Workforce development programs are often geared toward adult workers. But thinking about workforce development efforts as individual investments in human capital suggests that targeting younger people may yield high returns.

**KEY POINTS**

- The labor market’s slow recovery from the 2007–09 recession has motivated the Richmond Fed to study long-run strategies to improve labor market outcomes.
- Workforce development can be thought of not just as a short-term response to labor market shocks, but also as a long-term strategy for making workers more resilient to labor market changes.
- Policy may be able to help a large number of future workers by encouraging workforce development efforts that include early investments in human capital.
- Research also suggests that there may be large gains from better informing young people about the risks and rewards of multiple career paths and postsecondary educational choices.
- Workforce development efforts targeted at these younger populations can have high payoffs for the individuals involved and may make the overall labor market more resilient to change.

**DISCUSSION**

One of the primary goals of workforce development efforts is to help individuals acquire skills that enable them to find and retain employment. Workforce development efforts often target unemployed adults. Unemployment can be the result of both short-term (often called “cyclical”) factors and long-term (often called “structural”) changes to the economy, for example, a secular decline in demand for a particular occupation such as typists. In the case of structural unemployment especially, workforce development often involves retraining workers to equip them with a new set of skills.

It can be difficult to distinguish between cyclical and structural changes to the economy. But research by Richmond Fed economists suggests that a large portion of the high unemployment that persisted for more than five years after the recession of 2007–09 and the continued low labor force participation may be the result of longer-term structural factors that are thought to be less likely to be affected by monetary policy. (See Federal Reserve Bank of Richmond, “Our Perspective: Labor Markets and Monetary Policy.”) This research has prompted the Richmond Fed to focus on strategies that might help the workforce become more resilient to labor market changes (Lacker 2014).

What can be done to improve individuals’ skills and adaptability to changing labor market conditions — their “human capital”? Research
suggests that individuals may realize high returns from investing in their skills when young and that such investments are important even as early as preschool. It follows that it may be productive to make youth an important area of focus for workforce development programs. Additionally, given this target audience, there may be significant gains to equipping young people with the knowledge they need to make well-informed choices about their human capital investment decisions. Workforce development efforts that target these younger populations can have high payoffs for the individuals involved and can make the overall labor market more resilient to change.

Workforce Development Programs

“Workforce development” encompasses a broad set of programs offered by a range of public and private organizations at the federal, state, and local levels. These programs may include skills assessment, job-readiness and job-search assistance, counseling, job training, or even lessons in “soft skills,” such as self-presentation and timeliness. Recipients include new entrants to the workforce, displaced workers, veterans, youth, and people with disabilities, among others.

At the state and local levels, a significant portion of public funding for workforce development comes from the federal Workforce Innovation and Opportunity Act of 2014 (WIOA), the successor to the Workforce Investment Act of 1998 (WIA). The original Act consolidated numerous programs into “one-stop” employment centers and sought to give more control to states and localities by creating workforce investment boards composed of local business, education, and labor leaders. WIOA maintains the basic structure of these boards while introducing some measures designed to increase coordination between the state and local boards and to improve performance measures. WIOA funds programs for three main constituencies: displaced workers, economically disadvantaged adults, and young people from low-income families who face specific barriers to employment, such as being a parent, a high school dropout, or a juvenile offender. Roughly two-thirds of the funding goes toward adult programs and one-third toward youth programs.

In addition to local workforce investment boards, numerous federal agencies offer dozens of different programs targeted toward specific populations, ranging from veterans to former criminal offenders. In the private sector, in addition to providing traditional on-the-job training, a growing number of employers are partnering with community colleges or other organizations to fill specific workforce needs, for example by offering apprenticeship programs (Nash 2012).

Human Capital and Labor Market Outcomes

In the early 1960s, economists began to think formally about the knowledge or characteristics that make a worker more productive — the worker’s set of marketable skills — as a form of capital. Workers acquire this “human capital” by making investments, for example by attending school, getting on-the-job training, or even receiving medical care (Journal of Political Economy 1962).

The skills learned early in life through formal education and those acquired on the job are important components of human capital, which in turn is central to success in the labor market. Labor market outcomes vary significantly for workers with different amounts of human capital, especially different levels of education. For example, the unemployment rate for workers with only a high school diploma tends to be about twice the rate for workers with a college degree or higher, while their median weekly wages are only about half the wages of college-educated workers. Between 1950 and 2010, the average worker with a college degree earned about $830,000 more by retirement age than the average worker with only a high school diploma, according to economists at the San Francisco Fed (Daly and Bengali 2014).

It is important to note that the benefits of formal education do not appear to increase smoothly with the number of years of schooling. Rather, there are disproportionately large gains from completion. In particular, lower unemployment rates and higher earnings are benefits that appear to accrue mainly to students who graduate from college; the payoff to those attending for only a few semesters without earning a degree is relatively low. The unemployment rate for workers with some college education but no degree is comparable to the rate for workers with only a high school diploma. And while students who have attended some college do earn about 15 percent more than high school graduates, those with a bachelor’s degree or higher earn 83 percent more. Despite the large gains from college completion, however, the
college dropout rate is around 40 percent. Completion is an issue at the high school level as well, even though workers who have not graduated from high school face high unemployment rates and low earnings. Nationwide, 19 percent of public high school students fail to graduate on time. About 7 percent of 16- to 24-year-olds are not enrolled in school and have not earned a high school diploma or a certificate of high school equivalency (National Center for Education Statistics 2014).

Research suggests that labor market success depends on more than just the number of years spent in school or on the job: Noncognitive skills may be just as important a determinant of future success (Bowles, Gintis, and Groves 2008). Skills such as following instructions, patience, and work ethic lay the foundation for mastering more complex cognitive skills later in life. For example, the general educational development (GED) credential is supposed to be equivalent to a high school diploma, but on average, people who have earned a GED tend to have worse labor market outcomes than people who have graduated from high school. This may be because the same noncognitive skills that are necessary to complete high school also determine labor market success (Heckman, Humphries, and Mader 2010). These basic emotional and social skills are learned very early in life, and it can be difficult for children who fall behind to catch up. Gaps in skills that are important for adult outcomes are observable by age 5 and tend to persist into adulthood (Heckman 2008).

Implications for Workforce Development

Research on individual investments in human capital yields several insights that are particularly relevant for workforce development programs. First, intensive human capital formation in the form of formal schooling is optimally undertaken by the young because the earlier workers invest, the longer they have to recoup and benefit from their investments. In addition, because experience is valuable and results in income that, all else equal, tends to be higher later in life, the opportunity cost of time spent in school is lower for young people. Reasoning based on human capital also suggests that higher education should lead to higher future wages, both because education is costly to acquire and because it can increase a person's productivity. Finally, once skills are viewed as an asset that is accumulated via investment (and effort), it becomes clear that workers should consider the risks and rewards of human capital investment just as they would for any other investment.

One implication of these insights is that interventions well before adulthood — even as early as preschool — can reasonably be considered part of a comprehensive workforce development program. Workforce development professionals who have participated in Richmond Fed focus groups have reported that a lack of soft skills is a major obstacle to employment for their adult clients. Employers who have attended the Richmond Fed's industry roundtables also have shared that many job applicants do not have the necessary soft skills. An early focus on critical noncognitive skills thus may help improve labor market outcomes later in life.

Another implication of human capital research is that no single educational path is right for everyone. Thus, there may also be large gains from including information dissemination in workforce development programs. Specifically, successfully transmitting information to middle and high school students about different career and postsecondary education options and about the level of preparedness necessary for college success (for example, see investinwhatsnext.org) could improve the labor market outcomes of students at risk of dropping out of high school or college.

A host of socioeconomic variables influence the high school dropout rate, but one important factor may be the increasing focus of most high schools on college preparation, to the exclusion of other options. Some students may not wish to attend college or may perceive large barriers to doing so. If these students believe that the only reason to complete high school is to attend college, then they might not see much value in graduating from high school. For such students, learning about alternative career and educational opportunities that require a high school diploma but not a college degree could increase the perceived value of high school completion (Cullen, Levitt, Robertson, and Sadoff 2013).

Students who do plan to attend college may need more information about the level of preparedness required to succeed once they are there; if students do not have an accurate assessment of their own readiness for college, they may be more likely to drop out. Surveys have shown that this happens with some fre-
quency. Entering college students say they are highly optimistic about their grades and that they intend to graduate within four years. But as they take classes and exams, they revise their assessments of future performance, and these updated beliefs play a large role in their dropout decisions (Ozdagli and Trachter 2011; Stinebrickner and Stinebrickner 2012). As noted above, there is relatively little economic benefit to attending a year or two of college without graduating, but the costs can be large. The average debt burden among college dropouts who took out loans is more than $14,000 (Avery and Turner 2012). These students could benefit from learning about options other than enrolling directly in four-year colleges. Community colleges, for example, are a venue where students can learn more about their interests and aptitudes and hone the skills that are required for success at four-year schools (Romero and Trachter 2016).

In addition, there can be a large difference between the average return to college and the return likely to accrue to any individual student (Haltom 2013). The median salary for workers who majored in a STEM (science, technology, engineering, and math) field is $76,000, compared with $46,000 for workers who majored in education or social work (Carnevale, Cheah, and Hanson 2015). And students may vary in other ways that affect their labor market chances irrespective of major. Research finds that many college freshmen are misinformed about earnings prospects in general and about the prospects for specific majors (Wiswall and Zafar 2013). Workforce development thus could include providing students with better information to help them weigh their relative risks and rewards of college attendance.

Other students might know that attending college is not their desired path. These students would benefit from learning about other postsecondary education options that could improve their labor market outcomes relative to only completing high school or dropping out of college. For example, a growing number of vocational or apprenticeship programs offer specialized training in areas that are in high demand, such as health care and advanced manufacturing.

It also is important to try to ensure that well-prepared students do not forgo college simply because of perceived obstacles such as cost or lack of knowledge about the payoff. At first glance, high-achieving students who do not apply to college might appear myopic or impatient, unwilling to wait to realize a return on the investment. But many students, particularly low-income students, overestimate the costs of college and underestimate their opportunities for financial aid. Students also might face social norms that cause them to underestimate their potential benefits or their likelihoods of success. In these cases, what looks like impatience might simply be a lack of information. Researchers have found that providing these students with targeted information and assistance can increase their matriculation rates and can play an important role in changing the beliefs of students who erroneously think they are not college material (Hoxby and Turner 2013; Carrell and Sacerdote 2013).

Conclusion
As evidenced by the disparity in unemployment rates and earnings, the most skilled workers are also the ones most protected from both individual and aggregate shocks, such as job loss and displacement. Many workforce development efforts aim to provide adult workers with more skills after a shock has occurred, for example by retraining displaced workers. But viewing workforce development as investment in human capital suggests that it may yield high returns as a long-term vaccine against inevitable labor market fluctuations. If executed well, expanding workforce development to include early life human capital investment could improve lives directly while simultaneously lowering, in the long run, the burden on traditional workforce development practitioners working to retool adult workers who may be better helped through greater use of the social safety net. Ultimately, adopting this human capital view of workforce development could improve the labor market’s resilience to short- and long-term economic changes alike. In the Richmond Fed’s view, therefore, it appears beneficial to expand the scope of workforce development programs directed toward younger people, including efforts to provide information about the risks and returns of multiple career and educational options.
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