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Higher Education and Workforce Policy: Creating More Skilled Workers (and Jobs for Them to Fill)

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Executive Summary

Employment of Americans in middle-wage jobs has been declining, due to trends both in employer demand and worker skill attainment. Workforce development in the US now mostly occurs in community and for-profit colleges, as well as the lower-tier of 4-year colleges. Enrollment rates are high, even among the disadvantaged, but completion rates are very low and earnings are uneven for graduates. Community colleges lack not only resources but also incentives to respond to the job market (while the for-profit colleges need stronger regulation). Sectoral training and career pathway models show promise but need scaling and maintenance of quality, and employers also need greater incentives to participate and create more good jobs. Three sets of policies should help address these problems: 1) Providing more resources to community (and lower-tier 4-year) colleges but also creating incentives and accountability by basing state subsidies on student completion rates and earnings of graduates; 2) Expanding high-quality career and technical education plus work-based learning models like apprenticeship; and 3) Assisting and incentivizing employers to create more good jobs. Other supportive policies - including higher minimum wages, paid parental leave, and labor law reform - would help as well. Together these proposals should create more good jobs and more good workers to fill them.

Introduction

As I argue in an accompanying policy brief, the notion that the middle of the job market is being "hollowed out" requires some nuance. More accurately, there has been some decline over time in middle-skill job creation, but the decline is mostly limited to older middle-wage clerical, construction and production jobs in which high school graduates (or even dropouts) were well paid. A "newer middle" is rising in areas such as health technology, advanced manufacturing, information technology (IT) and a range of service jobs; these require more postsecondary education or training than in the past. Skill demands are also rising in formerly low-skill jobs. But the growth of employment in the new middle has also been modest, relative to the shrinking of the older one.

At the same time, many employers complain about their inability to fill these newer middle-skill jobs, and worry especially about what will happen after their Baby Boomer employees retire from them. Though many employers have done little to attract and generate better employees – by raising wages or investing in training – there are other reasons why it might not be economically sensible for them to solve this issue on their own.[1] And the costs and difficulties they face in attracting or generating these workers likely limits their interest in creating good-paying, middle-skill jobs in the first place.[2]

Accordingly, many employers and policy-makers look to our institutions of higher education and our public workforce system to help address these issues. Because of ongoing questions about their effectiveness, the federal resources invested in the workforce programs (administered through the US Department of Labor to state and local workforce boards) have shrunken dramatically; total federal funding allocated through the recently reauthorized Workforce Innovation and Opportunity Act (WIOA) is now much lower than was true under earlier versions of this legislation in the 1970s and beyond.[3]

At the same time, because the labor market rewards college credentials much more generously than in the past, efforts to improve worker skills have shifted to the realm of higher education, and federal funding through Pell grants and other mechanisms has risen. State subsidies for public colleges have also grown over the past several decades (though they have declined in the past several years as pressure from Medicaid and other budget commitments grows). Overall, public spending on higher education totals near $200B per year. And the for-profit colleges have also grown dramatically, especially by targeting Pell-eligible students.

Accordingly, most "job training" for the disadvantaged now takes place at community colleges and for-profit schools, in AA or certificate programs (where the latter usually take one year or less and are sometimes for academic credit, and sometimes not). But educational and labor market outcomes for many students in higher education, especially the disadvantaged, are weak. Dropout rates are extremely high, and even when they complete programs of study, many students do not obtain credentials that the labor market values.

In higher education today, dropout rates are high and many students do not obtain credentials that the labor market values.

Below is a discussion of both the benefits and limitations of some more recent approaches to providing workforce services and job training through higher education, and a set of broad proposals for how they could be improved. And, given the ongoing shrinkage of middle-wage jobs – which disadvantaged Americans need to obtain to escape poverty and enjoy upward mobility – I also discuss some ways in which the public sector could directly encourage more growth in employer job creation (or labor demand) in this part of the market.

Recent Workforce Innovations: Successes and Limitations

To ensure that higher education offerings fit the needs of the labor market, and especially employers, new models of collaboration between colleges and industry are being developed and widely implemented. In one approach, called "sectoral" training, workforce intermediaries create "partnerships" between training providers (usually community colleges) and employers (or their associations) in industries with lots of employment growth and good-paying jobs (below the BA level). The purpose of the partnerships is to

1. The reasons include the low levels of basic skills among the workers who would need to be trained, the fairly general nature of the skills (which means that trained workers could easily move to another firm and take their training with them), and the high fixed costs of setting up training programs for smaller firms.

2. As I note below, the contrast between US and German companies in this regard is very informative. German companies likely create more such jobs in manufacturing and other industries because they believe that German workers are well-trained in these skills as they emerge from high school apprenticeship programs.

3. The federal government now spends about $5B a year on WIOA; at its peak, the Comprehensive Employment and Training Act (CETA) spent about $40B in current dollars in 1980. But USGAO (2011) reports total federal spending of $18B in 47 different federal workforce programs in 2009, which have likely been reduced somewhat by now while the numbers of programs have been cut to 32 in WIOA.

ensure that worker training is well-targeted to the needs of employers, who commit to hiring the trainees. This model has been used most frequently in health care, advanced manufacturing, IT, and some service fields around the country.

In a related approach, "career pathways" are developed in which workers combine classroom training and work experience through a sequence of jobs, within or across firms in an industry, and a sequence of credentials that signal their growing skill levels. For instance, unskilled nursing aides can first get Certified Nursing Assistant (CNA) certificates, and use them in employment, while ultimately going on to get associate degrees (or AAs) that enable them to become licensed practical nurses (LPN).

Do these approaches work? Rigorous evaluation has shown that sectoral training can have quite large impacts on the earnings of the working poor. Specifically, Maguire et al. (2010) used randomized controlled trials (RCTs) to show that three well-established sectoral programs raised earnings of the working poor by as much as 30 percent after 2 years. In a set of smaller evaluation studies (Roder and Elliott, 2011, 2014), a sectoral program for youth – Year Up – raised earnings by similar amounts after two years, and the longer-term effects are also positive.[4] There are also ongoing efforts by the US Department of Health and Human Services (DHHS) to evaluate several career pathway programs for the disadvantaged.[5]

Due to the success of the sectoral programs in these evaluations – and their appeal to governors and mayors who see sectoral and career pathway programs as being consistent with their economic development policies - much activity at the state and regional level now focuses on how to build and grow these models, with local and state workforce boards as well as higher education agencies heavily involved in the process (National Governors Association, 2013). Some states have also joined "pathways" networks to more fully develop and scale these efforts.[6] The National Fund for Workforce Solutions, created by several major foundations with strong workforce interests, has also funded major sectoral operations in roughly 30 cities and regions.

The Obama Administration has also formally endorsed these models (referring to the sectoral approach as "job-driven" training) through a series of competitive grants, like the Trade Adjustment Assistance Community College and Career Training (TAACCCT) and workforce innovation grants from USDOL (Haskins, 2014). More such programs have been proposed in the President's FY2016 budget. And many new provisions in WIOA are designed to promote these approaches as well.

Despite all this activity, major questions remain about the success of these efforts. For one thing, the federal grant programs are many in number, but they are small and fragmented, and the agencies implementing them at the local level remain quite "siloed" from one another. While partnerships in key industries are proliferating at the state and regional level, we have no data on their scale, much less their quality; and it will be hard to replicate the quality of the evaluated programs, especially in newer startup efforts. The partnerships take years to build and for participants to learn how to make them effective.

Secondary schools often fail to provide strong academic or technical/employment-related skills.

Another problem is that many low-income students or workers lack the basic academic skills to be trained in the technical work often needed (especially in the well-compensated STEM fields). Their secondary schools often fail to provide them with strong academic or technical/employment-related skills, though high-quality career and technical education (or CTE), as in Career Academies or apprenticeships and other types of "work-based learning," could provide both.

And questions remain over whether it makes sense to focus training on specific sectors and occupational pathways, at a time when the labor market appears to be more dynamic – and therefore more uncertain – than ever. Some analysts predict large upheavals in these markets in the next few decades, with many firms and industries facing dislocation while newer ones grow. If accurate, such upheaval could render workers with narrow training more obsolete than those with broader preparation.[7]

Even if this upheaval does not materialize, workers will change firms and industries over time. Training them in skills too specific to one sector might lead their earnings gains to erode over time. Some analysts argue that the best education and training for the 21st century is not sec-

4. The initial study by Roder and Elliott (2011) showed clear and large earnings gains after 2 years, while the more recent follow-up study at the 4-year point (2014) still showed positive but more modest results.

5. The US Department of Health and Human Services is evaluating several such promising programs in its Innovative Strategies for Self-Sufficiency project.

6. One set of states has joined in the Pathways to Prosperity Networks, while others have joined the Alliance for Quality Pathways Network organized by the Center on Law and Social Policy (CLASP).

7. Brynjolffson and Macafee (2014) argue that digital technologies will dramatically affect productivity and make employment in many industries more volatile over time, though at least some economists (like Robert Gordon of Northwestern University) are skeptical of this point of view.

tor-specific, but broader analytical skills (like problem-solving and critical thinking) that can be used to enhance job performance wherever workers become employed.[8]

Postsecondary Education and the Labor Market More Broadly

Outside of sectoral and pathway programs, many millions of Americans enroll in either community colleges or for-profit schools to obtain skill training and credentialing for the job market. College enrollments have risen quite dramatically since 2000, as have degree completions to a lesser extent.[9]

But some higher education results are disappointing, especially for disadvantaged youth and adults who enroll there (often with the aid of Pell grants). These students are very heavily concentrated in community and for-profit colleges (and lower-tier four-year colleges). But nearly 60 percent of community college students enter with weak academic preparation and require skill remediation, known as "developmental education" (Bailey and Cho, 2012). Most of these programs seem ineffective or even harmful.[10] More broadly, completion rates in AA programs are only about 30 percent among young students and lower among older students (25 and above).[11]

And, in Florida and some other states recently studied, up to half of all AA students enroll in humanities programs such as "general studies" or "liberal studies" with virtually no labor market value. A range of certificate programs or more technical AA degrees (such as Associates of Applied Science, or AAS) have much stronger impacts on earnings but generate many fewer enrollees (Backes et al., 2014).

Why might that be the case? The community (and lower-tier four-year) colleges often lack *resources* to better serve these students with more high-quality course options to choose from, better academic and career-counseling, or more effective remediation. But they also frequently lack the *incentives* to respond to local labor demand, by expanding teaching capacity in high-demand fields. Expanding this capacity is often more expensive, in both teacher salaries and equipment costs, than building it in other fields. And the cash-strapped colleges generally receive the same subsidies from their states, regardless of student success in the classroom or the job market.

Accordingly, in fields such as health technology, the available classes become over-subscribed very quickly, and interested students can fail to achieve the credentials they desire. For other reasons, many community colleges remain primarily focused on their traditional mission of simply feeding students into the 4-year colleges, rather than training individuals for the workforce. This seems especially true for those located fairly near to a four-year college, to which they feed most of their transferring students (Backes and Velez, 2015).

The for-profit colleges face stronger incentives to respond to the labor market, but often generate worse outcomes for poor students. These colleges have grown dramatically since 2000, and now account for over a fourth of all Pell grant recipients – to whom they market their programs quite aggressively (Deming et al., 2013). Completion rates in their certificate programs are high and in their AA programs are a bit above the average for public CCs, but they are very low in bachelor's (BA) programs.

Regardless of whether students finish their degrees, many also leave the for-profit schools with huge debts incurred, because of their very high tuition costs. And tuition costs at the public colleges have grown quite dramatically too. While student debt is manageable in many cases, and still constitutes a good investment overall for young people, it can be quite burdensome to those who have not finished their degree programs or who have difficulty finding or keeping employment in their field of study or more broadly. And efforts to regulate the for-profit and other colleges through "gainful employment" rules have been stymied to date, largely because of legal challenges to the regulations.

Policies to Enhance These Approaches

The foregoing discussion indicates that, while many new initiatives (like sectoral and career pathway programs) are growing and seem promising, large concerns remain about how to improve higher education and labor market outcomes more broadly, especially for disadvantaged students. Trends both on the demand and supply sides of the labor market for skills underlie these concerns.

8. See the National Academy of Sciences (2013) report on the "21st Century skills" that will be needed by workers in the labor market to be successful over time. Liberal arts programs in higher education frequently argue that longer-term labor market success depends more on general academic and intellectual skills rather than the specific vocational skills taught in these programs.

9. According to the National Center for Education Statistics, overall college enrollment for those aged 20-24 was 22.3 and 40 percent in 1980 and 2012 respectively; BA attainment in those years for those aged 25-29 was 22.5 and 33.5 percent in those two years.

10. See Bettinger et al. (2013) or Clotfelter et al. Remediation could be harmful is students with family or other obligations, and therefore only a limited amount of time available to pursue their education, are forced to spend large chunks of that time taking classes that are not for academic credit.

11. See The College Board (2013).

What we need, overall, are policies to *help fund or incentivize colleges to improve the student skill attainments at the sub-BA and BA levels that the labor market rewards*, as well as efforts to improve the numbers of middle-wage jobs they would be needed to fill. Some efforts to build the relevant skills should start in secondary schools (or even earlier), and continue into the postsecondary world. And we should also incentivize employers to participate in various skill-building efforts, and perhaps to create more middle-skill jobs too.

Below are some broad policy proposals that would try to accomplish these goals.

1) More Resources and Better Incentives for the Public Colleges

The public colleges that mostly enroll poor students – in other words, the community (and lower-tier public 4-year) colleges - need more resources targeted at services and supports for disadvantaged students, as well as stronger incentives to expand capacity in high-demand fields.

One way to do this would be through a postsecondary version of "Race to the Top," which strongly rewarded states for undertaking K-12 reforms in the past decade. Indeed, the President Obama's original American Graduation Initiative, proposed in 2009, would have constituted such an effort, though it was never implemented in the fashion intended.[12]

The new version would target public colleges at both the 2-year and 4-year levels. States that create more accountability for their colleges – by partially tying subsidy levels for colleges to their student outcomes - would receive additional federal funding, but only for the schools that serve many disadvantaged students, and only for expanding teaching capacity in high-demand fields or providing better supports and services (like child care, better counseling or academic "coaching" and reforms in developmental education) for these students.[13]

Many states have begun to experiment with such accountability, though most efforts to date are based only on academic rather than employment outcomes.[14] The new accountability measures would also be based on the subsequent earnings of their students.[15] Administrative data systems are now available for the states to measure both, and their development has been encouraged by the federal government in recent years.[16]

But incentives must be structured to avoid "creaming" by the colleges, who might simply raise their admission requirements and avoid at-risk students, to make their outcome numbers look better. This problem can be addressed either by having at least some of the accountability measures defined separately for minorities or disadvantaged students, or by using "value-added" measures of success that reward schools not for outcome levels but for improvements among students who might start with a low base level of academic outcomes. Another practical problem involves how to include students who move out of state to work, and therefore are not included in state databases. This problem is challenging but certainly not insurmountable.[17]

Other policies might also be used to provide new resources plus better incentives for the public colleges. Reforms in the Pell program (and student loans) that simplify eligibility rules and the application process, while also strengthening academic requirements and providing more support provision to poor students, could be embedded in a reauthorized Higher Education Act (The College Board, 2013). And evolving federal regulation of the for-profit colleges (focusing on "gainful employment" and encouraging income-based repayment plans) should continue. At least some of these approaches will likely generate political and legal pushback from the higher education community, both public and private, who might prefer the status quo (and especially those who teach "liberal arts" at the former), though the additional resources provided to them could help limit their opposition.

12. Obama called for an investment of nearly $12B into his AGI program, to be funded by savings from reforms in the student loan program. But, in the end, these savings were largely used to pay for health insurance in the Affordable Care Act, or ACA. Of the initial proposal, the only part that was implemented was $2B of competitive grants to community colleges or states under the Trade Adjustment Assistance Community College and Career Training (TAACCCT) grants administered by the US Department of Labor between 2010 and 2014.

13. See Holzer (2014) for a discussion of accountability policies for higher education in the states and Long (2014) on possible reforms in developmental education.

14. The National Conference of State Legislatures tracks "performance-based funding" for higher education at their website on "Performance-Based Funding for Higher Education."

15. To avoid placing too much emphasis on short-term earnings outcomes, earnings outcomes of higher education should be based on five years of data after college.

16. See Zinn and Van Kluenen (2014) for discussion of the various state administrative data initiatives that the federal government has supported in recent years or which are now underway.

17. For instance, in the future it will likely be possible for states to link their data across states and follow individuals who cross state lines for work after college. In the meantime, surveys of such people might generate usable data.

2) Encouraging High-Quality CTE and Work-Based Learning

One of the reasons why college degrees in the US are rewarded so heavily in the labor market is because high school diplomas are not much rewarded.[18] More specifically, American employers have little reason to think that high school graduates bring them any skills – whether academic or technical, broadly-based or occupation-specific – that they value and for which they should pay. In this regard, our employers stand in sharp contrast to their European (and especially German) counterparts, who believe that many high school graduates bring these skills – often because of the high quality of career and technical education (CTE) they've received (Symonds et al., 2011; Hoffman, 2011).

Historically, CTE in the US – which has traditionally been known as "vocational education" (or "Voc Ed") - has mostly been quite low in quality. Indeed, anyone specializing in "Voc Ed" was "tracked" away from college preparatory courses and curricula, and the jobs for which these students were prepared were relatively few in number and low in pay. Starting in the 1960s, opposition to "tracking" from the minority and low-income communities led to diminished interest in "Voc Ed" and its further development. Various efforts to reform it were also stymied, and an effort to expand "school-to-work" programs in the 1990s is mostly viewed as having been unsuccessful.[19]

CTE and work-based learning allow us to create high-quality pathways where students could obtain recognized credentials and strong early work experience

But it doesn't have to be that way. The logic of CTE and work-based learning allows us to create high-quality pathways into the labor market for young people - especially for those not ready to go straight into higher education – through which they could gain recognized education credentials as well as strong early work experience. For many young people, especially the disadvantaged, who now have trouble gaining both, this could be a very welcome development.

Indeed, high-quality CTE does not need to be (and should not be) mutually exclusive with college preparatory work. Students enrolled in these classes and programs could still take college prep curricula, while those in the latter could be exposed to career information and exploration (as well as preparation). Thus, some CTE could be universal. Indeed, in some very promising new models of CTE – like High Schools that Work, Linked Learning (in California) or P-Tech in New York – universal involvement is the norm.[20]

Some broader improvements in the quality of CTE around the country, and in the numbers of math and science classes taken by students enrolled in it, are already apparent (US Department of Education, 2004). And rigorous evaluation evidence of the Career Academies shows large impacts of high-quality CTE on worker earnings as much as eight years after enrollment, and even in jobs that are not in the same industry in which the academy specialized.[21]

Furthermore, the contextualized and applied learning in these programs can be more effective for some students who did not do well in traditional classroom settings. Low-income and young people especially value work-based learning, because they are paid while learning – in fact, this can be especially important for young parents who must continue supporting their families while in school. Workers can gain AAs or certificates while apprenticing, giving them both specific skills relevant to the given employer and occupations as well as more general ones that are portable across firms and industries. And employers also like the apprenticeships, which provide them with workers appropriately skilled and experienced for the work they need, though they might not create a socially optimal number of them on their own due to a lack of information about them, or other "market failures".[22]

The Obama Administration has proposed or implemented a number of grants programs to encourage high-quality CTE, starting at high schools and sometimes continuing into community colleges, as well as apprenticeships and other models of work-based learning. These include the small Youth Career Connect and American Apprenticeship Grants programs that are already in place, plus a proposed new Technical Training Fund for community colleges. These or similar efforts could easily be expanded with additional funding. Tax credits for employers who create apprenticeships, which is now done by South Carolina, might be considered as well (Lerman, 2014).

18. Real earnings over time for men with high school diplomas have declined over time since 1980, and those of females have risen modestly. The gaps between those with high school and any kind of college degree have risen, and the gaps between high school and college graduates with a BA have roughly doubled since then (Autor, 2014).

19. In 1994 Congress passed and President Clinton signed the School-to-Work Opportunity Act, which provided a small amount of money for career exposure (usually job shadowing) to most school districts. After it expired in 2000 it was not reauthorized by Congress.

20. See Holzer et al. (2013) for descriptions of promising new models of CTE.

21. See Kemple (2008).

22. Besides imperfect information, the numbers of apprenticeships created by employers might be limited by the fixed costs of setting them up for smaller employers, and by downward wage rigidity that prevents them from financing the general training out of the workers' wages.

They could also be incorporated into a new and expanded version of the Carl Perkins Act, which currently provides about $1B in funding for secondary and postsecondary CTE. Past efforts to reform Perkins (by the Obama and Bush 43 administrations) by using more of these funds for competitive grants have always met political opposition from the CTE community. To be successful, new efforts might need to fund grants in addition to current funding, rather than in place of it. And a broader and more comprehensive approach within one program is preferable to a series of small and fragmented programs.

In addition, efforts to expand the higher education part of CTE and work-based learning (and also pathways into higher education that begin in secondary school) could also be included in the Higher Education Act as well as a new "Race to the Top" program.

3) Encouraging Employers to Create More "Good Jobs"

Labor economists have long been aware that firms within a given industry and locality often pay workers of the same general skill level quite differently, and that firms often choose whether to be relatively high-wage or low-wage employers in that industry (Andersson et al., 2005). These firms can still compete with one another – with the former competing on the basis of the lowest labor costs possible while the latter complete on the basis of lower turnover and higher worker productivity. For instance, hospitals generally pay their nursing assistants considerably better than do nursing homes in the same city (Appelbaum et al., 2003).

The better-paying firms, often called "high-road" employers (or creators of "high-performance workplaces"), invest much more in the skill development of their workers, whose turnover is expected to be lower. Better pay and promotion possibilities characterize these employers. Some well-known examples now include Costco, UPS, and Southwest Airlines (Osterman and Shulman, 2001; Ton, 2014).

Historically, institutions such as minimum wage regulations and collective bargaining might have encouraged more employers to become high-road employers. But even a higher minimum wage would likely reach only 10 percent or less of all workers; and collective bargaining has long been in retreat in the private sector (where under 7 percent of workers are now covered by union contracts) and are facing new pressures in the public sector too.

In the current competitive environment, high-road employers create something of a "public good" – where they can compete effectively while leaving their workers better off. But the private sector alone may generate a sub-optimal number of such jobs, and it is in the interest of the public sector to encourage more of them.[23] But how should it do so?

Merely participating in a sector partnership, a career pathway network or an apprenticeship program should help employers create more good jobs, by making it easier to fill them with highly-skilled workers. But additional effort might be needed to encourage more employers to create these good-paying jobs, and to participate in these partnerships, who currently do not have slots for good jobs that they need to fill.

Unfortunately, we have less experience with or evidence on what might work in this area. Still, a few possibilities come to mind. These include:

- Tax credits for incumbent worker training (or apprenticeships) that generate higher compensation for less-educated workers;
- Grant programs for firms (either individual or part of an industry network) that choose from a wider range of compensation and training policies to achieve this goal;
- Technical assistance to firms attempting to change their human resource policies in this direction;
- Preference for such firms in government contract procurement and/or requirements on those receiving federal funds (especially Medicare and Medicaid) to create better-paying jobs and career pathways; and
- Moral suasion that provides good publicity and reputations to employers who make such changes.

While the benefits of any one such policy might be questionable, doing all of them together should help create synergies between them, as the effects of a comprehensive strategy are likely greater than the sum of its individual parts.

Many states have implemented tax credits for incumbent worker training, though these sometimes decline during recessions. The costs can be contained by limiting the tax credits only to front-line employees without BAs. Tax credits for apprenticeships are somewhat similar. But these pay only for one set of inputs that firms might use, and only their spending on formal training, rather than the outcomes themselves (which are harder to measure and pay for).

23. Market failures that limit the number of "high-road" jobs created by employers would include imperfect information about profitable ways of organizing production around these jobs and the positive externalities for workers and their families associated with better-paying jobs. Appelbaum et al. (2003) argue that the forces that determine whether any given firm becomes a "high-road" employer can often be very personal or accidental, and depend on the history and viewpoints of the owner or top managers.

Grants could be provided to firms or industries that propose to upgrade workers through a wider range of approaches – including career pathway creation, profit-sharing, job redesign, other innovative approaches, and even more stable hours of work for its employees. As an example, the state of Michigan ran a successful grants program for training for small- and medium-sized manufacturers in the late 1980s (Holzer et al., 1993). Technical assistance can also be provided through something like the Manufacturing Extension Partnership (MEP), which helps manufacturers (often small- and medium-sized ones) implement organizational changes to improve their output and productivity.

The federal government might announce its intention to reward firms that implement such high-road practices with more federal contracts – assuming they meet other criteria for demonstrating their appropriate qualifications for such work. Requirements that hospitals and nursing homes receiving federal Medicare or Medicaid funds raise wages and create career pathways for its lowest-paid nursing assistants could be considered.[24] And moral suasion can be valuable too – the Obama Administration is attempting to do so through its Upskill America campaign, to highlight the practices of firms engaging in positive human resource practices, though the entire effort could also be given a higher profile that would make more use of the "bully pulpit."

Of course, we should not overstate the ability of any firm to become a high-road employer, or the notion that every low-skill employee now employed at various firms would still be employed there under these very different personnel policies. Specifically, high-road employers have an incentive to hire workers with stronger basic skills and less likely turnover, to ensure that their training investments in the workers will be profitable. Still, it seems likely that we could generate more such employers today, and that the workers who benefit from higher pay at these firms would easily exceed the costs for those who would need to find low-wage employment (which is usually quite plentiful in the US) elsewhere.

Other Supportive Policies and Practices

A number of additional policies could be considered supportive of these approaches, and therefore a part of a comprehensive strategy to generate more good jobs and skilled workers to fill them. These would include some or all of the following:

• Minimum wage increases and stronger federal enforcement of wage and hour provisions;

• Providing "paid leave" for all workers (financed at the state level with federal assistance);

• Labor law reform, including provisions allowing "work councils" at nonunion firms to give workers more of a voice in management decisions.

More specifically, higher minimum wages and stronger enforcement of these laws should lower the appeal of very low-road employment practices and thus raise incentives among employers to provide more well-paying jobs.[25] Some modest regulations limiting employer freedom to create very unstable hours of work would help here as well.[26] Paid parental or sick leave is a very important benefit to parents and their children, but it also seems to be underprovided in the labor market; helping states create public mechanisms to fund these leaves would be desirable.[27] And, while labor law reforms (like the Employee Free Choice Act) that would raise collective bargaining rates now seem very unlikely anytime soon, legal changes in the National Labor Relations Act to expand worker participation in "work councils" that contribute to firm-decision-making might be more appealing to management as well as their workers (Kochan, 2015).

Conclusion

The proposals outlined here would almost certainly raise the skill levels of US workers considerably, and encourage employers to create more jobs that use these skills. On the other hand, relatively little is known right now about their likely benefits and costs.

Indeed, there are many questions on which we have little data or evidence right now, including: the extent of student participation now in sectoral or career pathway programs, and the academic and labor market outcomes associated with (much less the impacts of) these programs; wheth-

24. On the other hand, pressures to contain medical costs associated with Medicare (or Medicaid for the indigent) will rise as Baby Boomers retire and become increasingly eligible for these programs, thereby making it more difficult to raise wages for these workers.

25. I support President Obama's proposal to increase the federal minimum wage to $10.10 an hour over a 3-year period. I am skeptical of larger increases, such as those in San Francisco or Seattle, where statutory minimum wages will rise to $15 an hour, due to concerns over reductions in employment of low-wage workers that could occur with a mandated wage increase (as opposed to a rise chosen by employers themselves as part of a "higher-road" production strategy). For estimates of potential job loss associated with rising minimum wages see the Congressional Budget Office (2014).

26. For discussion of the costs imposed on low-income families by very unstable hours of work see Lambert et al. (2014).

27. See Waldfogel (2007) for some discussion of the benefits of paid family leave for children. The federal government now mandates up to 12 weeks of unpaid leave for workers in firms of 50 of more employees. A small number of states (including California, New Jersey and Rhode Island) have publicly-funded paid leave provisions financed by payroll or Unemployment Insurance taxes. The Obama Administration announced proposals in their 2015 budget to help more states finance paid leave.

er any benefits associated with these programs or work-based learning fade with time; and whether we can prepare very unskilled students, or "hard to employ" workers, for successful participation in such programs.

To answer these questions, we will need a vigorous and ongoing body of research and evaluation. To some extent, such research has already been promoted as part of Obama Administration's education and workforce efforts (Haskins, 2014). Programs that are relatively new should not be held to the same rigorous evaluation standards by which we judge more established programs, but both should be studied. And policy implementation of these approaches should be adjusted, whenever the evidence suggests that changes should be in order.

Furthermore, since we know that relatively sector or occupation-specific training runs some risks of obsolescence in a volatile job market, efforts to protect workers from that should be incorporated into all such programs. This means that everyone should get a strong base of general knowledge in their sectoral training – and that it should be possible to clearly signal to potential employers what these skills are.[28] Opportunities for workers displaced by labor market forces such as new technologies to go back and retrain somewhat – even if it just means, for instance, that a general welder learns how to become a "precision" welder for an advanced manufacturing company –need to be improved as well.[29]

Finally, workers whose skills will remain too low to participate in any such approaches would benefit from the minimum wage and paid leave policies above and also:

• Expanding the Earned Income Tax Credit, especially for childless adults;

• More support for child care for low-income working parents; and

• A subsidized job creation program in the private and public sectors, along the lines of the Emergency TANF program that quickly created 250,000 jobs for very unskilled workers.[30]

The private sector alone may generate a sub-optimal number of high-road firms and jobs. Minimum wage increases, paid leave and "work councils" should be part of a comprehensive strategy to create good jobs and good workers.

28. Some "career pathway" programs or state workforce policies have started to create "stackable credentials" for workers for certain classroom competencies on the way to an occupational certification, which would signal some general skills that the worker has mastered. To date we have little evidence on how many such credentials now exist or the extent to which employers value or reward them.

29. Welders are an example of an occupation where "shortages" are often declared, even though large numbers of welders are unemployed, because employers seek a specific category of welder with technical skills. See Uchitelle (2009) for a discussion of such a "shortage", even at the trough of the Great Recession.

30. See Pavetti et al. (2011) and Roder and Elliott (2012) for discussions of the job creation that occurred as a result of the TANF emergency jobs program in the 2009 economic stimulus bill.

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