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Unemployment Among Young Adults

Exploring Employer-Led Solutions

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"Improving job outcomes for young adults and talent pipelines for employers are complementary goals."

Summary

Younger workers consistently experience higher unemployment and less job stability than older workers. Yet the dramatic deterioration in employment outcomes among younger workers during and since the Great Recession creates new urgency about developing more effective bridges into full-time employment for young people, especially those with less than a bachelor's degree.

Improving the employment status of young adults and helping employers meet workforce needs are complementary goals. Designing strategies to achieve them requires insight into the supply and demand sides of the labor market: both the characteristics of young people and their typical routes into employment as well as the demand for entry-level workers and the market forces that shape employer decisions about hiring and investing in skill development. A quantitative and qualitative inquiry focused on the metropolitan areas of Chicago, Ill. and Louisville, Ky. led to the following insights:

- An increasingly diverse younger generation will make up a growing share of the workforce. Improving the educational and employment outcomes of blacks and Hispanics is critical to maintaining a skilled and competitive labor force.
- While younger workers concentrate in low-wage service industries, some industries hold more promise for better career opportunities for young adults with less than a bachelor's degree. About one in four young adult workers is employed in one of these promising sectors, which include manufacturing, transportation, logistics, and health care.
- While many firms appreciate the flexibility, energy, and tech-savviness of younger workers, they identify academic and soft skills, dependability, and ability to fit into the workplace culture as both fundamental requirements and pervasive weaknesses among younger workers.
- Among the employers interviewed, some expressed dissatisfaction with their strategies for recruiting, assessing, and hiring entry-level workers for positions they deemed critical to their success. When they determined that their existing approaches to human resources threatened their competitiveness, they took concrete steps to better identify, train, and support workers in attaining the necessary skills and competencies.
- To improve outcomes both for young adults and businesses, a broad group of stakeholders—employers, educational institutions, government, and philanthropy—need to support and make changes on both the supply and demand sides of the labor market. Employers need to identify more clearly the skills necessary to execute their business plans and improve their strategies to recruit, assess, and train for those skills; stakeholders need to support and participate in workforce intermediaries or employer partnerships that meet regional labor market needs; educators and employers need to strengthen their information flows and increase their use of industry-recognized competency-based credentials; and educators and employers need to work together to expand work-based learning opportunities.

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Introduction

In good economic times and in bad, younger workers—particularly those in their teens and early-to-mid-twenties—consistently experience higher unemployment and less job stability than older workers. Even in the best of times, younger workers often cycle through low-wage jobs, jobs that are poorly matched to their skills and interests, or a mixture of part-time and seasonal work before settling into longer-term, more stable occupations.[1] For many young workers, a part-time or relatively low-paying job is a good introduction to the work world; it helps them explore their career interests, build confidence, strengthen their networks, and improve their overall level of work-readiness. However, some young people have trouble accessing even these entry-level jobs, or face difficulties in advancing beyond them to employment that enables financial independence.

The sometimes rocky transition into full-time employment among young workers has raised alarms for several decades, as evidenced by high-profile reports published in the 1980s and 1990s including "The Forgotten Half" and "America's Choice."[2] Yet the dramatic deterioration in employment outcomes among older adolescents and young adults in the aftermath of the Great Recession has refocused attention on the issue.[3]

While unemployment has slowly ratcheted down, falling to 5.5 percent nationally in March 2015, sharp variations by age persist, with unemployment at 17.1 percent for 18- to 19-year-olds and 10.4 percent for 20- to 24-year-olds.[4] Among young adults, people of color experience the weakest employment outcomes, and yet these are the young people representing the "diversity explosion" that is remaking this country's demographic composition. People of color are projected to be in the majority among those under age 30 by 2027, fueled by the rapid growth of Hispanics, Asians, and multiracial persons.[5] Among teens age 16-19 and young adults age 20-24, Hispanics and blacks consistently have lower employment rates and higher underutilization rates than their white peers. (The underutilized labor force includes the officially unemployed, those who are involuntarily working part time, and those who desire employment but are not actively looking.)[6]

Education also plays a key role in shaping employment opportunities. Among all young adults, those with some postsecondary education, and particularly those with a bachelor's degree, experience better labor market outcomes than their peers with only a high school diploma or less.[7]

More generally, there is widespread concern about economic and labor market trends affecting all workers; these include declining labor force participation, technological changes, globalized markets, stagnant wages, and the meaning of these trends for the goal of broadly shared prosperity.[8]

To be sure, economic growth and demand for workers are critical factors driving employment rates among younger and less-educated workers.[9] And yet, in addition to the macroeconomic forces shaping labor market opportunities, other factors also impact career options for young people, including the quality and nature of education and training as well as the strategies that employers use to recruit, screen, hire, and train workers.

This project undertook to better understand labor market demand for young adults, an age cohort roughly defined as those between the ages of 18 and 29 entering the labor market seeking full-time, permanent employment and having educational attainment below the level of the bachelor's degree. While the term "young adult" is fluid and can reasonably be defined a number of ways, age 18 was chosen as the lower bound of the target population in order to focus on young adults who are of an age to have graduated from high school, since high school students are typically not seeking full-time employment to support themselves. The upper bound of age 29 was chosen to encompass the timeframe during which young adults begin postsecondary education, even if they don't complete it, and move through the shorter-term, more casual employment typically held before moving into full-time jobs with career potential. While many young adults enter postsecondary education on a full-time basis after high school and graduate with a bachelor's degree at age of 22 or 23, many others pursue education on a part-time basis, leave school before earning a credential, or intersperse school with other responsibilities, postponing the search for a "good job" with career potential. Defining a good job involves some subjectivity but, for purposes of this discussion, it is employment that provides economic independence—either immediately or with a potential pathway toward that goal—and offers long-term prospects for full-time work.[10]

While much research and public discussion have centered on how educational systems can better prepare young people for the jobs of the future, there has been less focus on the specific skills and abilities employers demand and the factors that affect hiring for entry-level jobs in which young people are predominantly employed. In part, this reflects the fact that educators and employers generally operate in separate spheres in the United States, in contrast to other advanced economies in which vocational education pathways are more robust, higher quality, and built around extensive employer engagement.[11] A review of research on school-to-work transitions among young people who do not enter postsecondary education described the U.S. as "arguably [having] one of the least effective systems for preparing non-college-bound youth for the workforce in the Western World."[12]

Research also confirms that employer involvement in education and training beyond "light-touch" activities such as career days and occasional student visits can dramatically improve labor market outcomes for both workers and employers, as discussed below. Those efforts primarily emerge—and are most effectively organized—at the regional and state level. As a recent Harvard Business School study noted, "America's public discourse on skills takes place at a high level of aggregation…[but real] hiring occurs in a multitude of micro-markets."[13]

This project focused on metropolitan regions as essential units of the national economy. The particular regional strengths, assets, and dynamics that shape labor markets determine the sectors and opportunities available to young adults as they move into the labor market and establish careers.[14] In fact, the interconnected cities and suburbs that constitute metropolitan areas are defined on the basis of labor markets and commuter sheds: The federal Office of Management and Budget (OMB), which establishes the boundaries of metropolitan statistical areas across the country, defines metropolitan areas as contiguous areas with "a high degree of social and economic integration (as measured by commuting to work) with the urban core."[15]

The study focused on the Chicago and Louisville regions because, while each is still grappling with the impact of the Great Recession, public- and private-sector leaders in both have undertaken strategies to increase economic growth and expand opportunity through participation in the Brookings-Rockefeller Project on State and Metropolitan Innovation.[16] World Business Chicago's strategy, *A Plan for Economic Growth and Jobs*, explicitly included employer-driven skill development as a key focus and has launched several related initiatives. In Louisville, the plan developed in partnership with Lexington under the Bluegrass Economic Advancement Movement (BEAM) focused on strengthening manufacturing with a primary emphasis on the imperative to strengthen the skills of the workforce. In both regions, new civic partnerships have emerged to better align industry needs with workforce training and community college programming and to strengthen the talent pipeline in strategically important industries. While the research is not representative of metropolitan areas nationally, the two regions offer a useful window into the role of place in strategies to improve employment outcomes among young adults.

The research approach was both qualitative and quantitative in the two regions. In both places, data analysis identified alarming employment trends among younger workers, particularly those with lower education attainment and in black and Hispanic communities. The quantitative analysis also produced a methodology that can be adapted to other regions to identify industries with the potential to provide younger workers with higher earnings and stronger career opportunities. Interviews with employers identified encouraging examples of employer actions that can benefit younger workers and more effectively meet their own workforce needs. While employers are unlikely to champion initiatives specifically designed to increase employment among young adults, they may see a compelling value proposition in programs designed to increase the quality of the labor pool for occupations they see as critical to their business success.

Context: Evidence on demand-driven workforce strategies

A literature review on school-to-work transitions among non-college-bound high school graduates identified several factors rooted in employer involvement that predict more successful employment outcomes: attaining competence in both basic academic and occupationally specific skills (which requires employer input on in-demand skills) and an educational program, such as work-based learning, that offers clear links to employment.[17]

Two recent evaluations of sector-based job training and placement programs found that participants experienced increased earnings compared to control groups. In sector initiatives, employers within a given industry partner with stakeholders that include government, education, and training organizations to identify and address the workforce needs of that industry within a regional labor market.[18] An evaluation of three sector programs—Jewish Vocational Services in Boston, Per Scholas in New York City, and the Wisconsin Regional Training Partnership—found that participants of all ages experienced earnings growth, although the increase was significant for young adults in only two of the programs (Jewish Vocational Services and Per Scholas).[19] Interim results from an evaluation of Year Up are also promising. Year Up, a Boston-based organization which has since expanded to multiple regions around the country, provides training and a paid internship to prepare young people age 18 to 24 with jobs in information technology (IT) and financial operations. Interim evaluations found that participants earned 32 percent more than those in the control group.[20] Key programmatic elements were similar in all of the programs in the two studies: (1) The programs forged strong relationships with employers in targeted sectors in their regions to identify employers' workforce needs, (2) they targeted people who would be a good match for training and job placement, (3) they provided their students with training—geared both to occupational skills and general job readiness—tailored to meet employers' needs, and (4) they coupled the training with supportive and guidance services.[21] A more complete overview of the research base supporting sector programs, along with ideas for future research, can be found in *Connecting People to Work: Workforce Intermediaries and Sector Strategies*.[22]

Sector strategies are typically carried out by intermediaries, whose function is to bridge the needs of employers and workers. The intermediaries can take a variety of organizational forms, such as a workforce investment board, a regional funder collaborative, a community college, or an economic development organization.[23] Effective intermediaries allow educators and employers to avoid the inefficiencies of one-by-one engagements by aggregating employer needs across a given sector. They also create forums for small and medium-sized firms to join forces with larger employers for economies of scale in training investments.

Sector strategies typically serve a mix of incumbent workers and entry-level workers and job seekers, often low-income and low-skill workers, and do not usually focus on occupations that require a bachelor's degree. The most commonly targeted industries are health care, manufacturing, and construction, all of which include a substantial share of middle-skill jobs, i.e., those that require more than a high school diploma but less than a four-year degree and hold promise for higher earnings.[24] With computer power expanding and digital technologies changing the nature of in-demand skills, educational and labor market strategies need to adapt. Economist Harry Holzer notes that the occupational mix of middle-skill jobs is changing, with "older middle-skill jobs" such as those in production, clerical work, and construction declining in number due to the effects of the Great Recession, technology changes, and globalization. "New middle-skill jobs" include health care technology; information technology; installation, maintenance, and repair; and the lower end of management (such as chefs and restaurant managers). These jobs typically involve more-skilled technical, administrative, problem-solving, and communication tasks.[25]

Sector initiatives are relatively easy to implement in diluted form, with mediocre results, and much harder and resource-intensive to implement in such a way that they truly benefit both employers and workers. One veteran of sector programs, Fred Dedrick, describes the depth of industry-specific expertise that workforce intermediaries must develop: "The diversity and dynamism of modern industry requires workforce professionals to analyze current business practices, occupational skill requirements, advanced technology, supply chains, regulations, markets, and customers. Wall Street investors, the business press, and the consulting world employ thousands of industry analysts to dig deep into particular industry sectors to uncover important trends and disruptive technologies. This knowledge can rarely be garnered from irregular one-on-one interactions, general industry surveys, or Bureau of Labor Statistics projections."[26] Dedrick notes that it can take up to five years for sector initiatives to reach maturity and produce clear demand-side intelligence by effectively engaging employers in developing a talent supply chain.[27]

Sector initiatives thus require patient capital. They also require funding sources that will support the research and relationship-building activities described above; while these are necessary to better align training with industry needs, they will not, on their own, generate programmatic outcomes like job placements in the short term.[28]

Research on registered apprenticeships and other educational models, such as Career Academies (described below), also supports the value of employer involvement in education in terms of the employment and earnings outcomes for students and workers. These two approaches are not typically viewed under the sector umbrella, as they grew from different organizational roots, but they perform many of the intermediary functions outlined above within the context of a given industry. Apprenticeships, which combine on-the-job training with related classroom instruction tailored to employer needs and the specific skills required in particular occupations, are perhaps the most structured model of employer engagement in training. An analysis of registered apprenticeship in 10 states found large earnings gains among those who participated.[29] Other research found that employers participating in registered apprenticeships valued the program and reported that it helped meet their needs for skilled workers.[30] (There are also apprenticeships that are not registered with the federal or state governments, although much less is known about these.) However, apprentices do not skew young in the U.S.: only about 20 percent of apprentices are under the age of 25 and the average age is about 30.[31]

An evaluation of high school Career Academies—smaller learning communities within high schools that combine academic and occupational curricula around a career theme such as health care or business—found long-term positive earnings impacts after high school graduation, particularly among young men, with no negative impacts on academic outcomes.[32] Strong employer engagement is a key element in Career Academies; employers advise on curriculum, provide information about jobs and skill requirements, mentor students, and offer internships.[33]

However, in the main, the U.S. educational system does not integrate academics with work-based learning through experiences such as internships, co-ops, and apprenticeships that create entry points into the workplace for younger workers and smooth the transition to full-time careers.

A rising chorus is calling for employers to take on a larger role in bridging the worlds of work and education, with a focus on developing technical skills that do not typically require a bachelor's degree.[34] One study noted that companies "do not apply the same discipline in sourcing talent as they employ in sourcing other inputs....[T]he development of talent and skills, especially for the middle-skills workforce, lacks...strategic direction and polished execution."[35] Several recent reports, including significant entries from national business organizations including the U.S. Chamber of Commerce Foundation, urge employers to develop a more long-term and sophisticated strategy for developing a talent supply chain for occupations that drive the company's competitiveness, rather than relying on the spot market for labor.[36]

Methodology

Quantitative analysis

To profile the supply and demand sides of the labor market in the Chicago and Louisville regions, researchers relied on two datasets:

- Data from the 1990 and 2000 decennial censuses and the 2006 through 2013 American Community Survey one-year estimates are used to describe characteristics of the population by age, such as race/ethnicity, educational attainment, unemployment, and earnings. With the exception of 1990, all microdata were accessed via IPUMS.org; 1990 microdata were accessed via NHGIS.org. Geographies are standardized to the OMB 2013 metropolitan statistical area (MSA) delineations. 2013 American Community Survey one-year estimates at the national level were also used to measure the educational attainment of workers age 19–24 by industry, as seen in the "promising industries" tables.

- The Longitudinal Employer-Household Dynamics (LEHD) Quarterly Workforce Indicators are used to identify and describe the sectors that employ young people. The LEHD program is a census data product that combines information from existing sources—including the Quarterly Census of Employment and Wages, Unemployment Insurance Earnings Records, Census and Administrative Records, and Business Dynamics Statistics—into a quarterly snapshot of labor market job attributes and flows. This paper uses data from 2009 to 2013, and examines employment among the

19-24 age group, one of the pre-set age categories in the dataset. Due to these pre-set age categories, it is not possible to consider 18-29-year-olds as a cohort. Data are analyzed for the Chicago and Louisville MSAs and based on the 2013 MSA delineations. Unfortunately, data at the national level are not available for benchmarking purposes. The LEHD program is the result of a voluntary federal-state partnership to share and merge data, and it has not yet begun releasing public-use statistics for the state of Massachusetts.

Interviews

Fifty-three interviews were conducted with employers, employer associations, workforce community colleges, training providers, and other stakeholders in the two regions; 28 of those interviews were with employers. The purpose of the employer interviews was to better understand recruiting, assessment, hiring, and training practices and to probe the barriers and opportunities employers perceive in hiring young adults with less than a bachelor's degree. The employers who were interviewed represent companies of various sizes, including large corporations and small to medium-sized firms. The purpose of the stakeholder interviews was twofold: to gain introductions to employers and to understand regional labor market dynamics and existing workforce development initiatives relevant to young adults.

The interviews are a nonrepresentative sample of employers and organizations involved in education and training and those knowledgeable about labor market dynamics in the two regions. Snowball sampling methodology was used to identify employers and stakeholders for interviews. Interviews were sought particularly with employers and in industries that employ large numbers of young people or that emerged in the LEHD analysis as promising for young people with less than a bachelor's degree. The project's scope and timeline did not allow for a comprehensive outreach and sampling strategy, however.

Young adult workers: Analyzing labor market supply and demand

Characteristics of young adult workers

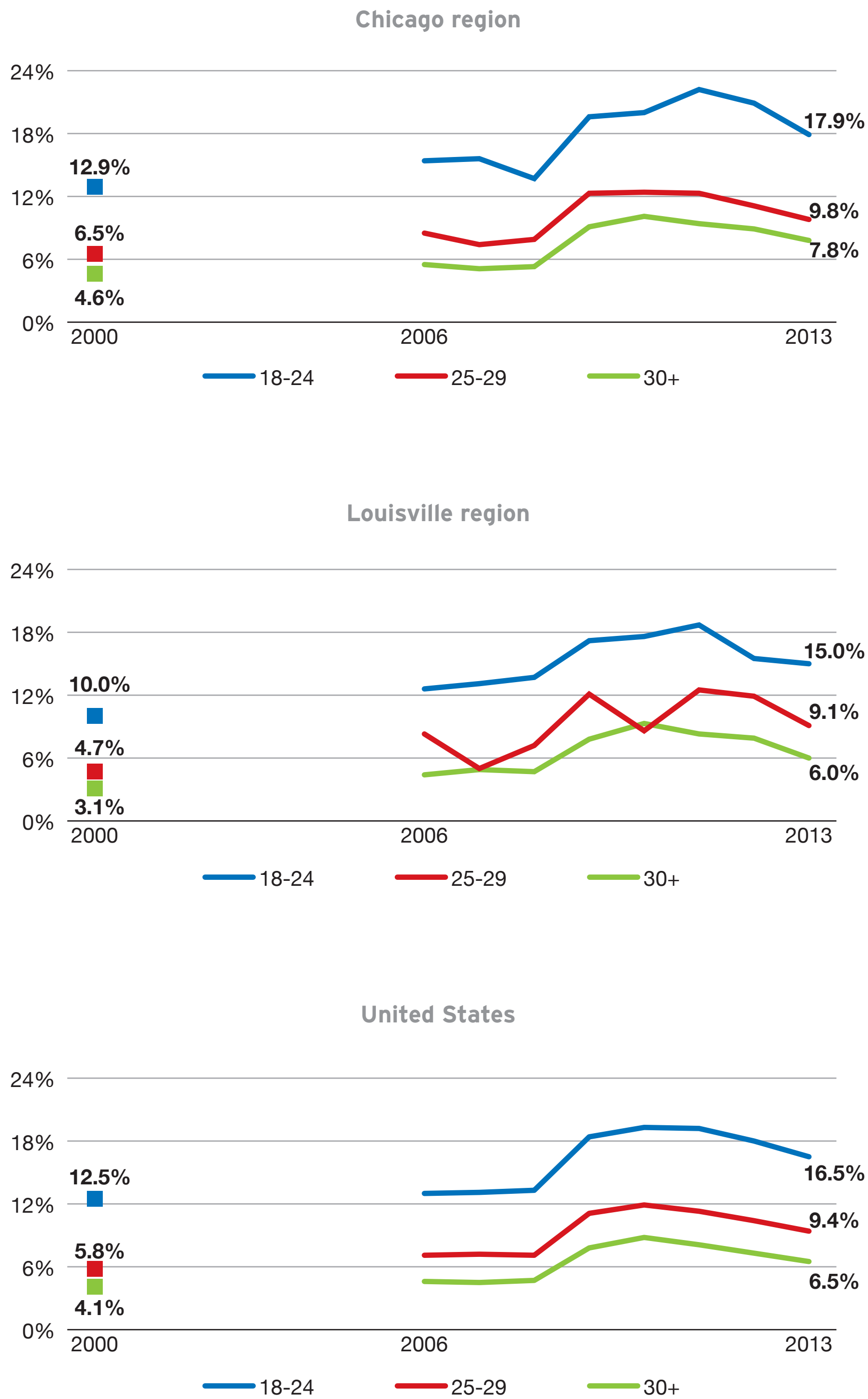
Young workers typically have higher unemployment rates and lower earnings than older workers

Younger workers have less experience and lower skill levels than older workers simply by virtue of their age. These characteristics translate into higher unemployment rates and lower earnings as young people enter the work world, in both booming economies and downturns.

Nationally, young people age 18-24 experienced unemployment rates of 12.5 percent in the strong economy of 2000, compared to the much lower rates of 5.8 percent among 25-29-year-olds and 4.1 percent among workers over age 30. Unemployment among all ages soared as a result of the Great Recession, remaining especially high among younger workers even as the recovery has progressed: 16.5 percent among 18-24-year-olds in 2013 and 9.4 percent among 25-29-year-olds. Similar patterns play out in the Chicago and Louisville regions. Unemployment rates among 18-24-year-olds were 17.9 percent in Chicago in 2013 and 15 percent in Louisville, with lower rates among 25-29-year-olds that are nonetheless several percentage points higher than rates among older workers. Among young people, there has been a documented decline in labor force participation (meaning that fewer are either working or actively looking for work), as more enroll in postsecondary education.[37] However, the high unemployment rates among 18-24-year-olds still indicate substantial interest in working among this age group.

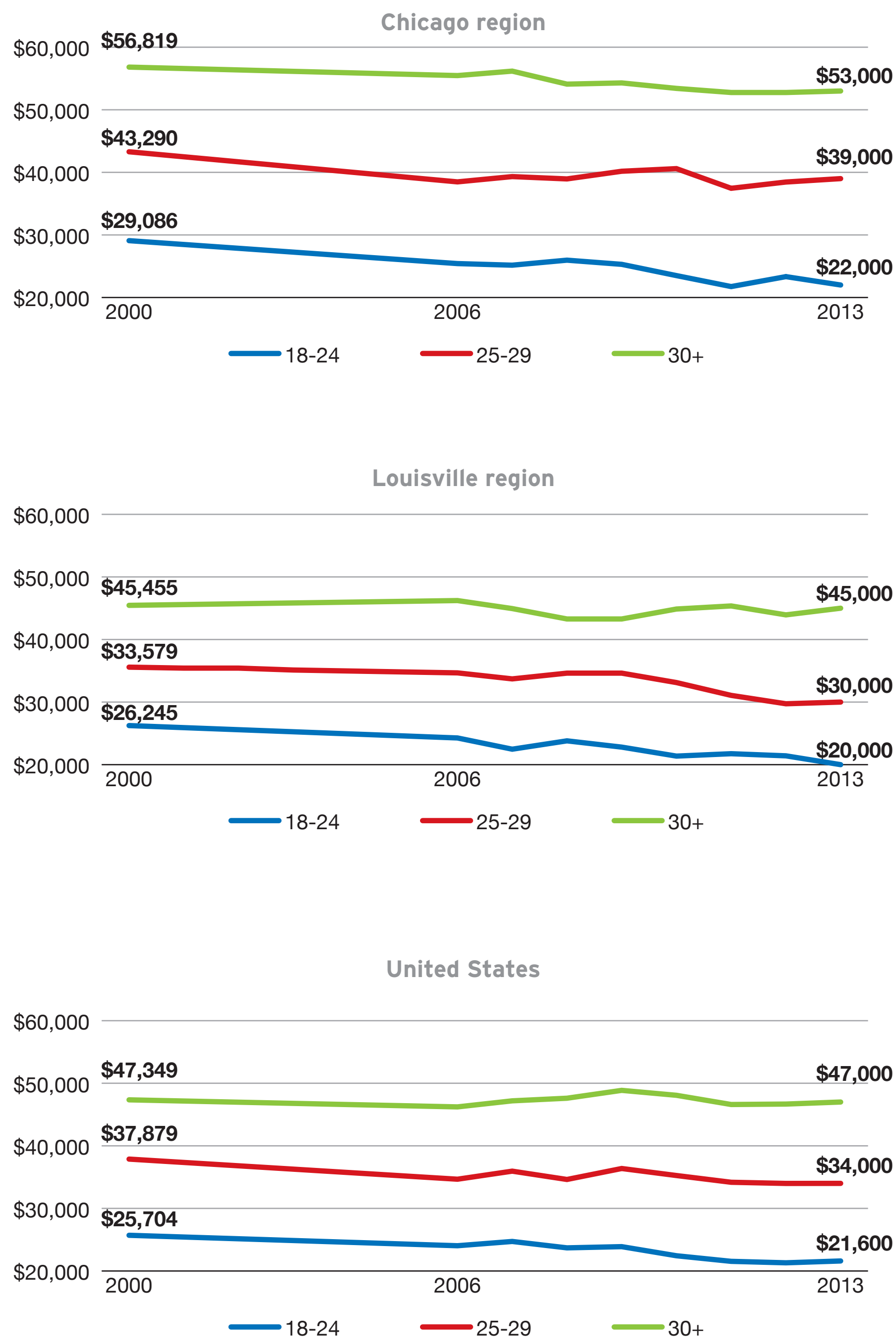
Similarly, younger workers experienced sharper earnings declines following the recession than did older workers, both nationally and in the regions. In Louisville, median annual earnings for workers age 18-24 and 25-29 fell 24 percent and 16 percent, respectively, between 2000 and 2013, compared to 1 percent among older workers. In Chicago, workers age 18-24 experienced a 24 percent decline in earnings between 2000 and 2013, while earnings for workers 25-29 declined 10 percent and for workers age 30 and over, 7 percent.

Figure 1. Unemployment by age, 2000 and 2006-2013



Source: Brookings analysis of decennial census and American Community Survey microdata

Figure 2. Annual median earnings by age, 2000 and 2006-2013, full-time year-round workers (2013 dollars)



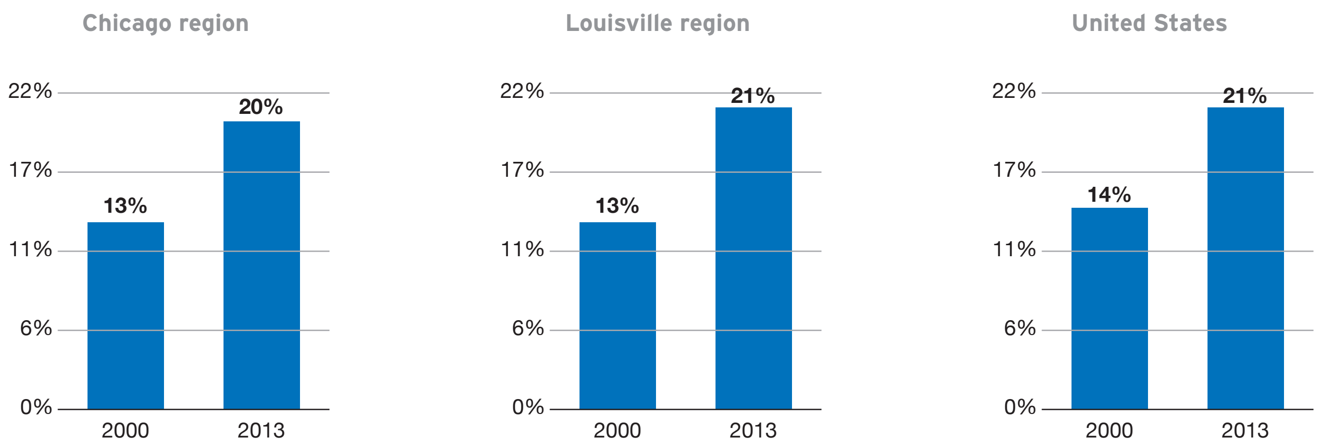
Source: Brookings analysis of decennial census and American Community Survey microdata

An increasingly diverse younger generation will make up a growing share of the labor force

Nationally, young adults between the ages of 18 and 29 account for 17 percent of the population. Shares are comparable in the Chicago and Louisville regions: In Chicago, young adults total 1.6 million people, or 17 percent of the population; in Louisville, they number 191,000, or 15 percent of the population.[38]

The share of U.S. workers age 55 and older increased from 14 percent in 2000 to 21 percent in 2013. In Chicago and Louisville, the numbers were virtually the same, growing from 13 percent in both regions in 2000 to 20 percent in Chicago and 21 percent in Louisville. The millennial generation, the cohort born in the 1980s and 1990s and now in its twenties and early thirties, is slated to outnumber the baby-boom generation as the largest generation in 2015.[39] The importance of young adults to the labor market will only increase as the older generation reaches retirement.

Figure 3. Share of workers age 55+, 2000 and 2013

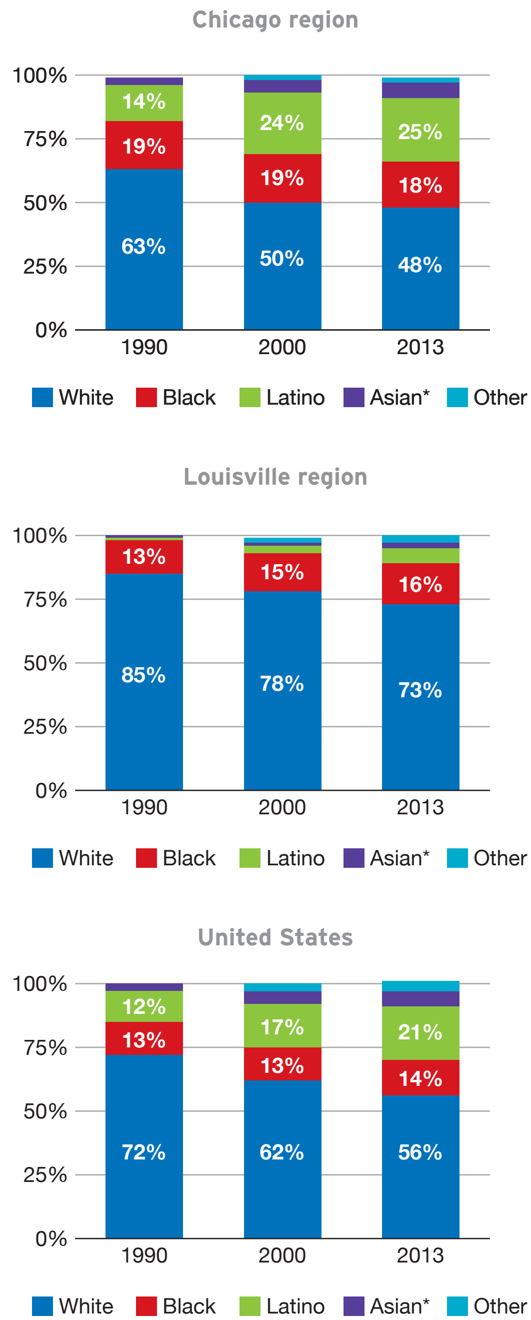


Source: Brookings analysis of decennial census and American Community Survey microdata

Brookings demographer William Frey has described the "diversity explosion" that is remaking the racial and ethnic profile of the United States, beginning with the under-18 population. Asian, Hispanic, and multiracial populations are growing rapidly, while the slower-growing white population is aging. Frey describes the transformation as "generational in character…bubbling up the age structure, from young to old." He forecasts societal impacts that will be comparable in scale to those brought about by the baby-boom generation in the 20th century, and predicts a "cultural generation gap" between the more racially diverse younger population and less diverse older generations.[40]

The younger population in Louisville and Chicago reflects these demographic shifts, creating a diversity explosion at the regional level. In Louisville, the share of the population between the ages of 18 and 29 that is white dropped from 85 percent to 73 percent between 1990 and 2013. In Chicago, the share of whites in the younger population was only 63 percent in 1990 but fell to less than half—48 percent—by 2013. In both regions, the black population remained fairly stable while Hispanic and Asian populations grew rapidly.

Figure 4. Race/ethnicity of young adults age 18-29, 1990, 2000, and 2013



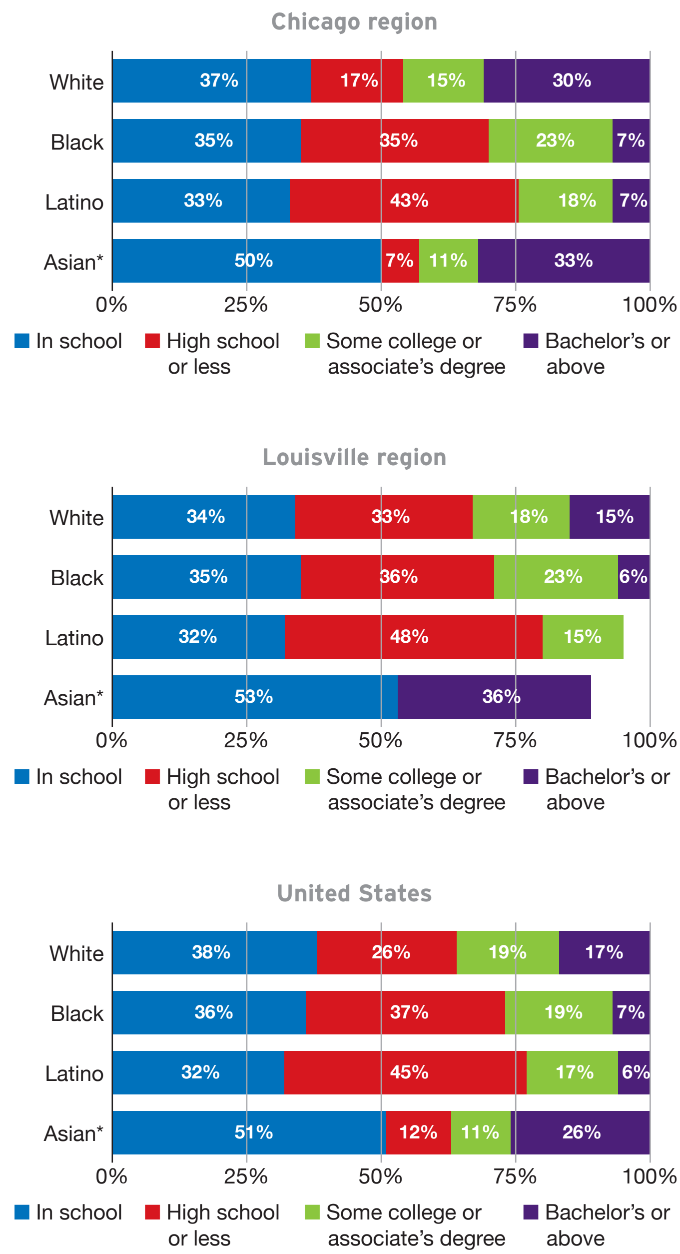
** Data reported for Asians include Asians and Pacific Islanders.*
Source: Brookings analysis of decennial census and American Community Survey microdata

Employment and educational outcomes among young adults vary by race and ethnicity

Young adults who are black and Hispanic have the lowest average levels of educational attainment. Looking at 18-to-29-year-olds nationally, 7 percent of blacks and 6 percent of Latinos have bachelor's degrees, compared to 17 percent of whites and 26 percent of Asians.

Although the precise numbers vary, similar patterns play out in the two regions: Young adults who are black and Hispanic have substantially lower levels of educational attainment than whites and Asians, often two or three times lower.

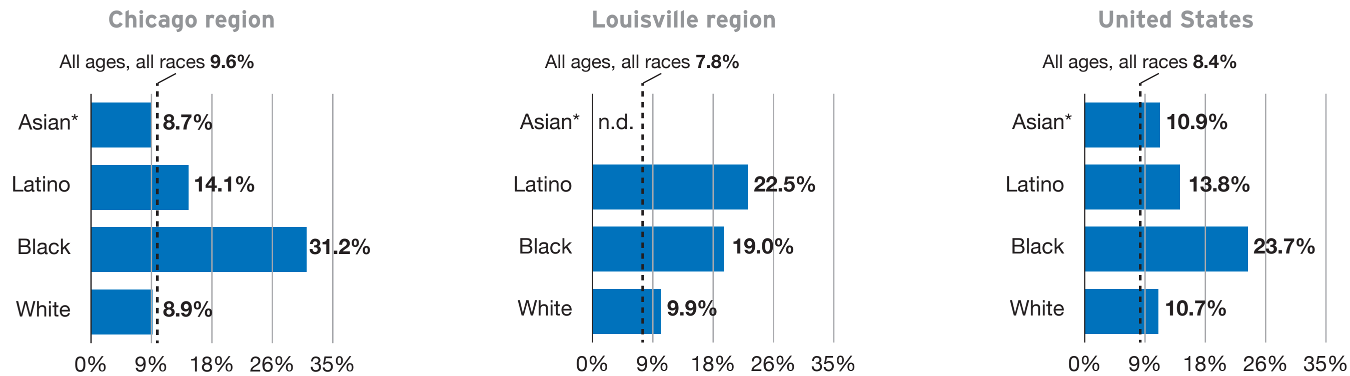
Figure 5. Educational attainment of 18-29-year-olds by race/ethnicity, 2013



** Data reported for Asians include Asians and Pacific Islanders.*
Source: Brookings analysis of decennial census and American Community Survey microdata

Nationally, unemployment rates are higher among younger blacks (23.7 percent) and Hispanics (13.8 percent) than among whites and Asians (both around 11 percent). Comparable trends are visible in the Chicago and Louisville regions, although it varies as to which group—blacks or Hispanics—have the highest unemployment rates.

Figure 6. Unemployment among 18-29-year-olds by race/ethnicity, 2013



** Data reported for Asians include Asians and Pacific Islanders.*
Source: Brookings analysis of decennial census and American Community Survey microdata

Much of the labor market disadvantage faced by young people of color stems from their relatively low levels of educational attainment. In an analysis of the employment status of young people five to 10 years after leaving school, the Organization for Economic Cooperation and Development concluded that low educational attainment in the U.S. and other industrial nations represents an "enduring barrier to employment."[41] As younger cohorts in the population grow more diverse, continuing on current trajectories in education, training, and employment will magnify the challenges.

Another likely factor contributing to high unemployment rates among blacks and Hispanics is discrimination in hiring. In field experiments in cities across the country, in which equally qualified job candidates who differ only by race or ethnicity apply for jobs, researchers have found that employers show a clear preference for white applicants.[42]

Demand for young adult workers

A Brookings analysis of young adult employment patterns in Chicago and Louisville provides insights into the sectors and jobs employing large numbers of young people—as well as sectors that may provide better pathways to careers for young adults with less than a bachelor's degree. This analysis focused on workers age 19-24 using Longitudinal Employer-Household Dynamics Quarterly Workforce Indicators data. LEHD is a rich dataset drawing from multiple sources to provide detailed labor market indicators by industry and by age group at the metropolitan level.

Low-wage service industries are the largest employers of young adults

At the national level, young people are concentrated in low-wage jobs consistent with their lower levels of skills, education, and experience. About 45 percent of workers age 16 to 24 are employed in two industries: leisure and hospitality, which accounts for 25 percent of their employment, and retail trade, which accounts for 19.1 percent. [43] Both of those sectors are characterized by a large number of jobs that pay low wages and offer part-time hours.[44]

The next tier of industries employing large numbers of young workers offers jobs that pay higher wages but accounts for much smaller shares of the total workforce age 16 to 24: education and health services at 10.7 percent and professional and business services at 8.1 percent.[45]

Employment trends in Louisville and Chicago largely mirror those patterns, with large numbers of workers age 19-24 primarily concentrated in a few industries (Tables 1 and 2). Restaurants and bars, administrative and support services, and general merchandise retailers are among the largest, employing almost a third of all young workers between them in each market. There are regional variations, however: In Louisville, where UPS is the region's largest employer, 7 percent of young adults are employed in the "couriers and messengers" industry. Of the 10 sectors employing the largest number of young adults, nine in Chicago and five in Louisville pay below the average monthly earnings for young workers. Average monthly earnings among young workers in food service in Chicago, for example, are $1,113, considerably lower than the $1,735 average for all young workers in the region.

Higher-paying sectors that employ large numbers of young adults include professional, scientific, and technical services and, in Louisville, hospitals. These sectors typically pay from 30 percent to as much as 80 percent more than the average. Many jobs in those sectors require higher levels of education than jobs in other sectors. Forty-nine percent of young adults in professional/technical services and 29 percent of young adults working in hospitals have bachelor's degrees, considerably higher than the average of 15 percent for all young adult workers in the 19-24 age group. Hospitals also employ relatively higher shares of young adults with associate's degrees, reflecting the concentration of technical positions accessible with a two-year degree in health care fields: 14 percent of young adults working in hospitals have associate's degrees, compared to an average of 7 percent among all young adult workers.

Other sectors employing large numbers of young people have higher shares of young adult workers with postsecondary degrees, although without higher pay scales. Among these are ambulatory care (13 percent with associate's degrees and 18 percent with bachelor's degrees), nursing and residential care facilities (9 percent with associate's degrees), and education (32 percent with bachelor's degrees).[46]

Table 1. Ten largest industries employing young adults age 19-24 in the Chicago metropolitan area, 2013, ranked by number of young adult workers

	Employment 2013	Young adults as share of industry	Employment 2013	Industry's share of all young adult workers	Avg. monthly earnings 2013
Industry	**All ages**		**19-24**		**19-24**
All NAICS Subsectors	3,846,884	8.4%	322,995	100%	$1,735
Food Services and Drinking Places	264,144	21.0%	55,573	17%	$1,113
Administrative and Support Services	252,967	9.2%	23,196	7%	$1,722
General Merchandise Stores	86,872	21.0%	18,284	6%	$1,207
Professional, Scientific, and Technical Services	297,843	5.9%	17,717	5%	$3,230
Educational Services	362,811	4.4%	16,093	5%	$1,697
Food and Beverage Stores	80,722	17.2%	13,902	4%	$1,184
Clothing and Clothing Accessories Stores	38,184	31.9%	12,196	4%	$865
Ambulatory Health Care Services	166,508	6.5%	10,741	3%	$1,696
Amusement, Gambling, and Recreation Industries	57,717	16.0%	9,250	3%	$970
Nursing and Residential Care Facilities	76,067	10.5%	8,006	2%	$1,456

Note: NAICS stands for the North American Industry Classification System, the standard used by federal statistical agencies to classify business establishments. This analysis uses NAICS codes at the three-digit level, designating subsectors within an economic sector.

Source: Brookings analysis of data from the Longitudinal Employer-Household Dynamics program, Quarterly Workforce Indicators

Table 2. Ten largest industries employing young adults age 19-24 in the Louisville metropolitan area, 2013, ranked by number of young adult workers

	Employment 2013	Young adults as share of industry	Employment 2013	Industry's share of all young adult workers	Avg. monthly earnings 2013
Industry	All ages		19-24		19-24
All NAICS Subsectors	529,865	10.0%	50,995	100%	$1,595
Food Services and Drinking Places	39,328	24.0%	9,614	19%	$1,036
Couriers and Messengers	19,226	20.0%	3,798	7%	$1,309
Administrative and Support Services	29,124	12.0%	3,555	7%	$1,641
General Merchandise Stores	12,347	18.0%	2,266	4%	$1,165
Food and Beverage Stores	11,074	20.0%	2,251	4%	$1,165
Professional, Scientific, and Technical Services	24,981	7.0%	1,641	3%	$2,381
Ambulatory Health Care Services	24,768	6.0%	1,405	3%	$1,771
Hospitals	22,249	6.0%	1,366	3%	$2,070
Educational Services	43,819	3.0%	1,364	3%	$1,815
Nursing and Residential Care Facilities	12,448	11.0%	1,345	3%	$1,540

Source: Brookings analysis of data from the Longitudinal Employer-Household Dynamics program, Quarterly Workforce Indicators

Some industries provide young people better jobs with higher earnings and greater potential

Identifying industries that employ large numbers of young people provides a snapshot of current demand but does not identify whether these industries provide "good jobs" with career potential to large numbers of young people with less than a bachelor's degree. Such an analysis can help policy-makers, government agencies, and philanthropists determine where to target their investments.

Delving more deeply into the question of whether some industries offer better entry-level jobs than others required devising a series of filters to home in on sectors that pay higher wages, show a positive growth trajectory, and employ enough workers to be a significant presence in the region. The list of industries in each region is based on an analysis using four screens:

1. **Earnings:** Industries paying above the average monthly earnings for workers age 19-24 ($1,735 in Chicago and $1,595 in Louisville)
2. **Post-recession growth:** Industries with above-average growth for all workers, 2009-2013 (2 percent in Chicago and 4.4% in Louisville)
3. **Minimum threshold size:** Industries that account for at least 0.5 percent of all jobs in the region (19,235 in Chicago and 2,650 in Louisville)
4. **Special factors:** Industries that were screened out by the first three criteria but offer significant levels of employment, prominence in the regional economy, employer engagement, career ladder potential, and/or growth prospects

The list of industries produced by these screens is suggestive but not definitive. The methodology provides a framework regional stakeholders can use to investigate whether some industries are more promising than others for launching young people into careers.

The list of industries passing the above screens account for 23 percent of employment among young adults in Louisville and 27 percent in Chicago—a substantial share, yet not that much larger than the single industry employing the largest number of young adults in both regions: food and drink establishments.

The administrative and support services industry, which includes temporary employment and staffing agencies, employs the largest number of young adults among the "promising industries."[47] Although the sector did not meet the earnings screen in Chicago, it was included since it fell below the threshold

			Employment 2013	Share of workers	Employment 2013	Share of workers	Percent job change 2009-2013		Share 19-24 with	Share 19-24 with	Share 19-24 with	Avg. monthly earnings 2013
	NAICS	Industry	All ages	19-24	19-24	55+	All ages	19-24	HS	SC	AA	19-24
		All NAICS Subsectors	3,846,884	8.4%	322,995	22.3%	2.0%	-1.9%	29%	43%	7%	$1,735
1	561	Administrative and Support Services*	252,967	9.2%	23,196	22.9%	14.8%	5.6%	36%	35%	5%	$1,722
2	541	Professional, Scientific, and Technical Services	297,843	5.9%	17,717	18.4%	9.0%	5.7%	11%	30%	8%	$3,230
3	621	Ambulatory Health Care Services*	166,508	6.5%	10,741	23.3%	9.4%	-1.5%	20%	45%	13%	$1,696
4	622	Hospitals*	182,576	4.3%	7,866	25.9%	-3.4%	-17.1%	15%	39%	14%	$2,371
5	441	Motor Vehicle and Parts Dealers	40,412	13.5%	5,468	19.9%	5.9%	1.3%	34%	43%	9%	$1,836
6	551	Management of Companies and Enterprises	84,471	4.7%	4,012	21.1%	10.3%	4.3%	13%	25%	5%	$2,768
7	811	Repair and Maintenance	35,816	9.9%	3,552	21.6%	3.5%	-8.1%	42%	34%	8%	$1,835
8	332	Fabricated Metal Product Manufacturing	62,034	4.9%	3,021	31.1%	3.4%	20.7%	40%	33%	7%	$2,485
9	721	Accommodation*	33,317	8.2%	2,721	20.7%	-1.4%	-15.4%	27%	46%	7%	$1,759
10	488	Support Activities for Transportation	25,480	9.3%	2,375	17.4%	18.0%	41.0%	37%	34%	9%	$2,740
11	531	Real Estate	40,750	5.0%	2,052	26.7%	2.8%	-9.4%	21%	44%	7%	$2,011
12	484	Truck Transportation	43,598	4.0%	1,757	24.1%	8.7%	18.2%	49%	30%	6%	$2,440
13	333	Machinery Manufacturing	36,407	3.9%	1,436	30.7%	4.0%	9.8%	35%	32%	10%	$2,792
14	326	Plastics and Rubber Products Manufacturing	30,395	4.6%	1,403	24.7%	2.4%	4.9%	52%	24%	6%	$2,671
15	331	Primary Metal Manufacturing	28,752	2.6%	761	37.3%	6.5%	-	41%	32%	6%	$4,659

Table 3. Promising industries, Chicago region, ranked by number of young adult workers

Source: Brookings analysis of data from the Longitudinal Employer-Household Dynamics program, Quarterly Workforce Indicators
** Added per Screen 4: Special Factors*
HS = high school diploma; SC = some college courses but no degree; AA = associate's degree. Each refers to a person's highest level of educational attainment

by less than 1 percentage point. Temporary employment or staffing agencies supply workers to other businesses, typically for a limited time period. The staffing agencies are the employers of record and place workers in a variety of worksites, such as warehouses, factories, and offices. Employers use temporary workers for a variety of reasons: to meet short-term staffing needs, to screen or "try out" workers before hiring them into permanent positions, and to reduce labor costs.[48] In both regions, average earnings among young adults working in the sector hover around the all-industry average, probably reflecting the tiered nature of the temporary staffing industry, in that it offers jobs at a mix of wage and skill levels. While there is debate about whether—and under what conditions—temporary work offers a positive entry point into the labor market, the data show that it is a major player among employers of young adults and not, on average, among the lowest-wage sectors.

Several manufacturing subsectors also passed the screens in both regions, as did repair and maintenance, and one retail sector: motor vehicle and parts dealers. Hospitals were included despite job losses in both regions because of the expected continuing high demand for health care services. Although the market share of hospitals may decline relative to other less-acute sectors within health

Table 4. Promising industries, Louisville region, ranked by number of young adult workers

	NAICS	Industry	Employment 2013 All ages	Share of workers 19-24	Employment 2013 19-24	Share of workers 55+	Percent job change 2009-2013 All ages	Percent job change 2009-2013 19-24	Share 19-24 with HS	Share 19-24 with SC	Share 19-24 with AA	Avg. monthly earnings 2013 19-24
		All NAICS Subsectors	529,865	9.6%	50,995	21.0%	4.4%	3.0%	29%	43%	7%	$1,595
1	561	Administrative and Support Services	29,124	12.2%	3,555	19.7%	23.8%	26.2%	36%	35%	5%	$1,641
2	621	Ambulatory Health Care Services	24,768	5.7%	1,405	21.1%	5.4%	-2.7%	20%	45%	13%	$1,771
3	622	Hospitals*	22,249	6.1%	1,366	21.9%	-11.5%	-27.1%	15%	39%	14%	$2,070
4	336	Transportation Equipment Manufacturing	16,019	5.9%	949	14.4%	60.1%	361.4%	41%	30%	6%	$3,381
5	493	Warehousing and Storage	7,660	11.4%	872	15.0%	40.2%	46.4%	50%	30%	3%	$2,084
6	441	Motor Vehicle and Parts Dealers	6,812	9.8%	671	25.8%	4.6%	7.2%	34%	43%	9%	$1,878
7	524	Insurance Carriers and Related Activities	20,824	3.1%	651	18.8%	5.0%	-28.9%	18%	35%	9%	$2,931
8	811	Repair and Maintenance	6,195	10.3%	636	19.7%	16.5%	45.7%	42%	34%	8%	$1,811
9	332	Fabricated Metal Product Manufacturing	7,445	6.0%	443	23.6%	13.0%	49.7%	40%	33%	7%	$2,547
10	531	Real Estate	6,882	5.7%	390	27.4%	45.3%	64.5%	21%	44%	7%	$1,814
11	326	Plastics and Rubber Products Manufacturing	4,238	8.9%	379	21.0%	31.5%	74.5%	52%	24%	6%	$2,208
12	333	Machinery Manufacturing	4,416	5.4%	238	27.0%	12.6%	50.2%	35%	32%	10%	$2,371
13	425	Wholesale Electronic Markets and Agents and Brokers	3,547	3.7%	130	28.1%	23.8%	53.3%	25%	33%	0%	$1,981
14	221	Utilities†	2,752	2.1%	57	26.4%	6.3%	-21.4%	31%	33%	13%	$3,461

Source: Brookings analysis of data from the Longitudinal Employer-Household Dynamics program, Quarterly Workforce Indicators
** Added per Screen 4: Special Factors*
† Earnings are from 2012
HS = high school diploma; SC = some college courses but no degree; AA = associate's degree. Each refers to a person's highest level of educational attainment

care, hospitals will remain significant health care providers and relatively large employers of workers at multiple educational levels, including middle-skill workers with postsecondary certifications and associate's degrees. Similarly, ambulatory care services appeared in both places, despite narrowly missing the earnings threshold in Chicago, due to projected demand associated with an aging population, an emphasis on providing care in less-acute settings, and increased insurance enrollment resulting from the Affordable Care Act. Additionally, momentum is growing for "practice redesign" efforts, in which middle-skill workers such as medical assistants take on increased responsibilities as part of team-based care, which suggests increased employment opportunities for such workers.[49]

Other sectors that emerged in Louisville include wholesaling and warehousing (consistent with the region's concentration in trade and logistics), insurance, real estate, and utilities. In Chicago, several transportation sectors made the cut, as did real estate. Accommodations were included despite small job losses, based on Chicago's status as a tourist and convention hub.

Lastly, Chicago included two sectors dominated by highly educated workers—professional, scientific, and technical services and management of companies and enterprises—in which about half of young adult workers hold a bachelor's degree. However, sizable numbers of young adult workers in these sectors fall into the middle-skills category with "some college" or an associate's degree, suggesting that those sectors may also provide opportunities for young adults with lower levels of education.

The demand analysis underscored several points. First, industries that pay higher wages to young people are not those typically identified as providing youth jobs. (However, a caveat is in order about wages: The industry earnings averages likely mask substantial variation, and the possibility that promising industries include low-wage jobs unlikely to lead to upward mobility cannot be ruled out.[50] This problem raises the importance of local review of the data.) Second, many of the promising sectors are "industrial" in nature, including fields that are sometimes viewed negatively among young people. Third, variations between the two regions in opportunities for young adults with less than bachelor's degrees were moderate but significant, elevating sectors that are significant in each regional economy.

Finally, to glean the most value from this analysis, it should be complemented by local knowledge of business trends and labor market dynamics within the sector and region. Local employers, chambers of commerce, community colleges, workforce investment boards, and other stakeholders should review the data with an eye toward identifying industries and occupations that offer better opportunities for young adults and entry-level workers. For example, local input can help interpret whether a large share of workers over age 55 in an industry is an opportunity—suggesting a need for an influx of new talent—or a cautionary note—suggesting that the industry employs a significant share of workers in declining or lower-skill occupations.[51]

Insights from employers and other stakeholders in the Chicago and Louisville regions

To augment the quantitative research, the Metropolitan Policy Program conducted interviews with employers, employer associations, workforce intermediaries, funders, community colleges, and other stakeholders in the two regions. These 30-60 minute interviews probed barriers, opportunities, and strategies that employers in the Chicago and Louisville labor markets are using to strengthen the pipeline for entry-level employees, with particular attention to young workers and positions requiring less than a bachelor's degree.

Overall, the interviews underscored the need to understand the labor market at a fine-grained level. Understanding the "micro-markets" that determine the supply and demand for workers is critical for insight into how companies make hiring decisions and invest in skills and human capital—and under what conditions they feel compelled to change existing human resource practices.

(See Appendix A for a complete list of organizations/firms interviewed and Appendix B for the employer interview guide.)

While many employers value the flexibility and technological savvy of younger workers, they rate academic and soft skills, dependability, and fit with the work culture as the fundamental considerations

Age rarely emerged as the most salient characteristic employers consider in analyzing their workforce needs, with the notable exception of manufacturers and transportation and logistics sectors. Confronting an aging workforce and shortages of qualified workers, some firms in these sectors are explicitly turning their attention to strategies designed to recruit and train younger workers.

Employers commonly identified a range of behavioral, attitudinal, and skill barriers they perceive as obstacles to hiring young workers, including:

- Work ethic, readiness, and motivation
- Academic skill deficiencies, particularly in math
- Lack of interpersonal and soft skills, including not being able to solve relatively minor workplace problems
- Lack of direction and career focus; seeking short-term income rather than a longer-term career; lack of understanding about real-world job and advancement possibilities and requirements

Employers distinguished between the youngest segment of the 18-29 population, particularly those right out of high school, and workers in their mid-twenties, however.[52] As the chief executive officer of a Chicago precision manufacturer put it, "We have better luck with people who have been out in the workforce for a few years already. Perhaps they have worked at Taco Bell for a while and have then worked a few Christmas holiday seasons for UPS. When they come to me, and I tell them they won't have to work the day after Thanksgiving, they'll make more money, they'll have vacation days and other benefits, they like what they hear. If I can find them, I can often convince them."

Employers also identified a number of assets that young people bring to the workforce:

- **Potential for long-term development.** Some employers believe that young people they train make some of their best workers. "You don't find good workers, you make them," the CEO of a Chicago manufacturer said. A major insurance company in Louisville sees developing its internal pipeline from entry-level jobs as a business advantage: "We know from our own data that it is less expensive to grow your own than to bring in someone with five to ten years of experience," the head of human resources (HR) said. A health care company noted that younger workers are more readily molded into the culture of the firm and more likely to expand their skill sets than older workers.
- **A solution to an aging workforce.** Manufacturers and transportation/distribution firms reported intense concern about the approaching wave of retirements. The president of a small Chicago machine tool company predicted that the need to replace skilled workers will have a bigger impact than job losses to China. The HR leader at a precision machining shop described herself as "petrified" about the approaching wave of retirements. As a result, many firms in those sectors are turning more attention to younger workers. "How much do you want to invest in someone who is out the door in 10 to 15 years?" the HR executive said. "We already have that problem."
- **Facility with new media and technology.** Affinity for technology is widely recognized as an asset among young workers, a strength most explicitly identified by IT firms. As a Chicago staffer for a global IT consultancy put it, "We are biased toward hiring those who know the products of the industry and their potential and are conversant in them….This tends to make us more interested in young people." An executive at a Louisville IT company described young people as "digital natives" and noted that their comfort with technology gives them an edge in designing software and applications. A health care provider observed that young people's ease with technology represents an asset in the transition to electronic medical records.
- **Flexibility and tolerance for part-time and nontraditional scheduling.** Younger workers (particularly those without family responsibilities) are often more tolerant of the unpredictable schedules and part-time work that are increasingly the norm in many industries, including retail and food service firms. A description of the employment model for one global fast-food franchise corporation illustrated that point: "In our industry we have two different groups of hourly employees," an HR executive said. "First, there are full-time or possibly full-time employees who are on a career track; this is about 20 to 40 percent of our hires and tends to be people with some education beyond high school and demonstrated responsibility and work history. Second, there are the other 60 to 80 percent of hires who are very transient, aren't really looking for a career-track position, and like part-time positions." Of course, unpredictable work hours present a serious hardship for many workers, particularly those with children and those enrolled in school or training, who need more stability in their schedules.[53]

Employers who conclude that existing approaches to recruiting and training jeopardize their business goals are more likely to take concrete steps to improve their human resources practices

In Chicago and Louisville, some employers who feel the pain of an aging workforce, scarcity of qualified workers, and inadequate talent pipelines are changing their approaches to hiring and training and taking other significant steps to upgrade workforce skills.

Several factors emerged as key determinants and motivating forces driving those changes, which could be harnessed to improve opportunities for younger workers:

- **Skills as a competitive asset.** Among the employers interviewed, those who determined that workforce quality and dependability are strategic priorities critical to business success and competitiveness took significant steps to strengthen hiring, training, and retention of lower- and middle-skill workers. For some firms, it is a response to the looming challenge of an aging workforce that is prompting change; for others, it is the recognition that existing HR strategies leave the firm vulnerable in the marketplace and limit growth and productivity.
- **Effective partnerships and committed peers.** The availability of effective partnership models with training and education providers and the leadership of peer firms can lower the perceived risk of action. Employers are more likely to try new approaches if they trust that partners such as educators, workforce boards, and industry associations understand their specific challenges and are effective in addressing those needs.
- **Return on investment.** When the benefits of successful hiring and lower turnover translate into measurable performance improvements in productivity, cost savings, and customer satisfaction, the calculus for employer action changes. Steps that reduce the incidence of costly bad hires, such as internships, apprenticeships, and tryout employment, are of great interest among employers interviewed.

Many interviewees acknowledged that employers have been too complacent about workforce challenges for too long, allowing successful training models such as apprenticeships to wither and relying on educational systems operating without employer involvement as well as off-the-street recruitment. A business association representative noted, "Companies have been trained to be consumers of talent" rather than investors in systems and programs that produce work-ready graduates.

Several employers interviewed spoke candidly about their realization that they needed to change how they addressed their workforce needs in order to stay competitive. "When I first came onboard, if you had a pulse and could pass a drug test, you were hired," a plant manager in Chicago said. Now HR is treated as a key component in a multiyear initiative to reduce high error rates, customer complaints, and low productivity.

"Talent is a strategic point for any business. You can say, I want to grow x percent and increase my profit margin by y percent, but those words mean nothing if you don't have the talent to perform those tasks," a Chicago manufacturer said. A Louisville health care provider made a similar point: To meet its business objectives, it needs to hire and retain front-line workers who will care for a patient "as if it were their mother."

A major manufacturer in Louisville that opened new production lines after years of offshoring quickly found that traditional approaches to recruitment and hiring no longer worked in the contemporary labor market. "When we started hiring, we thought we'd just open up the doors, and they would come. And they did come—but then they didn't stay," a top executive said. "If you are living with a 20 percent attrition rate, you're just throwing money out the door. Technology and equipment are part of the answer, but unless you have the right skills and people, you're wasting your money."

These interviews reinforce the point made in AMP 2.0's apprenticeship guide, developed by Siemens, Alcoa, and Dow, about the critical importance of integrating workforce development into business strategy: "Effective workforce planning is the foundation for creating meaningful, business-aligned workforce strategies. Often it is mistaken for an HR process, but it is really a business process focused on mitigating operational risk. It enables a business to have the right people with the right skills at the right time to achieve business goals."[54]

Taking action: Improving human resources operations and strategies

Clarifying the skills and abilities necessary for entry-level jobs and using more accurate assessments in the hiring process: A number of employers have improved how they assess applicants' skills and cultural fit, recognizing that successful hiring and retention requires looking at a broad range of aptitudes and strengths. For example, concerned about high attrition among new hires, a long-term-care company in Louisville inverted the recruiting process to prioritize soft skills over technical certifications and job experience. To better identify candidates who will be a good fit with the work culture, the company uses a short Predictive Index assessment, based on specific job profiles, to assess applicants based on the qualities and behaviors exhibited by successful employees.

A Chicago manufacturing company described its previous assessment and hiring process as "too subjective" and noted that it tended to result in candidates with similar ethnic backgrounds as current workers. Now the firm uses a mechanical aptitude test, normed against high-performing employees, as well as a CNC (computer numerical control) machine assessment. Other manufacturers look for an industry-recognized credential or a high score on the relevant ACT Work Keys assessments.

More refined approaches to pinpoint skills actually needed for specific jobs can open pathways for job candidates otherwise disqualified. When IBM launched the P-TECH early college high school model, the firm identified the necessary skills in its entry-level jobs in order to develop the curricula needed to prepare students for those jobs. In so doing, the company realized the bachelor's degree requirement in some job descriptions was unnecessary and opened those jobs to candidates with associate's degrees, including P-TECH graduates.[55] An interviewee from IBM noted that other companies have commissioned it to map required skills for their entry-level positions: "They don't understand the skills they have in an organized way and what they're going to need for the future."

Supporting internal career ladders: Companies are developing more systematic "grow your own" strategies. A Louisville-based long-term-care company expanded the scholarships it awards to incumbent workers and built a strategic relationship with Ivy Tech Community College in Indiana, benefiting from that system's statewide reach. One of the company's goals is to increase the share of its employees who are registered nurses; it is now looking at its incumbent worker pool, particularly certified nursing assistants and licensed practical nurses, as part of the strategy. Manufacturing companies also described efforts to raise awareness about upward mobility; these included posting advancement openings, creating career pathway materials to demonstrate how entry-level workers can progress to more senior positions, and offering tuition reimbursement. One company divided a traditional, skilled position into two parts, creating a new unskilled position "utility finisher" to augment skilled machinists who now cover two machines rather than one. The restructured jobs, developed in response to the company's inability to find adequate numbers of skilled machinists, also created a pathway for unskilled workers to learn on the job and move up to higher-skilled positions. The company also developed a mini-apprenticeship program to help inexperienced entry-level workers with mechanical aptitude become machinists in 16-20 weeks instead of one to two years. The HR director described these changes as a breakthrough: "It was exciting for me because after six years I finally had some influence over what happens on the shop floor," she said.

Norton Healthcare: Calculating the return from investing in skills

Norton Healthcare, the third largest employer in Louisville, has pioneered an unusually sophisticated approach to workforce management, using data to identify key positions, pipeline bottlenecks, and the return on major investments in workforce skills for optimal performance. Since the nursing shortage of the early 2000s, the nonprofit system has supported more than 5,000 workers in earning technical certifications and degrees.

The power of data and analysis drives the $9 million annual investment the health care system makes in more than 700 students each year to support them in earning technical certificates and community college and university degrees. Partnering with more than a hundred colleges and training providers, Norton Healthcare provides upfront direct tuition assistance for each student. Employees have the opportunity to advance through stackable credentials and defined pathways to positions as lab and clinical technicians, medical assistants, coders, health IT workers, nurses, and nurse practitioners. They also have access to certified career coaches to assist with resume writing, interviewing skills, school and program selection, mentoring, and networking opportunities.

From 2009 to 2012, young adults age 18-29 accounted for slightly more than half of the total number of students supported by Norton Healthcare, with more than three-fourths moving up from entry-level front-line positions in food and nutrition, environmental services, and patient care.

Norton makes strategic decisions about the occupations it invests in from year to year based on a tracking system that keeps close tabs on anticipated retirements, turnover, and other workforce changes by department across its 140 locations. The company has found that reductions in the cost of turnover, increased retention, and employee engagement have a direct bearing on clinical outcomes and patient satisfaction, which has justified continued investment in workforce development.

KY FAME: Employers join together to build a direct training pipeline to employment

In Kentucky, Mayor Greg Fischer of Louisville and Mayor Jim Gray of Lexington convened the Bluegrass Economic Advancement Movement (BEAM) in 2011 to develop a regional plan for strengthening advanced manufacturing in the two largest metropolitan areas in the state. The resulting strategy confirmed advanced manufacturing as a key strength for the region, anchored by global firms such as Ford, Toyota, and GE Appliances and Lighting, but also encompassing an ecosystem of 1,600 small to mid-size firms. Through its work and the relationships formed around the BEAM table, manufacturers across Kentucky are increasing their role in education and training and establishing apprenticeships in order to develop a skilled workforce.

In the Lexington region, Toyota Motor Manufacturing had established an Advanced Manufacturing Technician (AMT) apprenticeship program in which students take classes at a community college to earn an applied sciences associate's degree while also working—and earning a paycheck. In 2013, the National Career Pathways Network recognized the Toyota AMT program as the nation's top career pathway program. In Louisville, over the last year, manufacturing employers came together to develop a multipronged approach to support manufacturing in the region, creating KY FAME, the Federation of Advanced Manufacturing Education consortium, which is now also spreading into other areas of the state.

The Louisville chapter of KY FAME will launch its first cohort of students enrolled in the new AMT apprenticeships in the fall of 2015 and continues to expand its membership and involvement in secondary and postsecondary education and training, including the option for AMT graduates to continue their education and pursue an engineering degree via tuition reimbursement offered by participating employers.

UPS Metro College: Combining work and education

UPS, the largest employer in Kentucky, operates the largest employer-led initiative in Louisville focused on educational attainment, turning part-time manual labor into a paid route to free college tuition and academic support.

Designed to ensure an adequate workforce when UPS expanded Worldport, its massive airfreight hub (the largest in the country), Metropolitan College has supported a total of 14,000 students since 1998, with close to 4,000 of them earning degrees and community college certificates. Ninety percent of participants in recent years were between the ages of 18 and 29, working part time and earning free tuition to Jefferson Community and Technical College (JCTC) and the University of Louisville. Different forms of tuition assistance are available to workers on day shifts as well as overnight, a shift in which 40 percent of workers are also students.

UPS pays half the cost of tuition, plus books and bonuses for earned credit hours; state tax incentives cover remaining tuition costs. Louisville Metro government, JCTC, and the University of Louisville pay for administration of the program and student support services.

Redefining low-wage jobs as a route to education closed the "revolving door" at the UPS Next Day Air Operation: The average retention rate for package handlers has improved from eight to 152 weeks. Since the recession, however, increasing numbers of Metro College students have continued in their part-time jobs even after they have earned degrees, prompting new efforts to broaden career options. "We collect data about where they want to go for their first job (after graduation), and they're having more trouble finding full-time positions that value degrees," the head of Metropolitan College said.

With students confronting challenges launching new careers and a scarcity of jobs using their degrees, UPS recently organized its "Ambassador Program," pulling together 15 other large employers to connect part-time workers who have advanced to part-time supervisory roles at UPS with broader career options. It also now requires Metro College students to complete a career exploration and planning module.

Taking action: Strengthening workforce pipelines and investing in training

Employers are also looking outside their own doors, developing deeper engagements with local education and training providers and organizing by sector. A Louisville manufacturing executive said, "The employers were such a part of the problem for so long. All we did was complain, but we never jumped in to tell people what we needed." In both regions, representatives from industries in multiple sectors, particularly manufacturing and health care, noted that it was a priority to develop stronger relationships with community colleges both as pipelines for new workers and as a means to increase incumbent worker skills.

i.c.stars and YUPRO: Adding value to employers while helping young adults

Social entrepreneurs in Chicago and elsewhere have embraced business practices and priorities in order to further their mission of providing greater economic opportunity to disadvantaged young adults. These intermediary organizations reduce the hiring risk for employers by cultivating talent and providing venues for potential job candidates to demonstrate their skills and abilities. The two profiled here are particularly noteworthy for taking labor market trends toward contingent and project-based employment as givens—and working to help turn that to an advantage for young workers interested in IT jobs.

i.c.stars is an intensive information technology training program in Chicago that provides low-income young people with the chance to develop technical skills and experience while also providing employers with solid business value. i.c.stars begins with a demanding 16-week paid internship that immerses participants in the technology sphere. After the internship, participants attend community college part time to earn an associate's degree and are placed with corporate partners or move onto the staff of Source Digital, i.c.stars' social enterprise, which delivers social media management to paying clients. The program enrolls three cycles of 20 participants each year. i.c. stars reports that 80 percent have completed the internship, with average income rising from $9,000 prior to enrollment to $31,000 and an initial job placement rate of 95 percent.

The model is particularly intriguing for its innovative approach to delivering value to its employer partners. i.c.stars typically engages a large employer as a paying client for a cohort of students who develop a technology solution for a corporate problem. Technology application firms serve as mentors and technical advisors to the students, and they pay to be involved because of the opportunity to evaluate trainees as potential hires and also for the opportunity to work with major corporate clients. i.c.stars deliberately cultivates the networking benefits it delivers to its corporate partners.

The recently launched staffing firm YUPRO is a for-profit affiliate of Year Up, which provides training and paid internships in the IT field. For many employers, temporary help firms are now a standard part of their HR strategy. Year Up launched YUPRO to serve its alumni in response to that reality after recognizing that a large share of its graduates worked for contract IT firms. The new strategy steps into that niche in order to better support graduates in establishing and continuing to build their careers, and accordingly, YUPRO is targeting higher-margin IT contracts.

YUPRO is incorporated as a public benefit corporation committed to balancing social impact with profitability. Ultimately, its profits will support Year Up alumni activities. YUPRO is new and still untested, but it is a compelling model for several reasons. It is establishing a viable niche working within the constraints of a labor market increasingly built around contracting out help desk and similar IT jobs. It is employer focused and potentially self-sustaining but also mission-driven. In addition, as a staffing company, it has access to up-to-the-minute information on demand in its field through interfacing with the Vendor Management Systems that large companies use to communicate their recruitment needs—information it can use to inform Year Up's curriculum and programming decisions.

Employer collaborations and partnerships often play a critical role, particularly in building the scale of innovations, as do workforce and sector-based intermediaries. These partnerships reduce information costs, aggregate employer interest and demand, provide a forum for small and mid-sized firms to join forces with larger employers, and, perhaps most importantly, build employer trust.[56]

In both regions, the local Workforce Investment Boards—KentuckianaWorks and the Chicago Cook Workforce Partnership—strategically focus on key sectors, with workforce strategies developed in conjunction with sector-based economic development strategies. Both regions are also home to sector-focused regional funding collaboratives, including those supported by the National Fund for Workforce Solutions, as well as other partnerships aimed at addressing regional workforce needs.

The ecosystem of industry, education and training institutions, and other actors in each region has an impact on how and in what form regional initiatives develop. For example, the relative size, complexity, and geography of Chicago appear to have led to more fragmented and less-coordinated employer efforts than in the smaller Louisville, where a number of large employers are involved in extensive workforce innovation and bringing other firms to the table in partnerships like KY FAME (see box, "KY FAME").

In Chicago, several coalitions of manufacturers sponsor internships and other activities aimed at acquainting young adults with career opportunities. The Manufacturing Careers Internship Program is among the most popular and trusted, targeting lower-income 18-21-year-olds who are out of school. Potential hires participate in a paid six-to-eight week internship after an intensive three-week work-readiness "boot camp," and many are hired after their internship. The program reports that more than 70 percent of interns completing the program since 2011 have moved into full-time jobs or moved on to continue their education. Employers appreciate the opportunity to try out potential hires and to expose them at the outset to corporate expectations and culture.

Code Louisville is a free software development-training program launched by a regional consortium that includes the mayor's office, KentuckianaWorks, the public library, and the Chamber of Commerce. Students learn on their own schedule, using the online video and interactive platform Treehouse and meeting regularly with peers and mentors. Programs typically last 12 weeks and produce portfolios of work that participants can share with potential employers. A Louisville IT firm interviewed has hired several graduates for entry-level positions although they do not have four-year degrees, and it considers Code Louisville a strong alternative training and recruitment mechanism.

Conclusion: Implications and strategies for improving employment outcomes for young adults and businesses

In Chicago and Louisville, as across the country, young people with less than a bachelor's degree face difficult labor market realities that limit their career opportunities and keep many of them unemployed or underemployed. Low and stagnant wages, unpredictable and insufficient hours, employer skepticism of those with limited work experience and schooling—all of these are combining with steadily increasing employer expectations for academic, technical, and social skills to frustrate the career hopes of many young adults with lower educational attainment. Moreover, if these trends continue, the country's increasing diversity will only exacerbate the challenges for both workers and employers. The rapidly growing Hispanic population as well as the black population both have historically lower levels of educational attainment and weaker employment outcomes than whites, who are decreasing as a share of the population.

But research in the Chicago and Louisville regions identified a number of hopeful countertrends that are consistent with recent reports on improving workforce outcomes for both workers and employers.[57] These include a growing interest among employers in making their talent pipelines more effective and efficient; a broader recognition that a more productive workforce cannot just be bought on the "spot market" but must be proactively developed through investments in skills; and a willingness to test out new approaches, practices, and partnerships to make hiring and training more effective and less risky.

The research behind this report balanced a careful analysis of young adult labor market dynamics with a review of workforce development and HR practices among employers. The goal was to identify innovations—in both employer practice and the preparation of young people with less than a bachelor's degree—that achieve the twin goals of meeting employer staffing needs and setting young workers on a path toward economic independence.

Initiatives identified in Chicago and Louisville tended to concentrate in industries in which the demand for entry-level and middle-skill workers is strong and existing pipelines are seen as inadequate. Employers interviewed for this research who supported new approaches and investments to strengthen their talent pipelines described their motivations as stemming from three primary factors:

- Shortages of or difficulty in recruiting workers with appropriate skills for particular occupations, including entry-level and middle-skilled occupations that do not require a bachelor's degree;
- Dissatisfaction with existing workforce pipelines and acknowledgment that existing recruitment and hiring practices are not producing enough qualified workers; and
- The realization that a skilled and reliable workforce is critical to business strategy and that productive workers in key occupations are not easily replaced.

In both Chicago and Louisville, employers are leading a range of innovative initiatives that address recruitment, hiring, retention, and skill development for jobs with career potential that require less than a baccalaureate degree. The experience of these two regions points toward a number of smart steps that metropolitan regions, states, employers, and employer associations can take to promote employer-led workforce initiatives that, either directly or indirectly, will lead to more young adults gaining access to better jobs with career advancement potential.

The common denominator among the recommendations below is that they challenge employers to better define and articulate the knowledge, skills, and abilities workers need and to use that knowledge to invest in programs to develop those competencies, often in partnership with educators and other stakeholders. The recommendations also challenge education and training organizations to build stronger bridges to employment by increasing their focus on the specific "micro" markets through which hiring for particular industries occurs. That can be accomplished most effectively through intensive, sector-focused, employer-led solutions. Taken together, those steps can increase the dependability and quality of pipelines to good jobs for young adults and other workers.

1. Employers should better define and predict their skill requirements and workforce needs for critical middle-skill occupations, and invest in more effective strategies to recruit, assess, and train for those skills.

A demand-driven workforce development strategy requires that employers clearly communicate to job seekers and educators the required skills for particular occupations and make reasonable projections about future demand. Nationally, some business leadership organizations, including the U.S. Chamber of Commerce Foundation and national business federations, have called on employers to improve their capacity in this direction—including applying the same sophisticated approaches to developing talent pipelines as they do to developing supply chains.

In both Chicago and Louisville, individual firms found it competitively advantageous to sharpen their forecasts of workforce needs, and better define and assess necessary skills—including both technical and so-called "soft" skills—that workers need to succeed on the job, and then to communicate those skill needs to education and training providers.

Some have turned to more sophisticated screening and behavioral assessment tools to improve the "fit" between potential hires and job requirements, a development that can benefit both workers and employers. Others have created incentives for managers to focus on retention, advancement, and other proactive steps, including more effective onboarding techniques and formal mentoring programs for new workers, as well as education and training opportunities through apprenticeships and other approaches to skill development for entry-level and middle-skill workers.

Employers took these actions after they identified the recruitment, procurement, and retention of quality employees in key entry-level and middle-skill jobs as a strategic business priority and a competitive advantage. Alan May, human resources vice president at Boeing Commercial Airplanes, noted the importance of skills: "[E]ffective management of talent will be the key differentiating factor in organizations' success in the 21st century because capital, materials resources, and other factors are all controlled globally....For more companies, it's not the price or cost of talent that's key, it's what you get for it: productivity. It's well beyond filling jobs; it's about building a supply chain that will help you compete globally."[58] As interviews with employers clearly demonstrated, it is not only large, multinational companies that approach talent development strategically from that perspective; smaller firms do as well.

While employers can make these changes on their own, broader efforts led by industry consortiums or business organizations hold potential for wider adoption. Chambers of commerce or economic development agencies could assist companies in assessing and improving their workforce planning capacity, although in most cases this would represent a new line of business that they'd have to staff and resource accordingly. At least two national initiatives are designed to better organize the demand side of the labor market. The U.S. Chamber of Commerce Foundation Talent Pipeline Management Initiative is forming a learning network with seven states and regions to further develop and test talent supply chain strategies.[59] The National Network of Business and Industry Associations, established by the ACT Foundation and the Business Roundtable, is promoting the development and adoption of nationally recognized skill certifications across multiple industries, mapping foundational employability skills across sectors, and identifying best practices in competency-based hiring practices.[60]

2. Civic leaders—including business, education, government, and philanthropic partners—should support workforce intermediaries and employer partnerships to meet the workforce needs of targeted industries and create more routes to better jobs and career advancement for entry-level workers.

Aligning labor market supply with employer demand in a given region, industry, or supply chain cannot happen with any scale or efficiency without a staffed entity to bridge the needs and interests of employers, educators, and workers. While it can be described by different labels—workforce intermediary, employer collaborative, industry partnership—such an entity exists to meet employers' workforce needs while helping residents find jobs or better jobs, and as such it should provide value both to businesses and job seekers.

Intermediaries typically undergird sector-based initiatives and are instrumental in identifying and addressing the shared needs of employers from particular industry sectors. In describing the key characteristics of high-performing industry partnerships, the National Fund for Workforce Solutions emphasizes strong employer leadership as well as entrepreneurial intermediary staff who develop industry-specific expertise and relationships with individual employers.[61]

While sector initiatives are rarely characterized by employers as "youth employment" strategies, sizable minorities of sector initiative participants are under 29 years of age.[62] By meeting employer needs, sector programs can also provide young adults a viable route to jobs that do not require a bachelor's degree. Thus, sector-based initiatives should also incorporate a "young adult lens" into their work by assessing whether particular segments of industry or clusters of jobs are well-suited to young adults.

As this report's analysis of promising industries demonstrates, the industry profiles of different metropolitan regions will determine the most promising growth sectors. Sector-based initiatives can selectively target growth industries and occupations that offer higher-than-average wages for entry-level workers but do not require a bachelor's degree—a "sweet spot" that can open up opportunities for young workers.

While evidence and practice support the effectiveness of a sector approach, effective strategies and intermediaries require a great deal of planning, resources, and the engagement of willing partners. They are not turnkey operations. Employers need to devote the necessary time to define and articulate the knowledge, skills, abilities, behaviors, and experiences required for jobs, and most likely share some of that information with other firms (and potential competitors) in order to develop an industrywide picture of workforce needs. Intermediaries need staff with the expertise to interpret a dynamic and complex labor market to work effectively with employers and training providers, as well as workers. Training organizations—including secondary and postsecondary systems, community colleges, and community-based organizations—need to be willing and able to adapt their curriculum and training approach as necessary to be responsive to the labor market.

The most successful intermediaries evolve and develop industry expertise over many years, but identifying stable and flexible financing for intermediaries is a key challenge. Neither public nor private sources have stepped up as sector strategists thought they would. While philanthropic foundations have been strong supporters, there are concerns about whether they have the interest and ability to maintain sector initiatives as a funding priority.[63]

All levels of government can support sector strategies. For example, Massachusetts created the Workforce Competitiveness Trust Fund in 2006 to support sector partnerships (requiring a 30 percent match by employers) and the Health Care Workforce Transformation Fund in 2012.[64] The state of Washington convenes industry skill panels to identify workforce needs in strategic industries. It also developed community college "centers of excellence" that specialize in targeted industries such as allied health, manufacturing, agriculture, and information technology, working closely with industry representatives to develop responsive and flexible training programs.[65] Both New York City and Chicago have developed career centers targeted to specific industries such as manufacturing and health care as part of their public workforce system.[66] (For an overview of state options to support sector strategies, see "State Sector Strategies Coming of Age: Implications for State Workforce Policymakers" by the National Governors Association, Corporation for a Skilled Workforce, and the National Skills Coalition.)

The new federal Workforce Innovation and Opportunity Act (WIOA) includes several provisions directing public funds toward sector-based and young-adult-focused strategies. WIOA stipulates that one of the required actions of local employment and training activities is to "develop, convene, or implement industry or sector partnerships."[67] WIOA also restores the governor's set-aside of 15 percent of Title I formula funds for statewide activities and notes that these funds can be used to support sector strategies.[68] WIOA also targets a larger share of its funding to disadvantaged young adults between the ages of 16 and 24 who are not attending school.[69]

3. Employers and educators should improve their information flow about occupational skill requirements and the capabilities of potential employees, at least partially through the increased use of competency-based credentials with value in the labor market.

Better information is a necessary precondition for more productive partnerships and collaborations among employers and educators. Despite some notable exceptions, employers and educators in the U.S. have more limited and narrow interactions than they do in many other industrialized countries, particularly when it comes to preparing workers for front-line and technical jobs.

All too often, the flow of useful information is inadequate at best. Students often don't know much about career choices and may have outdated or erroneous perceptions about certain industries, such as advanced manufacturing. In the absence of credentials that clearly communicate relevant skills, employers resort to using proxies, such as postsecondary degrees, as a threshold requirement for potential workers, even in jobs that do not require that level of education, or operate out of stereotypes or misperceptions about particular population groups.

Education and training institutions often don't have precise or timely insight into employer needs and job opportunities. Employers often fail to clearly define their needs or actively engage with the training and educational institutions that feed their talent pipelines. Training providers often don't have the capacity or expertise to develop and maintain ongoing industry-specific knowledge.

To be sure, many schools and employers have continuous, ongoing interactions to ensure that training curricula respond to the regional labor market in ways that benefit educators, business, and, not least of all, students and job-seekers. But there is much to do to improve the alignment of training programs, employer needs, and job-seeker choices.

A powerful strategy to address the issue of inadequate and faulty information on skill requirements and hiring criteria lies in the movement to expand the use of competency-based educational credentials. Competency-based credentials specify the knowledge, skills, and abilities of job applicants through performance-based assessments, compared to the typical time- and attendance-based criteria of traditional postsecondary degrees and credentials.

By incorporating such assessments and recognition of credentials into their hiring practices, employers provide clear signals to students and job seekers about expectations and requirements for given occupations, and allow employers to determine more accurately what a job candidate knows and can do. Such practices can benefit all job seekers but can be particularly useful for job seekers who otherwise might be screened out because of lower levels of educational attainment and work experience; they also work against stereotypes and biases that can distort the hiring process and reduce discrimination.

A number of competency-based credentials are recognized and valued by employers in the screening and hiring process. These include CompTIA's A+ certification in information technology, the National Career Readiness Certificate, and a series of nationally recognized manufacturing credentials. However, while competency-based credentials are gaining traction in the marketplace, they are not the norm. A 2014 open letter from key workforce stakeholders called for an overhaul of the credential marketplace, noting that "the proliferation of credentials without an underpinning of consistent definitions, standards and quality assurance has left employers, government, students, job-seekers, workers, and education and training providers confused about the quality and market value of the credentials being offered."[70] The letter outlined three elements necessary to link credentials with demonstrated skills that have value in the marketplace: transparency, trust, and portability. That is, the competencies represented by a credential should be transparent and understandable, users should be able to trust that the credential accurately measures those competencies, and the credential should be recognized across boundaries of geography, industry, and education institutions.[71]

A number of initiatives are underway to develop the field of competency-based credentials and expand their use. These include developing a national framework to establish common definitions of the learning outcomes associated with various credentials, particularly those not associated with college credit, in order to provide a metric for valuing these credentials in the labor market; creating learning networks and training for colleges and universities in adopting and using such credentials; and developing a blueprint for organizations to develop industry-recognized, competency-based credentials.[72]

4. Employers and educators should collaborate to create more work-based learning opportunities.

Work-based learning—in which students learn technical, academic, and employability skills by working in a real work environment—encompasses experiences at various levels of intensity, including job-shadowing, internships, co-ops, and apprenticeships. [73] Work-based learning opportunities provide students the opportunity to learn essential employability skills such as problem-solving, communication, and teamwork in ways that are difficult to achieve in the classroom alone. It provides students a chance to learn through work, rather than in preparation for work.[74] These opportunities can highlight the relevance of education (which can be especially salient to young people who struggle in traditional academic courses) and can enrich the experience of high-achieving students. Schools and training programs that provide links to employers function as key brokers, especially for low-income and minority students who often lack social networks that connect them to jobs. Work-based learning can also provide the opportunity for students to improve their basic literacy and numeracy skills, particularly for those who learn better in a practical, applied setting.[75]

In its review of international approaches to vocational education, the Organization for Economic Cooperation and Development noted four strong advantages of work-based learning: (1) students learn on up-to-date equipment, and their education is based on the most recent work methods and technologies; (2) relationships are created between students and employers that often lead to later employment, making later recruitment more effective and efficient and smoothing the school-to-work transition; (3) employer participation signals to students that the training has labor-market value; and (4) trainees make productive contributions to the workplace.[76]

Expanding work-based learning opportunities for young adults requires significant commitments from multiple actors: employers, schools and school districts, colleges and training programs, and government. These efforts should be informed by research and practice on the elements of successful programs, and should incorporate performance management metrics to monitor progress and guide improvements.[77]

The recommendations outlined above focus on better aligning the supply and demand sides of the labor market, with both sides needing to make changes. Advocates and innovators tackling these issues frequently come from different perspectives—improving employment and earnings outcomes among young adults on the one hand, and strengthening the competitiveness and vitality of employers and the region on the other. To achieve the complementary goals of improving the employment status of young adults and helping employers meet their workforce needs, stakeholders need to work together to find common ground upon which to build effective strategies that address both employer interests and career opportunities for young adults with lower educational attainment.

Appendix A. Employers and stakeholders interviewed

Table A1. Companies interviewed in the Chicago region

	Employer	Line of business	Headquarters location	Size*	Employment - total	Employment - Chicago region
1	AAR	Aviation services and technology products	Wood Dale, IL	Large	6400	About 500
2	Acme Industries	Precision machining of complex parts for large-scale OEMs.	Elk Grove Villiage, IL	Medium	About 230	same
3	Cisco	Computer networking equipment manufacturing	San Jose, CA	Large	74,000	About 600
4	Freedman Seating	Manufactures seats for commercial buses and trucks	Chicago, IL	Medium	6,700	same
5	IBM	Provides computer products and services	Armonk, NY	Large	430,000	would not disclose
6	Iverson & Company	Sells and services machine tools to manufacturing companies	Des Plaines, IL	Small	20	same
7	Kay Manufacturing	Precision machining for auto suppliers	Calumet City, IL	Medium	170	120
8	Keats Manufacturing	Precision small metal stampings, wire forms, and assemblies	Wheeling, IL	Medium	160	100
9	Microsoft	Design and publish computer operating systems and utilities software	Redmond, WA	Large	128,000	600
10	Nation Pizza and Foods	Manufacturer of frozen dough products	Schaumberg, IL		600	600
11	Northwestern Memorial Healthcare	Hospital and outpatient ambulatory care	Chicago, IL	Large	20,000	same
12	RR Donnelly	Communications management services provider, helping to create, manage, produce, and distribute content	Chicago, IL	Large	57,000	unknown
13	Rush University Medical Center	Hospital and outpatient ambulatory care	Chicago, IL	Large	9000	same
14	Schneider	Provides trucking, logistics, and intermodal services	Green Bay, WI	Large	22,000	unknown
15	ThoughtWorks	Global software consultancy, providing custom software services, including testing, design, and delivery	Chicago, IL	Medium	3,000	unknown

Information is from Dun and Bradstreet data, company websites, and interviews
** Small = annual revenues less than $10 million; medium = annual revenues between $10 million and $1 billion; large = annual revenues over $1 billion*

Table A2. Companies interviewed in the Louisville region

	Employer	Line of business	Headquarters location	Size*	Employment - total	Employment - Louisville region
1	Clariant Co. (North American subsidiary of Swiss company Clariant AG)	Industrial chemical manufacturing	Charlotte, NC	Medium (US subsidiary)	1,240	350
2	GE Appliance (subsidiary of General Electric, soon to be sold to Electrolux)	Manufactures home appliances	Louisville, KY	Large (US subsidiary)	6,000	unknown
3	GlowTouch Technologies	Custom computer programming services	Louisville, KY	Small	1,200	30
4	Humana	Health insurance provider	Louisville, KY	Large	53,000	10,000
5	Kindred	Provides long-term care in acute care hospitals, nursing and rehabilitation centers, and homes	Louisville, KY	Large	110,000	unknown
6	Malone Staffing	Staffing company that places workers primarily in light industrial employment, also entry-level health care	Louisville, KY	Small	40	15
7	Norton Healthcare	Hospital and health care system	Louisville, KY	Medium	9,300	unknown
8	Nth Works	Stamps, assembles, welds, and paints parts	Louisville, KY	Medium	300	300
9	Thornton's Inc.	Chain of gas stations/convenience stores	Louisville, KY	Medium	2,500	unknown
10	Trilogy Health Services	Operates long-term care facilities	Louisville, KY	Unknown - probably medium	11,000	unknown
11	UPS	Package delivery	Atlanta, GA	Large	395,000	unknown
12	Westport Axle	Supply manufacturing, logistics and warehousing services for heavy truck and automotive industries	Louisville, KY	Medium	602	132
13	YUM! Brands	Fast-food company, including KFC, Pizza Hut, and Taco Bell	Louisville, KY	Large	539,000	unknown

Information is from Dun and Bradstreet data, company websites, and interviews
** Small = annual revenues less than $10 million; medium = annual revenues between $10 million and $1 billion; large = annual revenues over $1 billion*

Table A3. Other stakeholders interviewed		
Chicago region	**Louisville region**	**Other**
American Society of Transportation and Logistics	Kentuckiana Works	YUPRO (Year Up Professional Resources)
APICS Supply Chain Council	Metropolitan College	Year Up – National Capital Region
Business and Career Services		Urban Alliance – National Capital Region
Chicago Cook Workforce Partnership		
Chicago Public Schools		
Chicagoland Workforce Funders Alliance		
City Colleges of Chicago		
CompTIA		
Genesys Works		
German American Chamber of Commerce		
I.C.Stars		
Illinois Manufacturing Association		
Joyce Foundation		
Michael Reese Health Trust		
McCormick Foundation		
Manufacturing Renaissance		
Midwest Truckers Association		
Manufacturing Career Internship Program		
Supply Chain Innovation Network		
Urban Alliance – Chicago		
Will County Center for Economic Development		
World Business Chicago		
Year Up – Chicago		

Appendix B: Employer interview guide

5. If not obvious/already known, title and role of person within the company

6. Brief company profile:

a. Define your industry segment

b. How many employees does your company have?

i. Percentage in the 18-29 age range?

ii. Percentage in the 55+ age range?

iii. Would you want to increase or lower the proportion under 29—or it is not an issue?

iv. Are you worried about upcoming retirements?

3. *A natural starting point is to discuss the activities that led someone to refer them to us, such as:*

a. What kinds of education/training partnerships are you involved in? What HR/human capital problem(s) are these partnerships trying to address?

b. How long have you been doing them?

c. What effects are these activities having?

d. Are you doing anything in particular regarding outreach, recruiting, hiring and retention practices to reach more young adults / to reach more potential workers that may include young adults?

4. What are your biggest challenges in meeting your need for middle-skill (sub-BA) workers? For each problem:

e. What is the biggest bottleneck/challenge

f. Is the trend toward more or less difficulty? Looking out 5 years, what do you project?

g. What are you doing to address the pipeline challenge?

h. What else would do you think could be done to address the problem?

i. For a young person starting in an entry-level position, what kinds of career ladders are available?

5. Skill assessment: How do you assess worker skills in the hiring process?

a. How do you determine your hiring and skill needs?

i. How far in the future do you plan?

b. What credentials do you value/require?

i. Associate's or Bachelor's degree

ii. Other credentials designed to show what a person knows and can do, such as

1. Certified Production Technician for entry-level manufacturing workers from the Manufacturing Skill Standards Council
2. A+ certification from CompTIA for entry-level tech support positions
3. National Career Readiness Certificate from ACT, which measures applied mathematics, locating information, reading for information

c. How important is previous experience for middle-skill hiring?

i. How do you assess this? (i.e., is the job title sufficient?)

d. Are you satisfied with your ability to gauge whether a job seeker is a good fit for the job? If not, what could your firm do to improve assessment, fit?

6. Retention and advancement: Is retention of good middle-skill workers a problem? Is retention of younger workers a problem?

a. Do you calculate the cost of turnover?

b. What job ladders are available within your firm for entry level (young) workers?

c. Do you have specific strategies to "grow your own" workforce from within that may be particularly applicable to young workers?

7. Recruitment from a robust pool of qualified middle-skill workers:
  a. What strategies are most effective?
    i. Do you use staffing firms or employment services agencies?
    ii. Do you partner with community-based sources of workers?
    iii. Do you partner with educational programs/providers?
  b. What gaps/problems exist?
  c. What other strategies might expand the target pool for recruitment?

8. If not addressed earlier: Do you partner with high schools, community colleges, universities or other training entities (either on your own or through a business association)? How do you assess the value of these activities? *Can probe to see if it's a community relations/philanthropic strategy or more directly related to building a talent pipeline. Types of activities to ask about:*
  a. Internships
  b. Advising on curriculum
  c. Externships (hosting faculty at the worksite)
  d. Mentoring
  e. Job shadowing
  f. Mock interviews
  g. Job fairs

9. Issues related to the recruitment, hiring, and employment of 18-29 year olds in your firm
  a. What do you see as assets of young people?
  b. What do you see as the obstacles and risks?
  c. Do you want to increase recruitment and hiring of younger workers for middle-skill jobs?
  d. What could make it easier for you to do so?
    i. Pre-employment tryout; internship; etc.
    ii. Help targeting younger untapped populations
    iii. Outside support from youth serving orgs for new hires to increase retention?
    iv. Financial incentives for employers who hire young people
    v. Removal of specific barriers to or risks of employing youth?

Endnotes

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