious plan. As noted earlier, these partnerships are often limited in scale of student and employer involvement. Enhancing these, while maintaining the quality of instruction and ties to local industry needs, are critical for achieving the desired impact of these models on employment outcomes at the state or national levels. Developing state education and workforce “systems” that are heavily built around sector partnerships and career pathways would also

17. Examples demonstrating the importance of paid work in motivating students in school or in training appears most recently in a set of summer jobs programs reviewed by Nelson Schwartz (2013).

18. Some examples of these ideas include public service employment, public subsidies for transitional jobs in the public or private sectors, or direct public subsidization of private-sector employment, which the federal government did with its Emergency TANF employment subsidies in the stimulus program in 2009 and 2010 (see Roder and Elliott 2013; Dutta Gupta et al. 2016).

19. Two such examples include the Integrated Basic Education and Skills Training program (I-BEST) in the state of Washington (Zeidenberg, Cho, and Jenkins 2012) and the LaGuardia Bridge program (Scrivener et al. 2014).

be a valuable part of any state plan to obtain RttT funding.²⁰

Additional steps might be taken to rationalize the divisions between credit and not-for-credit classes and programs. The division between such programs seems fairly arbitrary right now, though the distinctions are hugely important for the extent to which students can use financial aid (especially from Title IV of the Higher Education Act) to fund their studies. There are already proposals to rectify this problem at the federal level, and to allow financial aid to be used in any program whose labor market value can be demonstrated (see McCarthy 2014).²¹ But, if such proposals are not implemented at the federal level, perhaps states can take some actions on their own to address this problem in their proposals for RttT funding.

Finally, states might decide to implement some of the reforms recently emphasized by Thomas Bailey and his coauthors, which entail building more structured (or guided) pathways within the academic institutions, and even across them (for students attempting to transfer to four-year colleges). Bailey and his colleagues offer detailed guidance to college administrators on how this structure would be built, and the nature of guidance provided to students in their time there (2015).

Of course, in all such cases, recipients of awards would be required to demonstrate the effectiveness of their plans at improving outcomes, if awarded. Rigorous evaluation by the Departments of Education and Labor of the different plans implemented would be critical as well, so we develop greater knowledge of what works more or less effectively in this area.

COST

Finally, we need to address the issue of cost. How much should the federal government spend on its new RttT effort? And should it be

a strictly one-time infusion of federal funds, or should some of it be at least partly renewable for states that show they spend their money well?

The issue of how much federal funding is adequate in such a situation is unclear. In the original RttT, \$4.35 billion that was delivered to eighteen states plus the District of Columbia (which covered 45 percent of K–12 students in the United States) was enough to create a range of behavioral changes, even in states that competed for but did not win awards. Perhaps a similar amount allocated to community colleges would be enough to change their behaviors as well. These colleges have other incentives for improving their performance—perhaps to address accountability that the states are already imposing on them.

On the other hand, the evidence suggests community colleges are already very strapped for resources, and juggle many competing needs (such as academic versus occupational training), especially for student populations that are frequently disadvantaged. Total revenues at community colleges nationally are about \$60 billion a year (American Association of Community Colleges 2017), so \$4 billion would constitute only an 8 percent increase in total funding—though its effect would be more concentrated among the states (perhaps fifteen to twenty) that actually receive the funding.²²

An allocation of \$5 billion to \$10 billion would likely have stronger impacts on college behavior, and strengthen the incentives of all states to apply for such funds. A few suggestive calculations can illustrate its likely impact. For instance, estimating roughly eight to ten million students enrolled in for-credit programs at community colleges each year, total costs per student are now \$6,000 to \$7,000. If certificate and associate's degree programs in the high-demand and high-cost fields like health care average \$10,000 per student year, then an extra

20. Lisa Soricone emphasizes the need for systems development at the local or state levels in order to make sector-based training successful (2015).

21. One proposal to provide Title IV funding for noncredit training programs with demonstrated labor market value is Senator Tim Kaine's Jump-starting Businesses by Supporting Students (JOBS) Act.

22. Total K–12 public spending in the United States was \$620 billion in 2013, so the \$4 billion provided in the RttT program was very small in relative magnitude but still managed to affect school behaviors.

\$10 billion could fund one million additional slots.²³

Alternatively, if average costs of comprehensive services like ASAP or stipends for work average \$5,000 per student, then \$10 billion would fund these such services for another two million students.²⁴ Or, combining the costs of extra classroom capacity and services, we could fund a half a million slots in high-demand fields as well as services or stipends for one million students. And if one of the conditions of states receiving grants is that they partially match grants with some additional resources of their own, then the impacts of the program could be substantially greater.

It is worth remembering that the Obama administration's initial proposal for accountability in its American Graduation Initiative in 2009 called for a new expenditure of \$12 billion over a number of years. This was ultimately reduced greatly to the \$2 billion spent on TAACCCT grants, but the initial proposal is instructive in terms of the magnitude of what the Obama administration considered necessary in this realm.

And should some part of these funds be renewable, at least for states where outcomes of poor students are improving? A frequent complaint about one-time competitive grants is that operational changes made in states and regions to secure such funding are not sustained over time when such funding disappears. To make these changes more sustainable over time, some large percentage of that allocation for states who are chosen should be renewable. Additional competitions for those not chosen might also be considered in the future. Such funding might be embedded within a reauthorized version of the Higher Education Act or implemented separately from it.

ADDITIONAL CONSIDERATIONS AND CONCERNS

As noted, it is critical that states design accountability schemes that do not lead colleges to game the system and create unanticipated consequences, such as barring disadvantaged students from attending or lowering academic requirements for passage. Genuine improvements in the academic and employment outcomes of disadvantaged students must be demonstrated over time, and not result from any such gaming.

Any efforts to improve occupational training and workforce services at community colleges or other public institutions must not only achieve scale while maintaining employer participation and a focus on disadvantaged students. In addition, such systems must provide a careful balance between the specific skills needed today in the industries and careers targeted, and more general analytical and communication skills that the labor market rewards.

In the short run, the former might be more important; in the long run, the latter matter too. Many employees will ultimately change firms or even industries, and any skills that are publicly financed should be at least partly portable across firms and sectors. In addition, in a dynamic and uncertain future labor market—where technologies will likely evolve in ways we cannot predict—the skills heavily demanded today might not be demanded tomorrow. And skills reflecting unmet demand today might be filled tomorrow, simply allowing for the usual lags with which worker skill supplies respond to such demand over time (for more on these limitations, see Holzer 2015).

For all of these reasons, states and their community colleges need to strike an appropri-

23. AACC and other sources note that more than seven million students were enrolled in for-credit classes at community colleges in the fall of 2015. Assuming that some fraction of these were in short-term certificate programs from which there was some turnover out of fall enrollments, and that these were replaced by new enrollees in the spring, it is likely that enrollments for the entire year average eight to ten million. According to PracticalNursing.org, annual tuition in Licensed Practical Nursing (LPN) programs average \$10,000 to \$15,000, and those in health certificate programs are no doubt lower (2017).

24. Diane Strumbos, Donna Linderman, and Carson Hicks show that ASAP now costs \$3,000 to \$4,000 per student each year (2018). If stipends were provided for five hundred hours of work per year at \$10 per hour, then stipends plus administrative costs could average \$6,000 per student. An average of comprehensive services plus stipends could then be funded at roughly \$5,000 per student year.

ate balance between the specific occupational skills that the labor market values today and the more general skills and credentials that are valued over the long term. Students obtaining specific occupational certificates or associate's degrees must have broad enough general skills to successfully move across firms and sectors if they have to; and opportunities for those with specific credentials whose value in the market has declined should find it easier to briefly return to colleges as an adult to retrain a bit than it is now. Although much of this is beyond what the RttT proposal can accomplish, the latter should be structured with these considerations in mind.

CONCLUSION

To improve educational attainment and subsequent earnings for low-income students, those attending community colleges (and perhaps lower-tier four-year institutions) need greater funding, as well as stronger incentives for those funds to be used effectively for such students. A federal competitive Race to the Top program for community colleges, modeled in some ways after the Obama administration policy for public K-12 schools, would provide both funding and incentives.

In the proposal outlined, community colleges (and perhaps others with large concentrations of low-income students) would get additional funding from the federal government through competitive grants to their states. The allowable uses of the new funding would be limited to expanding teaching capacity in degree or certificate programs in high-demand (or high-wage) fields, supports and services for low-income students, and stipends for work-based learning.

To get the funds, states would have to implement accountability schemes through performance-based funding of higher education. Although many are doing so now, the new performance measures would have to put substantially more weight on the subsequent earnings of their students (not just academic outcomes) or the attainment of high-demand and high-value credentials among their disadvantaged students. A range of other useful reforms in developmental education, expansion of sector partnerships and career pathway models,

or the construction of guided pathways through college curricula would be acceptable uses of funds as well.

Special care would have to be taken to be sure that these new standards do not generate unanticipated consequences, as a result of colleges gaming the new standards (for example, by raising admissions requirements or lowering program completion standards). States would clearly need to develop data systems and analytical capabilities to measure and reward such outcomes. Evaluation evidence over time would indicate more clearly what works in the realm of accountability and new expenditures that successfully raises the educational attainment and earnings of disadvantaged students.

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