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After COVID-19: Building a more coherent and effective workforce development system in the US

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POLICY PAPER SERIES

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ABSTRACT

After COVID-19: Building a More Coherent and Effective Workforce Development System in the US*

Workforce development in the US today is spread across higher education institutions (primarily public 2-year and for-profit colleges), labor market institutions and workplaces, with public funding from a range of sources. But outcomes for students and workers are weaker than they could be, especially among disadvantaged students and displaced workers; funding for workforce programs is insufficient and not always effective. I propose the following changes: 1) Reforms and additional funding in the Higher Education Act for postsecondary occupational training for disadvantaged students; 2) Modest taxes on worker displacement along with new funding for retraining; and 3) A permanent version of the Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants, to fund partnerships between community colleges, workforce institutions and states. Together, these actions would improve credential attainment and employment outcomes among the disadvantaged and those at risk of being displaced.

JEL Classification: J0, I22, I23

Keywords: workforce development, community college, training, displaced workers

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I. Background: Workforce Development in the US

Since definitions of workforce development can vary across policymakers and practitioners, I begin here with my own definition.

I define workforce development in the US as *all post-secondary education and training, plus other programs and services (like career counseling, job search assistance, and wraparound supports), that have as their primary focus preparing workers for well-paying jobs and careers*. In my view, these policies and practices should mostly focus on *students and workers without BAs,* whose earnings and employment have deteriorated most in recent decades. Although career and technical education (CTE) programs in secondary schools, and career education even earlier, can also help prepare students for careers, my primary focus here is on postsecondary education and services.

A. Why is workforce development important in the US?

Workforce development policies, programs, and practices are critical to any effort to improve economic productivity, income mobility, and equity among workers in America.

Productivity growth in the U.S. has mostly stagnated in the past five decades, except for the decade from the mid-1990s to the mid-2000s associated with the digital revolution. All else equal, rising productivity is associated with rising family incomes and worker earnings – though perhaps to lesser extent in recent years than was true historically. And most economists believe that worker skills and education are key components of productivity growth. [1]

Labor market inequality in the U.S. has also grown dramatically in the past four decades. Nowhere is this more evident than in the huge increase in earnings gaps between workers with bachelor's (BA/BS) degrees or higher and those with less education. The earnings gap between these groups roughly doubled between 1980 and 2000 and has remained very high since that time.

Individuals who obtain BA/BS or higher degrees tend to do quite well in the U.S. labor market over their careers (despite some early struggles with student debt and obtaining their first well-paying jobs, especially if they enter the job market during a recession, like now). Even though the real earnings of young college graduates have not grown much since 2000, the earnings of non-college educated workers have stagnated over the past four decades, and have even declined among some groups like non-college educated men.

What has driven the growing divide between those with college degrees and all of the others who are being increasingly left behind? While many factors have contributed to stagnating earnings and rising inequality, there is no question that many workers without

[1] See Baily (2015) and Stansbury and Summers (2017). For evidence on how education affects productivity growth see Krueger and Lindahl (2001) and Gordon (2014).

BAs in the US have too few of the *skills and credentials* that employers seek and reward in the labor market.[2]

Research suggests that well-paying jobs for workers with high school or less education have mostly disappeared. To obtain well-paying jobs that are generally in high demand —in fields like health care, advanced manufacturing, IT, transportation/logistics and many parts of the service sector–workers need at least some postsecondary education and training, and a range of skills (both general and occupation-specific) that employers demand in such work.[3] But too few Americans without BAs have such skills, especially in our most disadvantaged populations. As a result, employers have some difficulty filling these jobs, and ultimately create fewer of them or more frequently outsource or offshore the ones they have.[4]

To be clear: where skill deficits exist, they primarily reflect *low opportunity and access* among disadvantaged populations – especially low-income groups and people of color - to high-quality education and training options, rather than their own innate skill deficiencies or behavioral problems (Goger, 2020). And some of the credentials that employers seek and reward reflect poor information on their part, leading them to rely too heavily on postsecondary credentials as signals of worker skill in some cases (Blair et al., 2020).[5]

If anything, these problems have recently been exacerbated and will likely grow worse in the coming decades. For one thing, the COVID-19 pandemic has reduced employment the most among low-income workers, women and those of color. Indeed, our partial labor market recovery from the economic shutdown in the spring has already been the most unequal in U.S. history, with professional and managerial workers rapidly regaining their jobs (or never losing them in the first place) while less-educated and minority workers remain out of work more often and longer than those more-educated (Hershbein and Holzer, 2021).

Increasingly, workers who were furloughed or laid-off in the spring have been joining the ranks of the permanently displaced, as their employers either shut their doors or reorganize the workplace to put greater emphasis on remote work and online commerce and service delivery. Those permanently displaced suffer much more than other laid-off workers, and often take years to regain employment, usually at much lower wages than before. The pandemic therefore raises our need to provide more workforce training to permanently

[2] For summaries of the research on the cause of rising inequality see Groshen and Holzer (2019). For the most recent evidence suggesting that an increase in higher education attainment will reduce inequality in the US see Hershbein et al. (2020).

[3] For more analysis of the rising education requirements on "middle-wage" jobs see Holzer (2015).

[4] For evidence on employer tendencies to turn workers into contractors or to outsource their employment functions to other companies see Katz and Krueger (2019) and Weil (2019). For broader evidence on how declining worker "power" lowers earnings see Stansbury and Summers (2020).

[5] For instance, lack of access among people of color to good schools and jobs can reflect their segregation into low-income neighborhoods or cities, while good schools and jobs are concentrated in or near high-income areas (Chetty et al., 2014). Lack of information or social networks as well as employer discrimination can limit worker access to high-paying jobs with training opportunities as well. As more workers gain credentials, employers might also increase their credential requirements, to preserve the quality "signals" that such credentials imply, perhaps resulting in "credential inflation" over time that preserves earnings inequality.

displaced workers, as well as others (like low-wage "essential workers" who were never laid off) who could benefit from training).[6]

Furthermore, automation and globalization over the coming decades will continue to generate more worker displacement, and more difficulties for non-college educated workers. Indeed, while Artificial Intelligence (AI) might threaten the jobs and earnings even of the college-educated, their ability to adjust by gaining new skills and new employment will likely be much greater than workers with less education. Absent concerted attention and action, the gulfs between the well-educated and others will widen. Thus, it seems clear that workers without BAs should be the focus of any efforts aimed at improving opportunity and equity in economic outcomes in the U.S.

To deal with these problems, the U.S. needs a much stronger and more inclusive workforce development system. Such a system should serve a range of students and workers in need of skill enhancement – including youth as well as adults, and those currently employed or not, with a heavy focus on the *disadvantaged* and *displaced* (or at risk of becoming so), though not limited to these groups. And we need a workforce system that is responsive to the ongoing forces of automation and globalization, which will continue to develop the skills that employers seek in well-compensated jobs.

B. The U.S. Workforce System: Components and Funding

Economic (human capital) theory generally posits that, if it is in the interests of workers to invest in their skills and thereby raise their earnings, they will choose to do so. Similarly, employers will invest in training their workers if they can benefit from doing so, though the extent to which they will pay for this (as opposed to having their workers pay for training through lower earnings) depends on how certain they are that they (and not other employers) will benefit from the investment.[7]

Of course, *labor markets can generate too little education or training* for two broad reasons: a) *Market failures* that generate less than the socially optimal investments; and b*) inequities* that generate too little education or training among the disadvantaged or the displaced.

The market failures affecting workers include too little information about cost-effective education and training and their "public goods" nature, and liquidity constraints (driven by capital market problems that limit their ability to borrow). Employers might also have too little such information and face their own liquidity constraints, especially among small or medium-sized firms. Fixed start-up costs for training, and their inability to coordinate with other employers in addressing them, contribute to problems as well.

And inequities across workers can have great impacts on the provision of higher education or workforce training. Disadvantaged (low-income) students or workers might have not just too few resources and too little information, but might also be weak on a range of cognitive and non-cognitive skills that would enable them to successfully complete their training and

[6] We distinguish workforce services here from other job-creating activities, like subsidized employment or tax credits for new hiring, that might be used to raise labor demand and employment without generating new worker skills.

[7] Labor economists distinguish between *general* training, which is broadly portable and for which workers themselves usually pay, versus *specific* training for which employers are more willing to pay.

realize returns (due to the limited educational opportunities they have faced).[8] Employers might hesitate to invest in them as well, if they fear that the low skills of the workers will render the training ineffective or that high turnover among low-skill workers will limit their own ability to accrue any returns.[9] Discriminatory judgments by employers on trainability can certainly contribute to skill and earnings gaps over time.

Displaced workers suffer a different kind of inequity: their permanent job loss wipes out all of their firm-specific seniority and skills, and their occupation or industry-specific training as well if they cannot find similar jobs to the ones they've lost. As noted, permanent job loss imposes great costs on workers and their families. The severing of the employment relationship means that a new one must be generated, complete with other forms of reskilling. In addition, we often see permanent earnings loss among those who find new jobs, labor market withdrawal among those who don't, and poor health and mortality rise for the latter.[10] These outcomes, in turn, generate broader social costs, both fiscally and at the community, state or federal levels – which employers generally do not "internalize" (or consider) when making their automation decisions.

Given the private nature of most education and training decisions, but also the need for public funding and other policy levers to address market failures and inequities, the U.S. higher education and workforce investment system provides three primary options to students/workers for making such investments, with varying amounts of public funding:

- Certificate programs (for credit or non-credit) and occupational AA/AS degrees in public community/technical or private for-profit colleges;[11]
- Workforce services and training vouchers (known as Individual Training Accounts or ITAs) that are attainable at American Job Centers (formerly known as One-Stops), where the latter can be used for training by locally approved providers; and
- On-the-job training or work-based learning opportunities (including apprenticeships) provided by employers.

There are also many sources of public funding to support these options, at both the federal and state/local levels, which provide resources directly to 1) individual students or workers, 2) higher education institutions or job centers, and 3) employers, to raise investments in worker education and training.

For instance, public colleges and universities receive direct support from state subsidies, which tend to reduce overall tuition prices they charge to all students, regardless of income. Lower-income college students (and the institutions serving them, to a lesser extent) also receive direct funding from the federal Higher Education Act (HEA), especially Title IV programs (which include Pell grants, federal loans, and funds for work-study). Indeed, the

[8] "Achievement gaps" between low-income/minority students and others illustrate lower reading or math abilities that could limit trainability of less-educated workers. Noncognitive skill gaps have also been illustrated; these include factors like motivation or "stick-to-it-ness." Also, workers with substance abuse or depression might be considered less trainable or less worthy of investments by employers.

[9] Wage rigidities, from minimum wages and other sources, might also prevent employers from reducing wages to pay for general training among low-wage workers.

[10] See Davis and Von Wachter (2011) and Lachowska et al. (2020).

[11] Certificates are also available at private non-profit institutions, but these tend to focus more on students who already have BAs.

federal government spends about $75 billion per year on higher education, while state subsidies to public institutions provide even more support.[12]As a result of both kinds of funding, over 6 million U.S. students are enrolled in sub-baccalaureate programs at any time, mostly in 2-year public institutions (Baum et al., 2020).

The ITAs for individual workers and the public job centers are funded at much lower levels by the Workforce Innovation and Opportunity Act (WIOA), with funds disbursed by state and local workforce boards comprised primarily of major local employers and some other local officials, including community college representatives.[13] They also distribute money from a number of federal funding streams within WIOA for particular categories of students or workers – such as disadvantaged adults, displaced workers and out-of-school youth, among other groups.[14]

Small amounts of funding or services can also be obtained from federal programs by disadvantaged workers for training, like Temporary Assistance to Needy Families (TANF) and Supplemental Nutritional Assistance Programs (SNAP, or food stamps).[15] Those displaced by imports have access to additional funds through the Trade Adjustment Assistance (TAA) program that provides training and temporary income support (beyond the Unemployment Insurance benefits for which they also qualify). And on-the-job training is primarily funded by employers and workers, though there are pockets of state and federal support for employers who provide such training or work-based learning (like apprenticeships) as well.[16]

In addition to the formula-funded programs described above, the federal government sometimes provides one-time *competitive grants* to states, regions or public institutions. These grants are designed to incentivize these entities to build institutional capacity to provide high-quality education and training, as well as workforce services, as labor markets evolve over time and the skill sets demanded by employers change.

For instance, one-time Trade Adjustment Assistance and Community College and Career Training (TAACCCT) grants worth $2B were awarded and implemented in four rounds in the first term of the Obama Administration. The grants were designed to improve the capacity of community colleges to train adult workers, by improving the functioning of workforce services and responsiveness to employer and industry labor demand in regional labor markets.

The TAACCCT grants were at least partly designed to help colleges build more effective regional workforce infrastructure. The expectation was that community colleges receiving

[12] See the Pew Trusts (2019).

[13] WIOA's predecessors include the Comprehensive Employment and Training Act (CETA), the Job Training Partnership Act (JTPA), and the Workforce Investment Act (WIA). Public expenditures on WIOA today total about $7B.

[14] Besides a modest funding stream for out of-school youth (under $1B), WIOA also funds the Job Corps and Youth Build programs.

[15] See United States Government Accountability Office (USGAO, 2019).

[16] The federal government supports state efforts to expand on-the-job training through American Apprenticeship Grants and National Displaced Worker grants. Section 127 of the Internal Revenue Service code also allows workers to deduct expenditures on education and training from their federal taxes. Several states have funded on-the-job (or incumbent worker) training over the years; one of the longest lasting and largest efforts is the Employment and Training Panel (ETP) in California.

grants would work more effectively with local workforce boards and related institutions (like the job centers) in response to regional labor demand shifts.

In addition to public funding, federal and state governments use both taxes and regulation to generate more efficient and equitable education and training. For instance, taxes (and subsidies) are used not only to fund the public investments described above, but also to change employer incentives regarding whether to lay workers off (temporarily or permanently). Also, employers who generate large numbers of layoffs are now required to pay somewhat higher taxes (through "experience rating") to fund the Unemployment Insurance payments to their workers.

And regulations can be used in a variety of ways to ensure that public funding is spent as effectively and equitably as possible. For instance, the federal government has at times issued "gainful employment" regulations to ensure strong employment outcomes among students in occupational programs at higher education institutions, especially at for-profit colleges. Accreditation rules for higher education and rules regarding when programs are "for credit" have the same broad goals.

C. Evidence on Value of Credentials and Cost-Effectiveness of Public Funding

Given the options that are available to workers, students and employers for occupational training and workforce services, what does the evidence show about labor market returns to such investments, and the cost-effectiveness of publicly funded training?

Many, though not all, of the higher education credentials have strong labor market value, including for-credit and (to a lesser extent) non-credit certificates – though the variance in market rewards is very high. For instance, associate degrees generally provide higher payoffs than certificates, and not all certificates provide returns (especially if they are short-term and take less than a year to complete – see Baum et al., 2020). But certificates can sometimes have more labor market value than terminal associate (AA) degrees in the liberal arts (Backes et al., 2015).

Associate degrees provide a mix of general and occupation-specific education, and can also lead to bachelor's degrees in the future; while certificates mostly provide occupation-specific education. For younger students, degrees often make the most sense (if they can master the academic work), to prepare for careers in which they might change occupations and industries with some frequency; for adults with shorter horizons and time constraints, seeking very specific training, certificates can be more appealing.[17]

The cost-effectiveness of Title IV expenditures on Pell grants and other forms of financial assistance (especially among those in sub-BA programs) depends on the extent to which they lead to higher college enrollments among low-income recipients, their completion rates, the fields in which they choose to study and labor market rewards to these fields. A complete treatment of these issues is beyond the scope of this paper, and some limitations

[17] Deming (2019) has argued that bachelor's (BA) degrees in the liberal arts often have greater value over the long run that more technical or occupational degrees, though his study might not effectively control for the fact that liberal arts students at elite colleges and universities likely have a range of high personal skills that also bolster their earnings. There is also no evidence to date that liberal arts are more heavily rewarded over time than technical or other occupational sub-BA credentials.

in both the magnitudes of these expenditures and their effects are described more fully below.

Still, a few broad generalizations are warranted. First, Pell grants appear to be cost-effective at raising low-income student credential attainment; federal loans can be as well, though default rates among low-income borrowers with low-wage jobs can be high.[18] Second, federal or state expenditures on higher education, in the form of reduced tuition or provision of support services for disadvantaged students, are generally cost-effective as well – and more so than free tuition for the broad population of students.

Specific support programs, like Accelerated Study for Associate Programs (ASAP) and Stay the Course, have been particularly cost-effective in improving credential completion rates at community colleges when rigorously evaluated (Dawson et al., 2020; Evans et al., 2020). ASAP provides a very comprehensive set of support services to full-tme, lower-income students who need academic remediation to enter AA programs, while Stay the Course provides intensive case management to disadvantaged students.

Regarding the cost-effectiveness of other forms of training, the track record of WIOA-financed training is somewhat more mixed, though there is at least some evidence of cost-effective impacts on earnings here as well. Training for disadvantaged adults through ITAs is cost-effective in some studies though not others; and WIOA training for displaced workers appears less effective.[19]

But "sector-based" training for high-demand and high-paying jobs, where an intermediary organization with strong knowledge of an industry brings together training providers (often community or technical colleges) with employers or industry associations, and also provides needed supports and services to disadvantaged students, has proven to be especially cost-effective when rigorously evaluated. The best programs evaluated to date include:

- *Project Quest,* a San Antonio-based program that trains workers for jobs in health care, information technology (IT) and manufacturing;
- *Per Scholas,* a program originally based in New York City which trains workers for IT jobs;
- *the Wisconsin Regional Training Partnership,* a Milwaukee-based program with a primary emphasis on the construction trades and manufacturing; and
- *Jewish Vocational Services,* with a strong focus on health care.[20]

A somewhat different approach, which can be based on specific sectors or not, is the"career pathway." This model for disadvantaged workers allow them to start with any needed skill remediation and then take small steps at a time, earning certificates that can "stack" over time to degrees; some of these models have proven to be cost-effective too.[21] And training

[18] See Marx and Turner (2019) for evidence on the cost-effectiveness of Pell grants.
[19] See Heinrich et al. (2011), Andersson et al. (2013) and Fortson et al. (2017).
[20] For the latest evidence on the impacts of high-quality sector-based training see Roder and Elliott (2019) and Schaberg and Greenberg (2020), who focus on Project Quest and WorkAdvance (of which Per Scholas is an example) respectively. Also, see Katz et al. (2020) for a discussion of why these programs seem to be relatively cost-effective, in terms of post-training participant earnings.
[21] The Pathways for Advancing Careers and Education (PACE) programs have been rigorously evaluated with funding from the US Department of Health and Human Services (HHS), and a number show significant impacts

provided on-the-job, and especially through apprenticeship and other work-based learning, appears quite cost-effective as well.[22]

Finally, evaluation evidence on the impacts of the TAACCCT grants generally indicated positive impacts on credential attainment and somewhat less so on employment (which may not be too surprising, given that many of the grants were implemented during the weak labor markets following the Great Recession).[23] And more qualitative evidence suggests that important programmatic capacity at community colleges, and policy infrastructure more broadly – such as the partnerships between colleges, employers and intermediaries – grew as well among grant recipients.

II. Workforce Development Challenges in the US

Despite the availability of some cost-effective programs and services to improve student outcomes, and despite the public expenditures cited above, postsecondary student outcomes in the U.S. are fairly weak. For instance, despite the very high rewards for doing so, just over a third of U.S. students and workers now obtain BA degrees. More broadly, only about half of Americans gain postsecondary (or industry-recognized) credentials. Credential attainment is even lower among low-income students and workers; and the ability of workers to obtain a middle-class standard of living without a credential is very limited (Holzer and Baum, 2017).

Our higher education and especially our sub-BA workforce system are thus generating disappointing results in the aggregate, and contributing to the enormous levels of inequality and low upward mobility we observe among poorer Americans. Among displaced workers, we generally observe downward mobility, as too few get effective services or supports to help them regain employment, with or without new skills. These outcomes overall no doubt contribute to weak productivity growth in the US as well.

Why are higher education attainment and subsequent earnings outcomes so limited, especially among disadvantaged students and/or displaced workers? And what can we do to improve them?

While most high school graduates enroll in postsecondary education or training at some point in their lives, completion rates are low in certificate and especially associate degree programs – at about 60 and 39 percent respectively after six years, and considerably less in

on educational attainment and/or earnings of disadvantaged workers. Other such efforts with positive impacts include the Accelerating Opportunity program in a number of states (Eyster et al., 2018).

[22] For evidence on how on-the-job training generally and apprenticeships particularly raise wages see Barron et al. (1997) and Reed et al. (2012) respectively. Year Up, a program which pays for internships for disadvantaged young high school graduates with local employers, has also generated impressive earnings gains over time for these youth (Fein, 2016), demonstrating the potential value of partnerships between private for-profit employers and non-profit intermediaries.

[23] See Eyster et al. (2020) and McCarthy (2020).

shorter time periods (Baum et al., 2020).[24] Also, too many students obtain certificates or even terminal liberal arts AA degrees with little labor market value.[25]

In the absence of better academic and career guidance, students often meander aimlessly and inefficiently across programs (Bailey et al., 2015; Holzer and Xu, 2021). In addition, debt burdens and loan default rates are rising. While there is much public misunderstanding on the college debt issue, default rates among those with even modest loans can be high, especially among those who fail to complete their programs of study.[26]

Some of the weak outcomes for disadvantaged students can be traced to their own personal (or family) characteristics, and their lack of opportunity over time to develop better skills and "social capital." They might also be unable to attend college and training programs full-time, if they must work to support families. Among displaced workers, those who are older and/or have no postsecondary education experience the worst labor market outcomes afterwards and obtain the least new training.

And the relatively weaker institutions (as measured by average student achievement) both groups frequently attend contribute somewhat to these worse outcomes as well.[27] The access of low-income students to stronger institutions is limited not only by their academic preparation, but also by lack of information about and contacts with better schools, and a variety of other disadvantages that higher-income students have when applying to elite or "flagship" programs.

Additionally, and partly contributing to some of the factors described above, the weak outcomes we observe among the disadvantaged and displaced can be at least partially traced to the following characteristics of the U.S. workforce system:

- Too little public assistance is available for *students* enrolling in workforce programs;
- The *institutions* that provide these programs and workforce services also receive too little funding, while too few incentives encourage them to invest their limited resources in workforce programs and to do so cost-effectively;
- *Employers* provide too little work-based learning in general and too little retraining when their workers face displacement by automation; and
- There is *fragmentation* between higher education and workforce institutions, along with other factors that limit the ability of the workforce system to respond effectively to regional labor demand forces.

To begin with, public funding for workforce development outside of higher education is very limited, relative to the size of our economy, and has been declining for decades. For instance, current funding for WIOA is vastly lower, in real terms, than for its predecessor program, funded through the Comprehensive Employment and Training Act, CETA, which peaked in 1980; relative to the size of the labor force and economy overall, it is lower still.[28]

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[24] The 39% completion rate for AA students includes transfers and recipients of BAs as well as those with terminal AA degrees.
[25] See Backes et al. and Baum et al., op. cit.
[26] See Baum and Looney (2020).
[27] See Bound et al. (2010) and Holzer and Baum (2017).
[28] Expenditures on these programs today peaked in 1980, when we spent approximately $18B on CETA, which in today's dollars would equal about $50B – and the labor force has grown by half since then. As noted above,

Combining all sources of federal support for workforce development (outside of direct public expenditures on higher education), we spend under .1% of GDP, a vastly smaller amount than that spent by most European Union countries on "active labor market policy."[29] No doubt, some of the zero-to-modest estimated impacts of ITAs on worker outcomes is due to their very limited value (usually about $2000).

While public funding broadly for higher education – both from HEA and state subsidies - is much more generous than for the workforce services funded by WIOA, here we find limitations as well. State funding for higher education institutions overall has been declining in recent years, and funding for community colleges (on a full-time student equivalent basis) lags well behind what four-year institutions receive. This is unfortunate, since community colleges often serve the most disadvantaged segment of American students, with a great need for supports and services besides classroom education; when greater support for services is provided, student outcomes improve (Avery et al., op cit.).[30]

And it is at community colleges where most students obtain workforce development, and many of the skills that employers seek, in a range of certificate and occupational associate degree programs. Thus, at community colleges facing declining state subsidies, college administrators must either raise tuition rates or reduce important supports and services; both of these actions, but especially the latter, can reduce credential attainment by disadvantaged students

Workforce students in certificate programs are shortchanged in other ways. For instance, students are only eligible for Pell grants (and other Title IV assistance under HEA) if they enroll in for-credit programs at accredited institutions that meet minimum hours and credit requirements. Because of this, students in very short-term or non-credit certificate programs are left without assistance, while others likely choose for-credit and/or longer programs for which they are not be academically prepared or that take too much time to finish.[31] The vast majority of students attaining short-term certificates also do not attempt to "stack" them into higher degrees (Bailey and Belfield, 2017), perhaps because of the financial or time costs involved.

Community colleges therefore struggle with whether to designate these programs as for-credit or non-credit. They sometimes designate them as for-credit to enable students to receive Title IV aid; but doing so entails time costs and raises bureaucratic barriers (such as the need to undergo "curriculum review" by faculty and administrators) that slow down the

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USGAO estimates that the federal government now spends about $14B annually on workforce programs in all agencies and programs.

[29] See Brown and Freund (2019). "Active labor market policy" in Europe refers to the set of programs that train workers and help them find jobs, which is roughly the same as what we call "workforce development" services in the U.S.

[30] For evidence on the declining levels of public subsidies for state colleges and universities see Bound et al. (2019). For evidence on the extent to which community colleges are underfunded and financially constrained see the Century Foundation (2019).

[31] See Baum et al., op. cit. Eligibility for Pell grants is limited to for-credit certificate programs requiring at least 600 hours, and federal loans in Title IV are limited to those requiring 300 hours.

oversight process, denying them the quick responsiveness to employer needs that non-credit programs provide.

The generally low funding available to two-year colleges also limits their ability to invest in the programs with the strongest labor market returns. Sometimes faculty and equipment costs are high, and restrict the ability of colleges to expand teaching capacity in high-return fields like nursing. [32] And the financial incentives facing institutions are mostly not aligned with labor market need.[33]

To strengthen performance incentives at public higher education institutions, most states now use some version of "performance-based" or "outcomes-based" funding in allocating their subsidies to these institutions.[34] The fractions of total funding allocated in this manner vary a great deal across states, and the performance measures they use vary as well. But successful workforce programs get little reward; most states use credits or credentials attained by students as their primary outcome measures, and fairly few use subsequent employment outcomes to incentivize more labor market focus.

To date, researchers find few and only modest effects of any such incentives on performance (though not many efforts have yet been rigorously evaluated); and critics worry that such performance incentives could potentially lead colleges to "cream skim" in their admissions to strengthen their measured outcomes, or to raise their credential completion numbers by steering students away from AA degrees towards certificates.[35]

In the for-profit sector where many students (and especially adults) seek certificates, tuition costs are very high and labor market outcomes are weaker afterwards than for credentials gained in the public colleges. Student defaults are particularly high in this sector; and meaningful accountability through "gainful employment" regulations has been eliminated by the Trump administration.[36]

In addition, both funding and institutional support for employer-provided, work-based learning in the US are inadequate. Unlike many parts of Europe, where well-organized and well-funded apprenticeship programs linked to key economic sectors are available in the secondary school system, support for such practices in the US is minimal. Employer take-up of apprenticeships is low, at least partly because it is daunting for small and medium-sized employers to fund and scale these programs.

Historically, trade unions in construction and manufacturing ran training programs across employers on an industry-wide basis; but, with the dramatic decline in private-sector

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[32] Capacity constraints exist within specific departments because, for political reasons, most programs of study at community colleges are not allowed to set their own tuition prices, which otherwise would rise with higher costs or higher demand (Fethke and Policano, 2012). Another fear is that, if programs within colleges were freed to do so, the high-demand fields might become too expensive for low-income students, though some recent evidence from Texas (which allowed within-college variation in tuition levels) shows that potential negative impacts on low-income students can be offset in a variety of ways (Andrews and Stange, 2019).
[33] See Holzer and Baum (2017). In general, state funding for colleges and universities are little affected by student outcomes, especially their subsequent employment.
[34] See Boggs (2020).
[35] See Dougherty et al. (2016).
[36] See Cellini et al. (2017) and Baum and Holzer (2019).

American unionism since the mid-1950s, union-run training programs and apprenticeships have declined in number.[37]

And despite many efforts to improve it, employer participation more broadly in workforce preparation programs is more limited than it should be; the best sector-based programs with strong track records are small and lack adequate scale. Training provided on-the-job is highly skewed in the US towards professional and managerial employee (Lerman et al., 2004); there are some good reasons for this, though (as noted above) market failures and inequities exacerbate the problems.

As potential worker displacement from the Covid-19 pandemic and ongoing automation become ever-growing concerns, the willingness of employers to train or retrain workers without BAs requires more attention in workforce policy proposals. Without any meaningful voice in the workplace, workers usually have no input into employer automation decisions, and employers can pay no heed to the huge costs imposed on workers and communities when automation displaces those workers.[38] "High road" employers, who have chosen to invest in the skills of their workers and to pay higher compensation for higher productivity (Ton, 2014; Osterman, 2018), are not rewarded for the "public good" aspect of the investment in their workers. As a result, there is insufficient incentive to change practices among employers choosing the "low road" (or low compensation and low training); if anything, the prevalence of low-road employment is growing (see Footnote 4).

Regarding taxes, the "experience rating" of unemployment insurance taxes to discourage employer layoffs (which are subsidized, to some extent, by the paying of unemployment insurance to laid off workers) is too limited to greatly affect such behavior, especially regarding permanent layoffs.[39] And Acemoglu et al. (2020) argue that our current tax system rewards automation in place of worker training, even when the productivity benefits of the former are modest.

In addition, displaced workers whose incomes are too high for them to qualify for for Pell grants (and are reluctant to take out federal loans) may not have the liquid assets needed to finance retraining at colleges, or they may lack access in other ways (such as insufficient information about college offerings and labor market demand).

Finally, it is questionable whether there is a meaningful workforce "system" in the US, given the fragmentation that exists between the "siloes" of higher education institutions and workforce agencies. As an example, students in community college obtain little career guidance; yet there are over 2500 job centers in the US (though they are also underfunded by WIOA), and most community college students never set foot there. Responsiveness of the "system" to labor demand shifts is sluggish at best, with workforce board membership not always representing the most dynamic sectors of regional economies or the real

[37] There are only about 600,000 registered apprentices in the US today, and union apprenticeship programs in construction account for just a small fraction of these.
[38] See Kochan and Kimball (2019) and Casey (2020).
[39] The effects of experience rating of UI taxes on firm layoff behavior is limited by the fact that it is incomplete, with both floors and ceilings on the extent to which taxes can be set in most states. Woodbury et al. (2004) estimate firm layoff responsiveness to changes in these tax rates and find only modest impacts on layoffs. And such experience rating is driven mostly by temporary rather than permanent layoffs, though the damage to workers and their families/communities is much greater from the latter than the former.

decision-makers at community colleges; and it is not unusual for multiple boards serving different municipalities to exist within large metropolitan regional labor markets.

In short, while a wide range of high-quality options exist for postsecondary education and training in the US, major reforms are needed to improve worker outcomes and ensure that all Americans in need of workforce services in the coming years will be able to obtain them.

III. The Proposals

Proposals to build a stronger and more coherent workforce system in the U.S. must explicitly address the shortcomings of the current system that I note above, and especially the weak outcomes we observe among disadvantaged and displaced workers. Specifically, they must provide more resources to students/workers and public institutions for training and supports, and stronger incentives to ensure that the resources are well-spent. They must encourage more employers to participate in "sector-based" programs, and stronger incentives for them to provide work-based learning or retraining when they automate. And they need to build more coherent workforce systems in regional labor markets, with better responsiveness to evolving labor demand and less fragmentation between its higher education and labor market programs.

In order to accomplish these goals, I propose the following:

A. Reforms and additional funding in the Higher Education Act (HEA) to encourage expansion of high-quality workforce programs, especially at public two-year colleges;
B. Funding and incentives for employers to provide more work-based learning and retraining instead of worker displacement, with more resources and options for workers as well; and
C. To reduce fragmentation and strengthen workforce policy in regional labor markets, a permanent version of TAACCCT grants distributed to partnerships between community colleges, workforce agencies and states.

Reforms and new funding in HEA, especially in Title IV programs, would primarily (though not exclusively) strengthen our ability to help *disadvantaged students and workers* gain new credentials with labor market value; and funding and new incentives for employers and workers regarding displacement will mostly help *displaced workers* (or those at risk of becoming displaced). Reducing fragmentation in regional markets will improve the functioning of the entire system, and benefit employers who have difficulty finding and retaining appropriately skilled workers (especially when labor markets are tight) as well as all categories of students and workers seeking effective workforce services to advance their careers.

A. Reforming and Funding HEA

The first question that might be asked about reforms and additional funding in HEA to encourage more workforce training is: Why HEA and not WIOA? The answer is simple: as the bank robber Willie Sutton famously said, "that's where the money is."

Given the nonstop downward trajectory over time in WIOA funding over the past four decades, it seems unlikely that this program will ever become a major vehicle for new investment in workforce development. In contrast, HEA funding levels have grown over time

and are much more substantial, as noted above. Given the strong evidence of labor market rewards for higher education credentials in general, and to occupational credentials (whether AS degrees or certificates) in particular, HEA seems like a logical source of additional funding for workforce training.

I believe the new reforms and additional funding in HEA should take the following forms:

- Expanding eligibility of students for Pell grants in shorter for-credit certificate programs;
- Formula funding to expand support services and institutional teaching capacity for high-quality and high-return certificate programs, both for-credit and non-credit, where capacity is currently restricted due to high cost;
- Formula funding for states to expand access to apprenticeships and other forms of work-based learning programs, where participants also earn a higher-education credential;
- Establishing new "gainful employment" regulations to maintain accountability for occupational programs, especially in for-profit schools; and
- Competitive awards for states to explore and evaluate outcomes-based funding models where rewards put somewhat greater weight on post-college employment outcomes, especially for disadvantaged students and without "cream-skimming."

Expanding Pell Eligibility[40]

I propose that we allow students in shorter-term, for-credit certificate programs – requiring at least 150 hours of study - to be eligible for Pell funding. Though shorter-term certificates generally earn lower returns than longer ones, some (especially in technical areas) are quite lucrative. They also have lower costs – and we have no indication that the current minimum for Pell eligibility (600 hours) is associated with any stronger returns (Baum et al., 2020). I am much more reluctant to extend such eligibility to non-credit programs and especially no-accredited institutions, where our evidence on labor market value is somewhat weaker or nearly nonexistent respectively.

And I believe that Pell grant eligibility for short programs makes better sense than relying on federal loan eligibility for this group, which already suffers from high default rates in certificate programs.[41] But, to make sure that expanding certificate programs does not lead students to substitute short-term training for degree-seeking programs when the latter are achievable for them, certificates should be embedded in career pathways and "stackable" to associate degrees, as much as possible.

Institutional Funding for Training and Support Services

I propose new formula funding to community colleges to expand teaching capacity in high-return occupations and industries, especially where there is consistent evidence of high teaching costs and capacity constraints, and/or strong and ongoing unmet labor demand

[40] As one example, Sens. Tim Kaine (D-VA) and Rob Portman (R-OH) have proposed the Jumpstart Our Businesses by Supporting Students (JOBS) Act to lower the hours and credit requirements for Pell eligibility along these lines. They would reduce the hours required for Pell eligibility from the current level of 600 to 150.
[41] 960 hours is generally considered full-time college attendance for a year, which translates into 30 credits.

and value, such as nursing and technician jobs in health care. Funding for important support services would be allowable as well.

Such funding could be used by community colleges to lower (or eliminate) tuition costs in both for-credit and non-credit programs. Though the labor market returns to non-credit certfiicates are lower, on average, than those for credit, many do have positive value net of costs (Baum et al., 2020). In such cases, institutional funding for low-income adults in short-term training sometimes makes more sense than simply expanding Title IV eligibility on the student side (as I propose to do above in for-credit programs).[42]

But most of these new funds – say, at least 80 percent - should be allocated to longer-term certificate or associate degree programs for which we have strong evidence of cost-effectiveness. And, given the strong evidence of success in sector-based training programs, HEA should insist that major elements of this model (such as the participation of intermediaries and representatives of regional industry in designing curricula, and supports for students engaged in these programs) be part of any expenditures of these funds.

In particular, HEA should require that community colleges replicate major elements of the most successful programs like Project Quest and Per Scholas – at least in the for-credit certificate and associate programs.[43] Careful oversight of these expenditures, by officials in federal or state Departments of Education, would be needed to ensure that such conditions are being met by each college receiving such funds.

But it should be noted that replicating high-quality programs like those above does not occur quickly or automatically. Technical assistance from successful and knowledgeable actors, like the intermediaries themselves or other advisers, is critical.[44] It takes both time and resources to build the partnerships, along with curricula and supports, that are key to the success of those programs. Expenditures of institutional funds on such program infrastructure should be allowable, at least during the first few years of new funding receipt, though such resources should also be available elsewhere (as I argue below regarding TAACCCT grants).

As with expanding Pell eligibility, additional funding for short-term certificates in high-return occupations and industries should be limited to programs that embed those credits in career pathways and "stackable" to degrees, so that expanding certificate programs does not lead students to substitute short-term training for degree-seeking programs when the latter are achievable for them. Alternatively, colleges would need to provide evidence of strong returns to longer-term certificates in the labor market without further stacking, in order to gain such federal funding.

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[42] Providing financial aid for low-income adults is more complicated than for young students (Baum and Scott-Clayton, 2013), and low-income adults also have little information from which to choose among available programs of study (especially if they do not visit job centers). The growth of expensive short-term occupational programs in the for-profit sector with little apparent value reinforces this argument. Still, student ability to choose their programs of study through Title IV funding remains important too, and therefore creates the case for both some supply- and demand-side assistance for these programs.

[43] Currently, Project Quest uses community colleges as training providers, but Per Scholas does not. To qualify for HEA funding, the latter would have to use higher education institutions as training providers.

[44] For instance, the National Fund for Workforce Solutions has helped localities and regions around the country build sector partnerships where none had previously existed.

Community colleges should also be free to spend the newly available HEA funds on critical support services for students in workforce program, like academic and career guidance or "navigation" (based partly on high-quality and up-to-date labor market information) tutoring and coaching, transportation and child care. As I noted earlier, raising funding for such services tends to improve completion rates. They help workers overcome the many obstacles that they usually face when obtaining new credentials or careers as adults (Kinder and Lenhart, 2019). Indeed, when spending new funding on support services, institutions should also be required to replicate elements of the most successful support programs, like ASAP and Stay the Course, whenever possible.

Funding Apprenticeships /Work-Based Learning Linked to Higher Education

Funds for apprenticeship and other modes of work-based learning would be allocated to states, rather than higher education institutions, since states already have a range of programs to encourage apprenticeship.[45]For funds dispersed through HEA, the on-the-job learning components of the funded apprenticeship would have to be combined with the attainment of a higher education credential at an accredited institution.

Such apprenticeship programs already exist in large numbers (Lerman, 2009); and, for trainees, the higher education credential likely generates more portability of the skills gained in such training, if/when the employee leaves that particular employer (and occupation/industry), and especially if future labor demand shifts across sectors (due to automation or other labor market forces). With this money, states could also fund internships under programs like Year Up – a rigorously evaluated and successful employment program for disadvantaged recent high school graduates - if they also provide opportunities for credential attainment among the youth employees.

Reestablishing "Gainful Employment" Regulations for Occupational Programs

A critical component of workforce policy is accountability for postsecondary occupational programs, in both public and private institutions, that has recently been known as "gainful employment" regulation. These rules were developed during the Obama administration to prevent institutions receiving Title IV funding (particularly those that are private and for profit) from providing weak and ineffective (though very expensive) occupational training to students; they constituted another form of institutional accountability (beyond outcomes-based funding from states) in return for Title IV funding.

The Trump administration rescinded the "gainful employment" regulations on occupational programs, in response to heavy lobbying by for-profit institutions. But, given the much higher levels of debt and student defaults that for-profit schools generate, relative to public institutions, and the limited labor market value of their credentials, I propose implementing an updated version of "gainful employment" rules. The new rules should use both subsequent earnings and at least some successful debt repayment by students as measures of outcomes for which colleges (both private and public) can be held accountable.[46]

[45] See Lerman (2018).

[46] See, for example, Matsudaira and Turner (2020). They argue that average annual earnings on all occupational programs should at least exceed median earnings of local high school graduates and GED holders, and that the vast majority of students should at least begin the process of loan repayment.

In its current form, HEA calls for "gainful employment" regulations, but does not specify their form or content. To the extent possible, more detail on such regulations should be written into a reauthorized HEA, and not be left to regulations that are easily rescindable.

Competitive Awards to Implement and Evaluate Outcome-Based Funding Tied to Employment

Finally, a competitive funding stream for states to explore newer forms of outcomes-based funding, that put greater weight on employment as an outcome, could provide both funding and stronger incentives to higher education institutions to invest more in strong workforce programs. As Deming and Figlio (2016) have argued, such incentives can lead to more such spending by institutions if they are simple and transparent, and target the most disadvantaged students.

But such funding must not be used to support funding rules that encourage "cream-skimming." Using the employment outcomes of disadvantaged groups as performance criteria would help along these lines, though institutions might still cream-skim within these groups. But, as Cielinski (2019) argues, outcomes-based funding could potentially be used to pursue an "equity" agenda of helping students of color and/or low-income students and the institutions they attend. And, as a condition of receiving the award, the states should be required to implement rigorous evaluation to indicate that the programs did, indeed, advance equity and help disadvantaged students.

B. Discouraging Worker Displacement and Encouraging Effective Retraining

As we slowly recover from the Covid-19 pandemic, we continue to see workers each month permanently displaced from their jobs, since many businesses are closing or reorganizing. And automation and globalization will generate many more displacements in the coming years and decades.

Given the large personal and social costs of displacement, the choices workers make when facing the risks or reality of such permanent layoffs – and the opportunities they face to reskill - will matter a great deal. And the choices employers make regarding how to implement automation and whom/how much to retrain will be important as well.

In light of these concerns and this evidence, how can we best address the ongoing and rising risks and reality of worker displacement? I suggest the following:

- A modest federal displacement tax on employers, with funds used to subsidize employer retraining;
- Federal encouragement of "lifelong learning accounts" for workers at the state level, with progressive matching of funds for low-wage workers; and
- Strengthening federal early warning provisions and services that large employers must provide workers before large-scale layoffs occur.

Displacement Taxes and Retraining Subsidies

Given the huge costs associated with permanent displacement that employers do not internalize, and with the prospects of rising displacements over time due to automation, I propose a new tax on employers who permanently displace workers (with, for instance, at least a three years of job tenure with the firm), and to use the revenues generated to subsidize worker retraining. Indeed, such a tax would not be a dramatic new approach to

how tax policy now affects employer decisions on how to use capital and labor, and would instead be a modest reform consistent with existing policies (like experience-rating in Unemployment Insurance taxes).[47]

Any new taxes on worker displacement would then serve two roles: 1) to change the incentives that currently may favor of worker displacement, and 2) to generate revenue to fund subsidies for retraining workers whenever new automation is implemented or workplaces restructured in a way that causes incumbent workers to be permanently laid off. But layoffs caused by plant or firm closures without automation or restructuring (due to diminishing product demand or high costs) would not be subject to any such tax.

Just to be clear: my goal is a modest tax on worker displacement that might reduce its incidence when firms automate and the funding of ameliorative training. I do not advocate for a "robot tax," or a broader automation tax; my goal is simply to *minimize the amount of labor displacement associated with implementation of automation*. Since "robots" and other forms of automation will likely have positive effects on US productivity, which has stagnated for so long, it is not fruitful to discourage it; I propose only to reduce its human costs. And, to reduce the latter without unneccesarily or substanstially discouraging the former, any tax would need to be modest.

Furthermore, there would no doubt be great political opposition from the business community to any such new taxes. Since the tax code already subsidizes new automation – primarily through up-front depreciation "bonuses" rather than over the course of a machine's useful life (Acemoglu et al., 2020) – one way to effectively implement the modest tax I propose would be to limit such favorable treatment of depreciation whenever automation results in workers displacement, rather than levy an entirely new tax on employers. The exact impacts of a new tax on displacement are not known at this point, so some piloting and evaluation of these efforts makes sense before we implement such policy broadly.

On the expenditure side, I propose a federal subsidy to firms for retraining non-managerial and non-professional employees and those without BAs. Firms would receive such subsidies for retaining and training incumbent workers when they are automating their workplaces or otherwise restructuring, including times when they are closing some establishments and opening (or growing) others to which workers can be transferred.[48]

The evidence suggests that subsidizing firms to provide training can be effective. We now have more evidence on the effectiveness of publicly-funded but employer-provided on the job training in general (Holzer et al., 1993; Hollenbeck, 2008; Negoita and Goger, 2020). Though not experimental, that evidence suggests that subsidies for on-the-job training can directly raise earnings or worker productivity (and hopefully earnings indirectly).

[47] Another option might be to strengthen the way "experience rating" affects UI taxes on employer, with higher taxes for permanent than temporary layoffs. But given a range of current issues and problems with financing and updating the UI system, I consider this a less sensible approach. It would also mean that the new funding generated could only be used to pay UI benefits, rather than new training.

[48] Of course, if the firm is fully closing, or a plant or establishment is closing and workers are not being retained through transfer, they would not be eligible for the subsidy.

Relatedly, when dislocated workers attend community college, there is at least some evidence of positive impacts, especially when older workers self-select on the basis of who is likely to handle the classroom material (Jacobson et al., 2005).

In addition, although not the kinds of training the firms would be expected to provide, job search assistance and other kinds of guidance for displaced workers has been cost-effective at reducing unemployment and improving earnings (Kletzer, 1998), though both the costs and benefits of this approach are modest.

Thus, there are some bright spots in the research evidence on assisting displaced workers, despite the very mixed record in general of retraining them (especially out of WIOA funds), and on subsidizing incumbent worker training As with the displacement tax, the exact impacts of new subsidies for retraining are not known at this point, so funding some piloting and evaluation of these efforts at the state level makes sense initially.

Should the subsidies for training be targeted primarily to "high road" or unionized employers, or those providing workers with "voice," as some progressives argue (Naidu and Sojourner, 2020)? While I understand the appeal of such arguments, I would not implement these subsidies in such a fashion. If the subsidies are, indeed, effective at reducing layoffs and generating more retraining, such targeting could generate relatively more layoffs for lower-wage workers. I consider the potential role of these taxes and subsidies in encouraging more "high-road" employment practices below.

Lifelong Learnings Accounts

On the worker side, "lifelong learning" accounts (or LiLAs) can be developed in which a small amount of worker earnings in each payroll period is deposited into an account, much as we now do with 401K plans. Workers can draw on these accounts at any time to fund education and training activities (Fitzpayne and Pollack, 2018). To date, the states of Maine and Washington have implemented such accounts.

An advantage of LiLAs over other training for (actually or potentially) displaced workers is that these funds can be used for career advancement anytime, even when a worker does not face displacement or is not disadvantaged. To increase their reach, states might consider enrolling workers in these accounts as the default option, from which workers can choose to withdraw if they want.

And, since the accumulated funding in such accounts for low-wage or low-experience workers will necessarily be modest, I propose federal matching (or even injections of funds without match requirements) to enhance their magnitudes and make them more progressive. Such an approach would be similar to proposals recently by the Markle Foundation (2020) for "opportunity accounts" for low-wage workers.

To improve the effectiveness of any training funded by lifelong accounts, workers would need strong guidance from either American Job Centers or college career counselors and "navigators." In addition, improving worker access to training could dramatically improve if online learning and job training were further developed. The track record of such learning to date is limited, though much more progress is this area could be made over time. Indeed, in the aftermath of the Covid-19 pandemic, reliance on online instruction at all higher education institutions will likely be accelerated, and LiLA accounts will be more useful in helping working adults access training.

Strengthening Early Warning Requirements and Services

The federal government makes one other effort to prepare workers for impending layoffs, and perhaps even to avert them. The Worker Adjustment and Retraining Notification Act (WARN) requires employers with 100 or more employees to warn workers of impending business closures and mass layoffs (of 50 or more employees) at least 60 days in advance of when the layoffs occur. When triggered, this should spur state "rapid response" activities to preemptively help workers gain access to Unemployment Insurance or other workforce services. "Layoff aversion" activities funded by WIOA at the state level are also permitted or even encouraged. We have some limited evidence of the effectiveness of these activities to date, though the enforcement of WARN mandates on employers is very limited.[49]

I propose strengthening the current WARN system by improving enforcement activities against employers who violate its provisions, which is currently very limited. Indeed, federal and state Departments of Labor could be funded to better monitor employer activities when such layoffs occur, and to ensure sanctions against those who do not meet statutory requirements under WARN. We could also lower the employer size and layoff thresholds that trigger the activation of WARN requirements. Encouraging states to engage in "best practices" on "rapid response" activities triggered by an announced mass layoff could help as well.

C. To Reduce Fragmentation and Strengthen Regional Labor Markets: Permanent TAACCCT Grants

The positive evaluations of TAACCCT grants described above suggest a number of activities and attributes that likely generated positive impacts. Employers were actively engaged in the design and delivery of training, while community colleges engaged in serious curriculum review to identify areas for expanding teaching capacity. Prior learning assessments of workers' skills were emphasized, to streamline the training needed. Career guidance was importantly provided (at both the colleges and job centers), and the degree of stacking of credentials was expanded. Partnerships between community colleges, local workforce boards, and industry expanded, especially in high-demand fields. Several of these practices contribute to the building of regional workforce infrastructure and to lowering the effects of system fragmentation described above.

Could we design a more permanent version of TAACCCT grants to reduce fragmentation and improve alignment with the labor market in workforce policy around the country more broadly, which would encourage them to provide more of the effective activities and services described above? I propose we do. As earlier, these grants would focus on building regional policy infrastructure and expanding the components of TAACCCT grants outlined here that seem associated with success – particularly the partnerships needed for successful training efforts

Should such grants remain competitive or become formula-funded? I propose a combination of both approaches. I propose some modest formula-funding for building regional infrastructure for all, and competitive grants for additional funding for particularly strong proposals (including for previous TAACCCT grant recipients). The benefits of

[49] For a discussion of the impacts of WARN see Ehrenberg and Jakubson (1993). Sen. Sherrod Brown (D) and Rep. Tim Ryan (D) have recently proposed to strengthen enforcement of WARN.

competitive funding are that they incentivize strong and innovative proposals and performance. However, because long-term changes at the regional level are difficult to implement without any certainty of new resources, I propose some formula funding as well.

These permanent grants should also differ from the Obama TAACCCT grants in one other way*: states* should be major partners in the planning and implementation of these grants. States can better insure that the new training provided by colleges is indeed well-aligned with employer needs there and their labor demand, especially as the latter evolve over time. They can also ensure that other parts of the K-12 system, including CTE in high schools or career education, are well aligned with the college workforce programs.

Finally, states could help ensure better coordination between local job centers and community college career guidance services,[50] and more broadly ensure that the Departments of Education and of Labor in their states are working together to as great an extent as possible in meeting worker and employer needs.[51] States also control the administrative data for state public higher education institutions as well as the Unemployment Insurance quarterly earnings data needed for workforce development to be well-aligned with labor demand. Accordingly their policies for making sure that such data are available to students, career counselors (at colleges as well as job centers), and college administrators more broadly as they develop curriculum are critical as well.[52]

D. Expected Benefits and Costs of the Proposal

How much would the package of workforce development programs that I propose cost, and what expected benefits would be generated?

Regarding the first issue, I propose the following new annual expenditures on my proposal:

Reforming and Funding HEA: $7B

Taxes and Subsidies for Worker Displacement: $ 2 Billion (on net)

Permanent TAACCCT Grants: $1B

Total: $10B

[50] More effective services at job centers, well aligned with the training providers, could help make sure that employers better recognize the skills that workers already have, regardless of their credentials (or lack thereof for non-completers), as noted by Blair et al. (2020). Including community -based organizations or other non-profits in the alignment process might also make sense, if states conclude there is a positive role for them to play in linking local residents with available training.

[51] For instance, the Labor and Education Alignment Program (LEAP) in Tennessee seeks to ensure that education and labor agencies there, including K-12 schools and community colleges, are well aligned with labor market demand trends and with each other.

[52] The Obama administration (and the Trump administration to some extent) distributed State Longitudinal Data Systems (SLDS) grants to states to improve their use of higher education administrative data, and also Workforce Data Quality Initiative (WDQI) grants to states for improvements in their labor market data collection and use as well.

By far the largest new expenditures among my proposals are for new funding in HEA, and within that category it is for funding institutions to expand training and support services in high-return fields.

The extension of Pell eligibility to shorter-term for-credit programs of study will not cost a great deal for two reasons: the numbers of individuals enrolling in these short-term certificate programs will be relatively small, and their monetary costs are limited as well. For instance, the number of individuals now enrolling in these programs is approximately 100,000 (Baum et al., 2020) per year. Allowing for even a doubling of these enrollments in response to Pell eligibility, and assuming each individual would receive $5000 in Pell, would generate $1B in new expenditures. Capping the generosity of Pell grants for these less costly programs, as Senators Kaine and Portman have proposed in their bill on extending Pell to short-term certificate programs, would reduce costs to under that level.[53]

For institutional aid to fund new training and support services, I propose a net new annual expenditure of $5B. Of course, since such new teaching and support would require new institutional capacity that takes time to build, I would implement this gradually, with $1B of new funding for each of five years.

In order to maximize the impact of these new expenditures, I propose above that colleges be required to replicate as much as possible programs like Project Quest in new training, or ASAP or Stay the Course in support services – all of which have had large estimated impacts on credential completions or earnings. These programs were also somewhat costly - expenditures being approximately $10,000 per student in Project Quest, $9,000-14,000 in ASAP, and $4,300 for Stay the Course.[54]

To assess potential benefits of a new $5B expenditures on programs similar to these three, we assume that each of the first two would now cost $10,000 per student while the third would cost $5,000. Then, to consider an example, allocating $2B to each of the first two programs and $1B to the third would generate new training or support services for 200,000 full-time equivalent students in each category, or 600,000 students in all.[55] And, if per capita expenses are now lower (since ASAP and Stay the Course were only for students enrolled in associate degree programs, while now they might be applied to certificate students as well), the numbers of students so served would likely be 700-800,000.

This investment would meet a substantial portion of the unmet need among non-completing students in sub-BA programs for greater services and supports each year. Based on data from the Institute for Educational Statistics (IES), about 4 million full-time equivalent students (or about 6 million in total) enroll in sub-BA programs at degree-granting institutions, with under half finishing a credential over time. About 40 percent of these non-completers, or about 1 million students, are disadvantaged. Some displaced workers who enroll for new postsecondary training might be eligible for such training and/or services as

[53] Maximum Pell grants today are over $6000 each. But Kaine and Portman would limit them to $3000 for short certificate programs.

[54] The per-capita cost of ASAP in New York was about $14,000, but in Ohio the program replication has reduced costs to about $9000.

[55] Project Quest and ASAP also require full-time student attendance. My proposal would not, though per capita costs could be similar if students pursuing similar credentials part-time require the same total time spent but spread it out over more years.

well. Thus, a quite large fraction of low-income students who are now non-completers could potentially get these services or training each year, once the program has been fully implemented.[56]

What is the expected value of this investment? If program quality is maintained when fully scaled, the evaluation evidence predicts that at least another 84,000 certificates or associate degrees would be awarded each year, and likely more so, which would constitute a major increase in postsecondary attainment each year.[57] Expected earnings gains for participating students would be substantial as well, and certainly enough to justify the expenditures in question.[58] And, if job matching activities could be improved, so that non-completers who had mastered certain skills were given more consideration by employers (Blair et al., op cit.), the returns to these investments in the form of higher earnings could be higher still.

For the remainder of the new HEA proposals, an extra $1B for apprenticeship programs (and just a small amount for evaluating outcomes-based funding approaches) could generate major increases in the numbers of registered apprenticeships in the US, which currently number about 600,000.[59] This proposal would also add to the numbers of new higher education credentials awarded per year.

Regarding the new taxes on displacement and subsidies for on-the-job training, I envision a program that is mostly self-funded, with revenues generated by the former paying for the subsidies in question (and not included in the $10B of estimated costs above). Depending on how much revenue the new tax would generate, and the extent to which it induces retraining rather than displacements, the amount of funds available for retraining subsidies is hard to gauge, though some simplistic calculations suggest the numbers could be substantial.

At least before the Covid-19 pandemic, and defining displaced workers as we did above, about 1 million workers were displaced annually, using the definition of displaced workers presented above (Farber, 2019). A $1000 tax on each displaced worker would generate $1B, minus any reductions in the displacement rate that the tax would cause. This, in turn, would raise funds for about $1000 of

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[56] Of course, we cannot perfectly target these resources to those who would otherwise not complete college. No doubt some will go to those who would have completed credentials anyhow. On the other hand, some of the non-completers are not seeking credentials at all, but merely taking a course or two, and they would not be eligible for these services.

[57] Given my estimates of about 200,000 new students served each year by each of the three programs, the estimated impacts of each on credential attainment over time (which is in the range of 10-16 percentage points) and assuming we can maintain the quality of each program at scale, the new investments would generate 60,000 new associate degrees and 24,000 certificates for FTE students, and many more for participating students overall (including part-time enrollees).

[58] The present discounted value of an associate degree is estimated to be over $300,000 for a lifetime, relative to high school graduates. Certificates generate much less value, though the credentials gained in Project Quest have more value than the typical certificate – about 20 percent relative to the control group, or two-thirds of the value of associate degrees, and they show no decay over the 9 years of the evaluation by Roder and Elliott (if anything, the impacts grow over time). Applying the estimated impacts on credential attainment above to these lifetime values generate present values of $20-30,000 in each case.

[59] The state of South Carolina pays employers $1000 in tax credit for each new apprenticeship created. $1B would fund up to 600,000 apprenticeships at $1500 each, or create other possible models for states to follow. – as long as the tax credits could be mostly targeted on those without apprenticeships now, rather than creating a large windfall for employers already participating.

training on average per displaced worker, with many workers getting little or zero training (especially among older displaced workers) and others substantially more.

The additional $2B in this area would then be allocated for subsidies to LiLAs among low-wage workers, and perhaps also to enhanced WARN services to the dislocated.[60] Finally, an additional $1B for permanent TAACCCT grants could fund modest formula expenditures for each of about 1000 public two-year institutions, and more substantial aid for a smaller number through a competitive grant process.[61]

I envision a strong set of program evaluations during each year of the rollout of the formula-funded program for community colleges to monitor implementation and estimate impacts on completion (and eventually earnings). We should anticipate that such a large program will take some time to implement correctly, and therefore not expect that impacts in RCT evaluations would immediately be large (Haskins and Margolis, 2014; Elliott, 2019).

Implementation evaluations would indicate the extent to which community colleges try to replicate the most important aspects of the model programs, or if and why they need to adapt to local circumstances by deviating from the original model (Balu, 2017).[62] But, absent strong reasons for such deviation, program administrators should be empowered to reduce or even eliminate federal funding to specific institutions and states for these programs, if and when the key features of the original models are ignored over time. And funding for impact evaluations of employment outcomes over time would also be critical, to gauge the success of the new expenditures in improving employment outcomes.

Second, my proposed $10B new expenditure is quite modest, relative to others that have recently been proposed. For instance, Goolsbee et al. (2019) recently proposed new expenditures of $22B on community college training, along the lines of what I have proposed – though, in their proposal, all of the new funding would be reallocated from existing public expenditures. Since I am more concerned about the capacity of existing institutions to absorb such funding levels successfully – among other issues - my funding proposal is much more modest in comparison.[63]

V. Questions and Concerns

[60] The $2B of public money could, for instance, fund direct injections of $200 per year for 10 million low-wage or low-income workers, which could generate another $100-200 per year if the funds require a private or state match. Though these are not high sums, over time the balances would grow (if not spent each year), and could supplement Pell grant or loans provided under Title IV of HEA as well as the federal dollars to institutions that would expand training programs like Project Quest and that charge little or no tuition to low-income workers.

[61] Approximately $2B of TAACCCT funds were allocated to 256 community colleges during the Obama Administration, for an average of about $8M per institution. I now propose $500,000 to each community college in the U.S. for career counseling and other such services, plus a much smaller number of more generous grants allocated competitively each year.

[62] Katz et al. (2020) and Dawson et al. (2020) indicate which components of successful sector-based training or community college support programs are most important for attaining large impacts over time.

[63] The cost of the Goolsbee et al. proposal is based on their calculation of an expected shortfall in higher education degree completion, relative to certain projections of what employers will demand. I have somewhat less confidence in such projections of education shortfalls.

One hard set of questions involves who should pay for these funding increases and how they should pay. Besides new federal funding, the major options include: a) New revenues from state governments; b) reallocations away from existing federal or state programs; c) students/workers paying for themselves; and/or d) employers paying for on-the-job training or sector-based and customized programs at community college.[64]

I believe new federal funding should be by far the largest source of the resources I seek, since reallocations from other sources could raise financial burdens on some entities that are already feeling fiscal pressures (like states, community colleges, or WIOA-funded activities), could discourage some activities that are already fairly productive (like other degree programs at communities colleges), and will generate political struggles over who should pay the most – all of which will limit the benefits of my workforce proposals described above

Still, some payments could be drawn from these other sources if needed. To the extent that both employers and workers will benefit from these investments (as long as workers do not quickly leave the firms that help train them), it seems reasonable that each should bear some of the tuition costs of the Quest-like programs that would be expanded. Of course, the expectation of worker investments should fall as their family incomes (or wealth) decline; and the case for employer investment should depend on their size and liquid resources as well as the extent to which the training is general or specific to their firm or industry, especially locally. Larger firms should pay more tuition costs (in both the expanded training programs above and when creating apprenticeships), and their contributions should rise as training becomes more specific to them (or to their industries).

Some reallocations away from any current federal or state programs could also be justifiable; some of the sources of such funds might include less currently effective workforce or higher education programs, within WIOA or HEA and beyond. An example of such programs might be the currently less-effective dislocated worker programs in WIOA (Andersson et al., 2013).

One other way to limit costs would be to make the new funding only available to public institutions, rather than to for-profit colleges. Given the track record of for-profit institutions – especially the huge costs, high default rates, and limited labor market value of the certificates they generate – such a limitation is very defensible. On the other hand, given the political clout of the for-profit educational industry, it might be unrealistic to exclude them; and doing so could jeopardize political traction for the entire project.

While I propose that the key components of new federal workforce policy be those outlined above, a few other important issues merit some consideration. These include:

- Funding for WIOA;
- Trade Adjustment Assistance (TAA) and wage insurance for the displaced;
- Broader support for “high-road” employers; and
- A one-time injection of new workforce funds in response to the Covid-19 pandemic,

[64] Philanthropic institutions can also play an important role in workforce activities. For instance, the National Fund for Workforce Services was created by several foundations and has helped build sector-based training programs around the country. But foundation resources are generally too small to scale these efforts.

As noted above, the fact that federal funding for WIOA programs and services has been declining for most of the past four decades, and that impact evaluations of those services have been mixed, leads me to put greater emphasis on HEA as the primary legislative vehicle for workforce policy changes.

But there remains an important role for WIOA to play. Local workforce boards are often critical partners with community colleges and employers, in trying to assure that training is aligned with regional labor market demand. WIOA adult funding streams are very modest, but provide at least some support for workers who do not qualify for Pell and especially in short-term or non-credit programs; and WIOA youth funding is primarily targeted to those who are out of school and therefore ineligible for HEA support. Many "opportunity youth" who are disconnected from both school and work but who might not yet be ready (academically or otherwise) for even non-credit community college programs are eligible for very few other sources of funding, and maintaining or even expanding WIOA support for them (through the youth funding stream or through Job Corps and Youth Build) remains critically important (Heinrich and Holzer, 2011; Edelman and Holzer, 2013).

In addition, the funding for job centers is also critical and should be expanded, in light of the very modest funding they now receive and of evidence that the services they provide are cost-effective.[65] If anything, more effort should be made to coordinate activity between these centers and local community colleges, including more "colocation" of centers on college campuses.

And current WIOA expenditures on Adult Basic Education remain important as well, and might be useful as the first steps in "career pathways" for low-skill adults that would then lead to community college training subsequently. In all of these cases, existing WIOA expenditures must remain robust and focus on high-quality services, given their focus on youth or adults with few other options for highest education at the outset.

Accordingly, as WIOA is now up for reauthorization this year, it should be maintained or even strengthened, as a complement to my proposals above.

Two additional points regarding worker displacement merit more discussion here. First, should the federal government improve TAA, and perhaps extend it to other displacements besides those generated by imports? Second, what can we do to help displaced workers who will not benefit greatly from retraining (like older and less-educated workers)?

A full treatment of these topics is beyond the scope of this paper, but a few comments are in order. Relatively few workers are served by TAA each year, since it only applies to workers displaced by imports, and workers must apply for and go through a detailed certification process through the Department of Labor before they can access the benefits of the program.[66] In addition, training for workers displaced by imports through the TAA

[65] For evidence on the cost-effectiveness of job centers see Fortson et al. (2017). Only about $700M is available annually to fund over 2600 job centers, which generates about $270,000 for each.
[66] The federal government spends approximately $700M on TAA each year.

program has also had somewhat mixed effects, even after the most recent round of reforms.[67]

Of course, there is little *economic* rationale for limiting the income support and services provided to these displaced workers only to those whose dislocations are caused by imports; historically, the program was created for *political* reasons, to cushion the blow of international trade to workers and thereby limit their opposition to it.

Accordingly, some analysts argue for TAA benefits to be extended to all displaced workers, including those replaced by automation and other forms of workplace reorganization or closure. But extending TAA protections and services to all dislocated workers could potentially be very expensive.

In the absence of stronger evidence of lasting positive impacts, I would not favor an extension at this time – though, if the evidence improves, we could perhaps consider how to do so. However, as TAA is also up for reauthorization this year, it is important to maintain both its funding levels and evaluations of its impact.

Since not all displaced workers benefit from retraining, alternatives should exist for those who are deemed poor retraining prospects. As economists have often argued, the best such alternative would likely be "wage insurance." Such insurance would compensate workers who accept new jobs after displacement that pay less than their former jobs. In theory, it is a bit like the Earned Income Tax Credit, which encourages low-income workers to accept low-wage jobs – except that here the payments are tied to displacement and wage loss, rather than low wage levels.

To date, the US has funded wage insurance only for older and import-displaced workers.[68] It should be implemented more broadly than this, though again we need cost estimates in advance of such broader implementation decisions.

Earlier, I referred to firms that choose to implement "high road" or "good job" human resource policies, as a way to compete on the basis of productivity and performance rather than low labor costs. Elsewhere I have argued that employer creation of "high road' jobs is something of a "public good," since employers might be equally well-served by high- and low-wage models but they do not "internalize" the benefits of "high road" jobs to workers, their families and communities. Accordingly, the private market will generate too little such employment, and an argument for some public funding for "high road" employers can be made.

A full discussion of how to implement such support is also beyond the scope of this paper. I merely point out that some of my proposals above – especially incentives to reduce displacement by employers and encourage them to provide training or other work-based learning opportunities – could also be part of a broader effort to reward and assist "high-road" job creation by employers.[69] Indeed, though I think that displacement taxes and

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[67] For instance, Hyman (2018) shows large initial impacts of TAA training on earnings, totaling as much as $50,000 per year, but they fully fade out in 10 years or less. Earlier evaluations of TAA impacts have tended to be less positive. See D'Amico and Schochet (2012).

[68] Only workers over the age of 50 and displaced by trade can receive wage insurance of up to $10,000 for two years under Alternative Trade Adjustment Assistance (ATAA).

[69] See Holzer (2019).

retraining subsidies should apply to all employers, the subsidies could perhaps be larger when part of an effort to assist and incentivize high-road employment more broadly, which might also include additional rewards for compensation items like profit-sharing (Blasi et al., 2010) and technical assistance for how to generate strong worker performance in good jobs.

Finally, the need for more retraining in response to the Covid-19 pandemic has generated proposals for major one-time injections of funding into WIOA or our higher education institutions, since both workers and these institutions have been badly hurt by the pandemic.[70] This idea clearly has merit, independently of long-term proposals for reform in this area, due to the dramatic rise in long-term unemployment and permanent worker dislocations that the pandemic is creating.

I would support a mixed one-time funding injection in light of the pandemic, with some funding going directly to weakened higher education institutions to help them generate more capacity in stronger workforce programs, while perhaps some other funding goes to students and workers through WIOA and/or a temporary increase in Title IV funds.

Since the characteristics of workers displaced by the pandemic differ somewhat from those who have been or will be displaced over time due to automation – with the former more concentrated among low-wage retail and service workers – the proposals outlined above for disadvantaged workers might be particularly useful for the recently displaced as well. On the other hand, since one effect of the pandemic has been to speed up the shift over time away from brick and mortar shopping and restaurant eating towards online activities, even the effects of the pandemic on displacement will involve automation, making it more similar to displacement induced by the latter for higher-wage workers. And, given the presumed rise in demand for online tasks among workers, the need to train more workers in "digital skills"(Burning Glass Technologies, 2019) will grow as well.

Finally, as noted earlier, the Covid-19 pandemic will likely have permanent effects on how community colleges and other higher education institutions deliver training – with a greater reliance on online provision than ever before. The extent to which the proposals outlined above are effective in such an environment adds one more source of uncertainty about their cost-effectiveness. Thus, close monitoring of how online education is implemented, and evaluation of its impacts for disadvantaged and displaced (as well as other) workers, are critical to the success of my proposals.

VI. Conclusion

Workforce development in the U.S. could play a key role in raising U.S. productivity and income growth, reducing rampant inequality, and improving upward mobility for our nation's poor and working classes.

Currently, our workforce development efforts – either privately and publicly funded – have both strengths and weaknesses. On the plus side, students and workers have a vast range of opportunities to pursue postsecondary training and receive support services in several thousand of the nation's higher education institutions, with the help of job centers, as well as on the job. Public funding already comes from a wide variety of sources, including federal

[70] See, for instance, the Relaunching America's Workforce Act (2020) proposal by House Democrats.

expenditures in HEA, WIOA and several other antipoverty programs; while states heavily subsidize public colleges and universities. Many (though not all) credentials – including certificates – have labor market value. The evaluation evidence also shows that many college expenditures on support services and training are cost-effective.

But the system's weaknesses are widely known as well. Too little funding occurs for short-term or non-credit training programs, even when they have labor market value; and within higher education, vastly more funds are allocated to general education programs such as liberal arts. Both the ability and the incentives for colleges and universities to pay more for building capacity in workforce programs are weak. Employers tend to be disengaged from public workforce efforts and contribute too little to work-based learning or on-the-job training for non-professional and non-managerial employees. And the "system" is fragmented and siloed, with too little coordination among its higher education and workforce components, to take one example.

I have proposed a set of actions that I believe would strengthen this system and help different groups of workers, including those who are disadvantaged or displaced from their earlier jobs (as well as those who simply want to advance more over time). The primary components of my proposal include:

- Reforms and greater funding in the Higher Education Act to strengthen workforce programs;
- New funding and incentives (through taxes on displacement) for employers to retrain workers rather than displacing them, and for the workers themselves to invest in retraining; and
- A new and permanent version of the TAACCCT programs of the first Obama administration, rewarding community colleges and states for building regional workforce capacity and reducing system fragmentation.

The levels of new investments in workforce development should not be too modest, if we want to generate significant returns for US workers. I have suggested new investments of $10B a year. I believe it is best if all or most of this new funding is provided by the federal government. But funding could also come from a variety of other sources – including states (especially through matching requirements from the federal programs), the firms and workers themselves, and reallocations from existing federal and state programs that now appear less effective.

An additional funding source for retraining potentially displaced workers might be a "displacement tax" on employers, perhaps implemented through the reduction of accelerated depreciation tax allowances when their new automation displaces workers. On the other hand, this tax loss should not be so large that it might discourage automation more broadly.

Since we do not yet know the extent to which many of these proposals would be cost-effective at scale, rigorous evaluation would be critical to any such effort. Adjustments in the parameters of the various proposals would be appropriate, to the extent that some components of the policy changes do not work very well.

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