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## Meet the US workforce of the future

Older, more diverse, and  
more educated

By Patricia Buckley and Daniel  
Bachman

Illustration by Wayne Brezinka

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*Cochi Hualqui*

STATEMENT

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Figure 11.28

above  $a$  on the graph. The range is  $\{b, c\}$ , the subset of  $B$  that corresponds to the set  $\{a\}$  on the graph. One can also indicate the graph of the relation  $S$  by the set  $\{a, b, c, d\}$  on the graph.

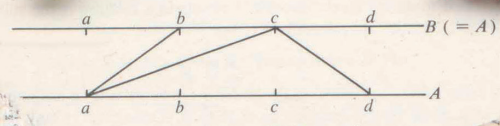


Figure 11.29

main of a relation  $S$  from  $A$  to  $B$ . If  $a \in A$  and  $Sa = \{b, c\}$ , then we define  $\{b, c\}$  as the *range* of  $a$  under  $S$ . It may be expressed by the set  $\{b, c\}$ . The range of  $S$  is the set of all elements of  $B$  that are in the range of some element of  $A$  under  $S$ . The range of  $S$  is the set of all elements of  $B$  that are in the range of some element of  $A$  under  $S$ .

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## EXAMINING FUTURE WORKFORCE TRENDS

**A**RE you a US-based organization searching for tomorrow's workers? Look around your workplace. The oldest Millennials are just 37, and will likely keep working for several decades.<sup>1</sup> The demographic changes that determine many of the key characteristics of the workforce happen slowly. But they happen. Over time, those demographic shifts can compound to make a big difference. It's a difference we can already see.

The main long-term changes in the workforce are, in fact, not new; employers have been adjusting to them for decades. Yet they can have real implications for how organizations approach everything, from workforce planning to diversity initiatives. They are:

1. **The US workforce is aging, and it will continue to age.** That's partly because of low birth rates—but it's also because people more often continue to work even as they get older. If 70 is the new 50, we shouldn't be surprised to find more 70-year-olds working. That's already been happening, and it is expected to happen even more in the future.
2. **The US workforce is becoming more diverse.** Changing immigration patterns and the entrance of more women into the labor force started this process in the 1960s,

and it will likely continue. If current trends continue, tomorrow's workforce will be even more diverse than today's—by gender, by ethnicity, by culture, by religion, by sexual preference and identification, and perhaps by other characteristics we don't even know about right now.

3. **Americans continue to become more educated.** Like all demographic processes, the slow rate of the change may make it less than obvious to employers who are coping with fast change in production technologies. But more and more young people are going to college, and many workers are increasingly trying to improve their educational background mid-career.

One could say that tomorrow's workers will be much like today's—but more so. And the challenges and benefits of an aging, diverse, and educated workforce, many of which are already evident, will likely only grow in the future.

## CHANGING POPULATION, CHANGING WORKFORCE

**W**ITH Millennials—who represent the largest labor market share of any single generation—holding center stage, and Generation Z (post-Millennials, born after 1995) now entering from the wings, one might think that the US workforce of the future will be increasingly tilted toward younger workers.<sup>2</sup> However, on the whole, pro-

jections suggest that America's future workforce will be *older* than the current workforce, just as it is expected to be increasingly female and more racially and ethnically diverse.

This age shift in the workforce mainly results from increased population and labor force participation among older age cohorts, combined with declining population and labor force participation of the youngest cohort. As shown in table 1, the three oldest cohorts are projected to increase their labor force participation rates through 2024, just as they have over the prior 20-year period. The labor force participation rate of the large middle section of the labor force, 25 to 54, is expected to rebound slightly, after 20 years of decline. The labor force participation of the youngest cohort, 16 to 24, is expected to continue trending down, as more young people stay in school longer, as we dis-

cuss later. When the projected labor force participation rates of each cohort are multiplied by the cohort's population size, the overall picture, shown in the last row of table 1, indicates a continued decline in the participation rate.

Changes in population growth across the various cohorts support these labor force participation trends: As older cohorts' populations increase (table 2), so would their presence in the labor force—a 55.4 percent increase in the 65–74-year-old contingent, and an 85.5 percent increase among those 75 and older. An absolute decline in the youngest group's population could translate to a 13.1 percent contraction in that cohort of the labor force. Even with these shifts, the 25–54-year-old group will still make up the majority of the workforce, although the proportion of workers in this

**Table 1. Labor force participation (actual and projected), by age group**

<b>Cohort</b>	<b>1994</b>	<b>2004</b>	<b>2014</b>	<b>2024</b>
<b>16 to 24</b>	66.4%	61.1%	55.0%	49.7%
<b>25 to 54</b>	83.4%	82.8%	80.9%	81.2%
<b>55 to 64</b>	56.8%	62.3%	64.1%	66.3%
<b>65 to 74</b>	17.2%	21.9%	26.2%	29.9%
<b>75 and older</b>	5.4%	6.1%	8.0%	10.6%
<b>Total</b>	66.6%	66.0%	62.9%	60.9%

Source: Bureau of Labor Statistics.

**Table 2. Source of changes to the workforce’s age makeup**

Cohort	Percentage change between 2014 and 2024		
	Labor force participation rate	Civilian population	Total labor force change
16 to 24	-9.6%	-3.8%	-13.1%
25 to 54	0.4%	3.5%	3.9%
55 to 64	3.4%	3.1%	6.6%
65 to 74	14.1%	36.1%	55.4%
75 and older	32.5%	40.0%	85.5%
<b>Total</b>	-3.2%	8.5%	5.1%

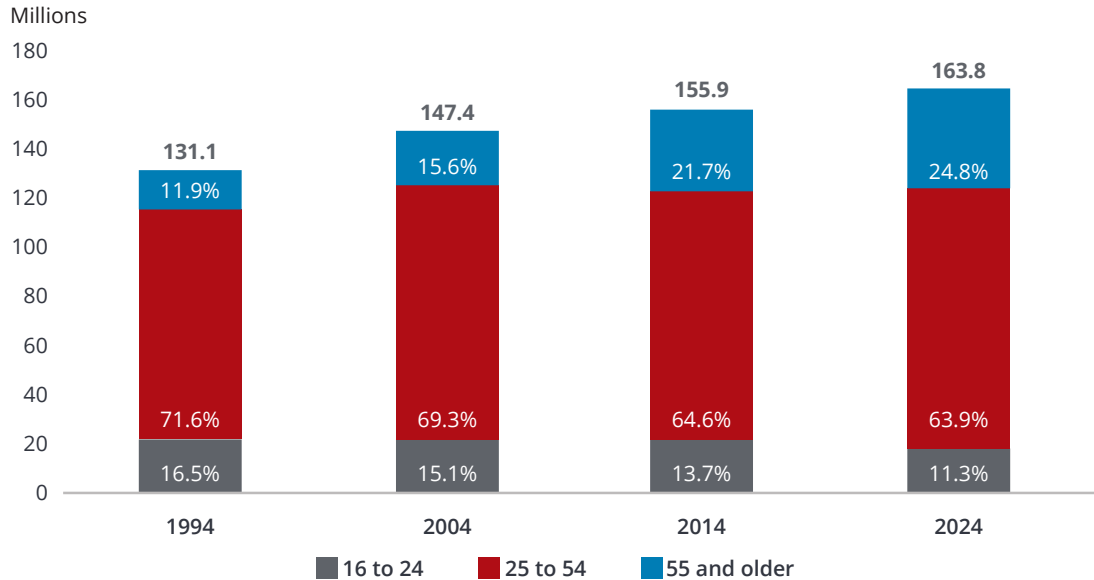
Source: Bureau of Labor Statistics.

category will decline, as will the proportion of 16–24-year-olds (figure 1), under the BLS projections. The only age group projected to gain share between 2014 and 2024 is the 55-and-over age group.

Age will not be the only distinguishing demographic characteristic of the workforce of the future. Women are expected to continue to gain share, rising from 46.8 percent of the workforce in 2014 to 47.2 percent in 2024. Even though the overall labor force participation rate is projected to decline (as shown in table 1), interestingly, the labor force participation rate of women aged 25 to 54 is projected to rise between 2014 and 2024 (from 73.9 percent

to 75.2 percent), while the rate for men in the cohort is expected to decline (88.2 percent to 87.3 percent).

Another trend that is expected to continue through 2024 is the increasing diversity of the workforce. By 2024, less than 60 percent of the labor force is likely to define itself as “white non-Hispanic.” As recently as 1994, over three-quarters of the labor force fell into that category. Hispanics could comprise 20 percent of the labor force in 2024. The proportion of African-Americans in the labor force is projected to rise to 12.7 percent in 2024 from 12.1 percent in 2014; the proportion of Asians to 6.6 percent in 2024 from 5.6 percent in 2014.<sup>3</sup>

**Figure 1. US labor force, by age**

Source: Bureau of Labor Statistics.

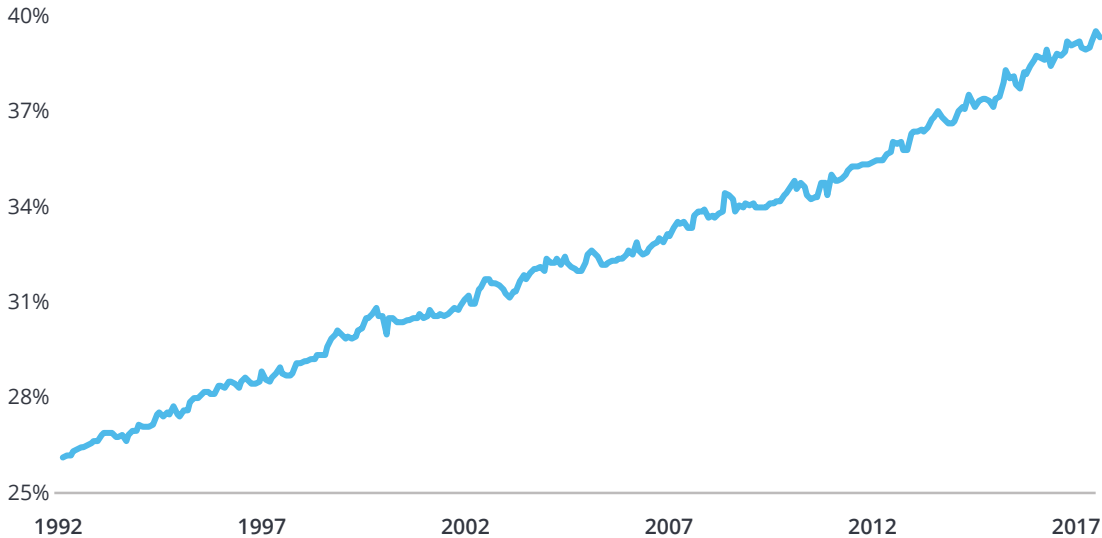
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## HIGHER EDUCATION

**T**HE US labor force has become more educated in each progressive generation. That trend does not seem to be slowing. A simple measure of education is the share of the labor force (or population) with at least a bachelor's degree, but this ignores some key details—particularly the important role of community colleges in the US educational system. However, a less detailed picture of education attainment would not change the story, which is fairly straightforward: Young people are increasingly likely to graduate from high school and go to post-high school educational

programs, and middle-aged (and even older) people have continued to acquire educational credentials throughout their lives.

Figure 2 shows that the share of workers with at least a bachelor's degree has continued to grow steadily through business cycles, financial crises, tech and housing booms and busts, and other major economic events. The share of bachelor's and higher degree-holders in the labor force grew from one-quarter to two-fifths of the labor force in less than 25 years. The continued intensification of education reflects an acceleration in the rate in which younger people have been going to college—and an in-

**Figure 2. Share of labor force with at least a bachelor's degree**

Source: Bureau of Labor Statistics; Haver Analytics.

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crease in the number of older people who have gone back to school to complete or enhance their education.

Currently, young adults are more educated than older adults. As older, less-educated cohorts leave the labor force, and more-educated cohorts enter, the education level of the entire labor force improves over time. In 1999, 23 percent of the US population had earned a bachelor's degree, and 4 percent had earned a master's. By 2015, these numbers had risen to 27 percent and 7 percent, respectively.<sup>4</sup> The growth isn't fast, but it has been relentless. And, over long periods of time, it can result in a labor force very different from prior decades.

Table 3 shows our forecast of the share of labor with various educational attainments in 2025. The forecast assumes that the educational attainment of the youngest cohort grows at the average rate between 1999 and 2015, and that the educational level of each cohort remains unchanged as it ages.

Our forecast indicates that, by 2025, almost two-thirds of the labor force will likely have some education beyond high school. That contrasts to a little less than half in 2005, just over a decade ago.

This forecast could even be conservative, because it assumes that educational attainment is frozen for each cohort, whereas in fact, people



**Table 3. Change in educational attainment by level: History and forecast**

	High school or less	Some college/ associate degree	Bachelor's	Advanced
2005	45%	26%	19%	10%
2015	42%	26%	21%	12%
2025	36%	28%	23%	13%

Source: US Census Bureau, *Current population survey: 2015 annual social and economic supplement*; Deloitte calculations.

often continue to go to school later in life. Table 4 shows educational attainment by five-year cohort in 2005, and for the same people (10 years older) in 2015. In every cohort, educational at-

tainment improved—among the same people. Impressively, the number of people aged 40 to 44 years that earned a bachelor's degree by 2015 rose by 1.6 percentage points. Younger

**Table 4. Educational attainment growth over time**

Age in 2005	Bachelor's degree and above 2005	Bachelor's degree and above 2015	Percentage change from 2005 to 2015
25 to 29	28.8%	36.0%	25.0%
30 to 34	32.0%	36.5%	14.1%
35 to 39	31.1%	34.7%	11.6%
40 to 44	28.9%	31.7%	9.7%
45 to 49	28.5%	30.3%	6.3%
50 to 54	30.6%	31.6%	3.3%
55 to 59	30.1%	31.3%	4.0%
60 to 64	26.5%	26.9%	1.5%
65 to 69	21.1%		
70 to 74	19.9%		

Source: US Census Bureau, *Current population survey: 2015 annual social and economic supplement*.

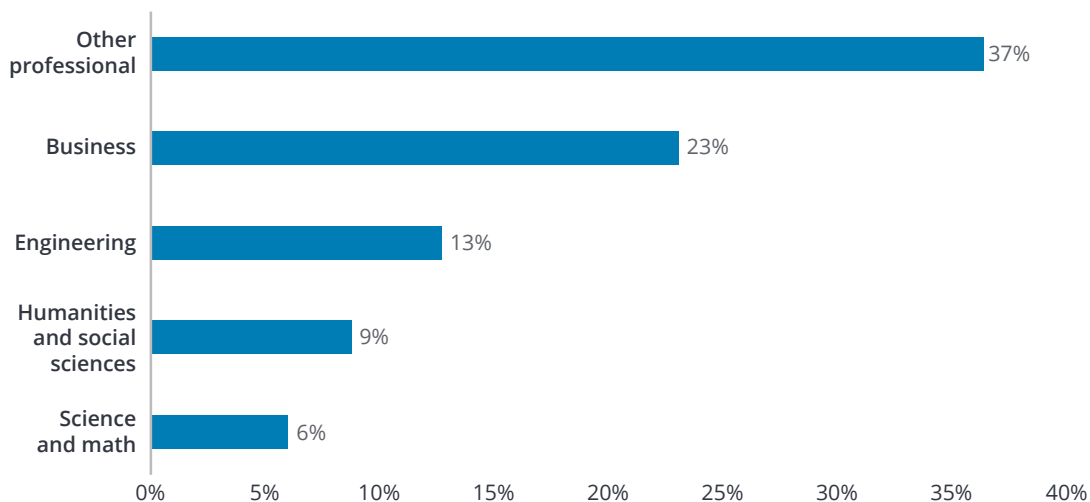
people saw even larger gains. It is clear that the possibilities of education do not end with the “usual” graduation ages, and that people in young middle age are often willing to continue their education.

What are people studying? This has become a focus of attention in recent years. Some policy-makers have expressed concern that US higher education is increasingly turning out graduates trained in less valuable humanities and social science areas, rather than in the (as they claim) more important science, technology, engineering, and mathematics areas.<sup>5</sup> Aside from ignoring the importance of skills in humanities and social sciences for the workplace, the idea that the higher education system is overly skewed

toward producing these majors is an oversimplification at best.

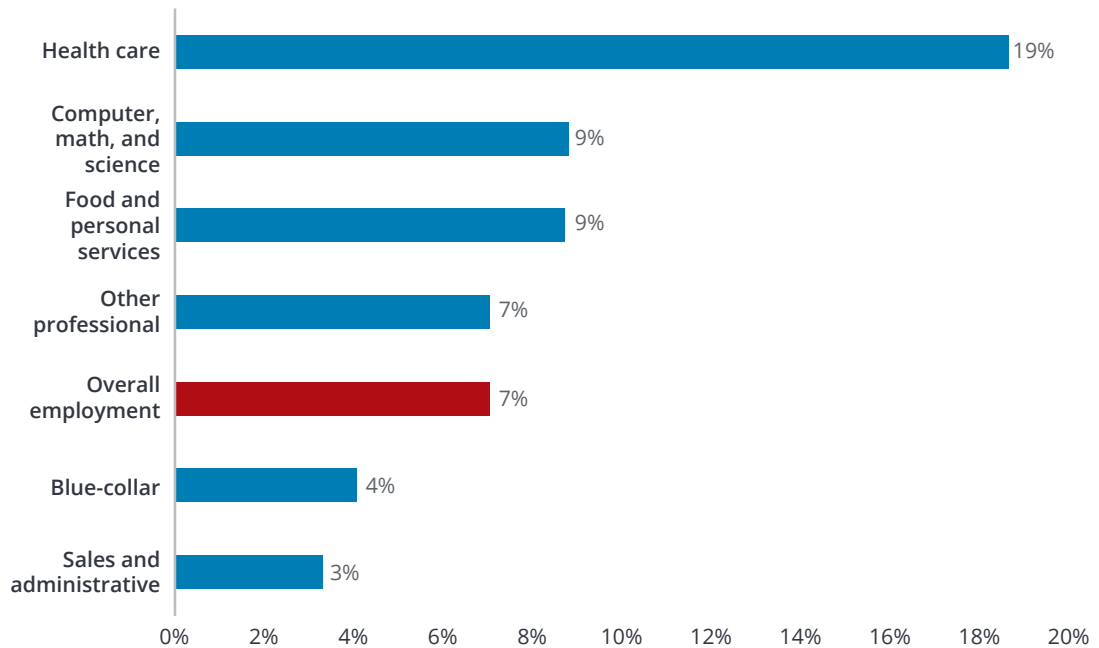
Figure 3 shows the share of bachelor’s degrees conferred in the 2014–15 academic year by broad category.<sup>6</sup> The chart shows that the vast majority of US students graduated with degrees in professional fields such as education, communications, and law (note that these are bachelor’s degrees, not JDs, so these graduates obtained paralegal credentials rather than law degrees). The single largest major was business, accounting for almost one-quarter of all US degrees. Engineering was also a popular subject. Substantially more students obtained bachelor’s degrees in engineering subjects than in the humanities and social sciences.

**Figure 3. Degrees conferred by major, 2014–2015, share of total**



Source: US Department of Education.

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**Figure 4. Employment by occupation, projected growth rate, 2014–2024**

Source: Bureau of Labor Statistics.

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The types of majors that critics claim are somehow oversubscribed do not, in fact, attract many students. Just over 9,000 students graduated with philosophy majors, for example. History and English graduates were more numerous, although many of them have found employment in the large demand for high school teachers in these subjects. But humanities majors have constituted a small share of total graduates.

Analysts should take care in interpreting the relevance of college majors for the workforce. Only about 27 percent of college graduates work in jobs directly related to their majors.<sup>7</sup> US businesses have traditionally been very

flexible about matching credentials to jobs, perhaps viewing a college degree as a more general indication of knowledge and flexibility than an indication of specific knowledge.<sup>8</sup> This suggests that the important question for the future of the workforce may be the rate of growth of college graduates, rather than the specific courses of study they undertake.

## OCCUPATIONS OF THE FUTURE

**O**CCUPATIONS represent the demand, rather than supply, side of the labor force equation. When the labor force becomes more educated, the demand for educated workers is generally also forecast to grow.



While this trend may be well-known, some critical details are often not as well understood.

Figure 4 shows the projected 10-year growth of broad occupational categories.<sup>9</sup> The Bureau of Labor Statistics projects total employment to grow 7 percent, but the occupational mix is expected to change. Traditional blue-collar jobs and administrative and sales jobs are projected to grow more slowly than the average. About one-quarter of the net job gain is expected to be in health care occupations, which are projected to grow almost 20 percent over 10 years.

Jobs for health care practitioners and technicians could grow more slowly than jobs for health care support occupations although, in absolute terms, the number of new jobs for the former may be greater than new jobs for the latter. That is because there are about twice as many health care practitioners today, so the slower growth rate for practitioners is off a much larger base.

Computer, math, and science occupations are projected to grow relatively quickly (but at half the rate of jobs in health care occupations). However, these occupations are expected to account for just 7 percent of all new jobs, because they make up a relatively small part of total employment (5 percent in 2014). Food service and personal service occupations are projected to also grow relatively quickly. This reflects the

increasing bifurcation of the US labor force into highly skilled, well-paid professional jobs and poorly paid, low-skilled jobs, with relatively fewer jobs in middle-skilled, moderate-pay jobs such as traditional blue-collar and administrative occupations.

Occupational definitions and requirements are fluid and change over time. For example, today's accountants need a set of basic computer skills, which would have been completely unnecessary 30 years ago. This means that oc-

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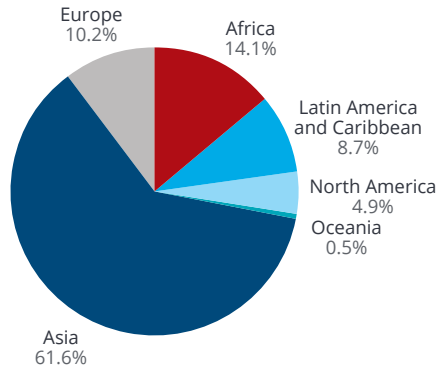
Occupational definitions and requirements are fluid and change over time.

cupational projections are an incomplete picture of the requirements of the labor force. In particular, some analysts believe blue-collar occupations increasingly require computer and mathematical skills, which was unheard of in the past; occupational projections such

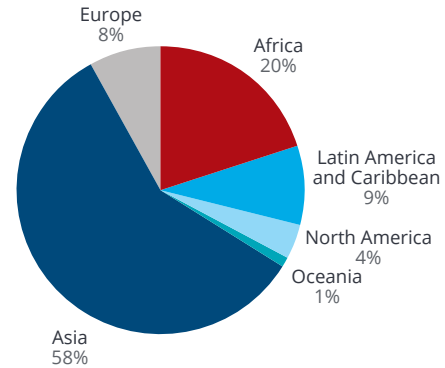
as these, which imply a static set of skills for a given occupation, may understate the need for more highly educated workers with quantitative skills in the future labor force where even these "low-skilled" occupations require such skills.<sup>10</sup> Deloitte researchers have explained how demand for general abilities—rather than specific occupational skills—is expected to drive employment in the United Kingdom, and the United States should likely expect to see a very similar trend.<sup>11</sup>

**Figure 5. Comparison of future working-age populations, global**

2017 working-age  
population (15–64): 4.9 billion



2037 working-age  
population (15–64): 5.6 billion



Source: US Census Bureau; International Data Base.

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## AN INTERNATIONAL PERSPECTIVE

**R**ELATIVE to the rest of the planet, the US labor force, along with its neighbors Canada and Mexico, is projected to continue to shrink. As shown in figure 5, North America, which now accounts for almost 5 percent of the global working-age population, will likely comprise only 4 percent 20 years from now. Asia's share will also likely fall. The future workforce globally could be found more and more in Africa, where the global workforce share is projected to rise almost 6 percentage points.

As in the United States, the slow growth of the working-age population combined with longer life expectancies will result in a growing dependency ratio, which is the ratio of retirees to working-age people. In North America, the

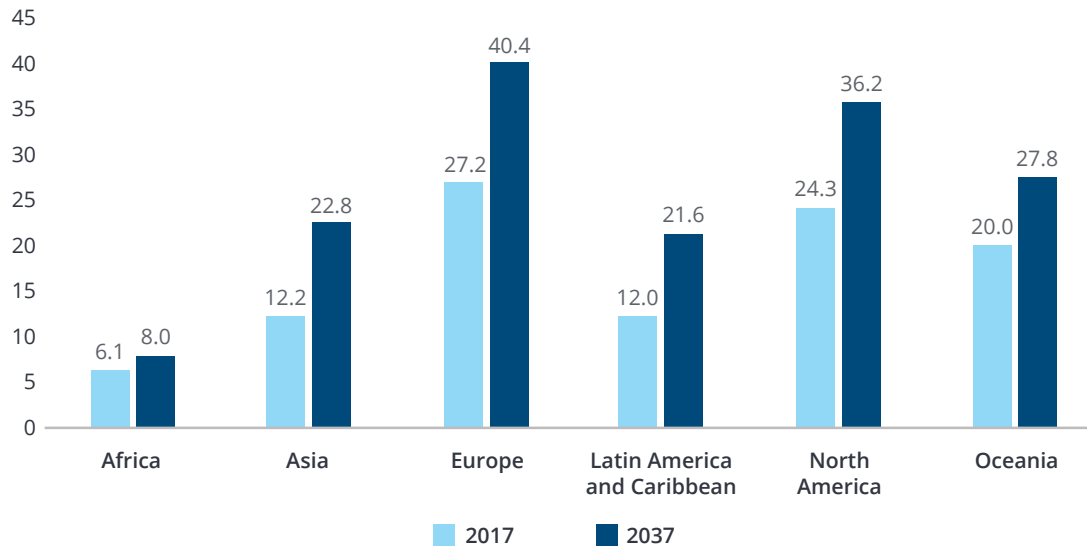
ratio is projected to rise from 24 retirees per 100 working-age people today to 36 in 2037. Europe could experience an even higher dependency ratio, but the problems associated with a growing population of retirement-aged people will likely be felt around the world (figures 6 and 7).

## WHAT DOES ALL THIS MEAN FOR YOU?

**T**HE steady speed of demographic change can provide insights about the future workforce. While tomorrow's workforce won't look completely different from today's, the challenges of the future workforce are still today's challenges. Understanding these demographic changes and directions, along with the changing nature of work and jobs, could be critical for business and government leaders. These demographic trends suggest some

**Figure 6. Retiree dependency ratios, global regions**

Number of retirees per 100 working-age people

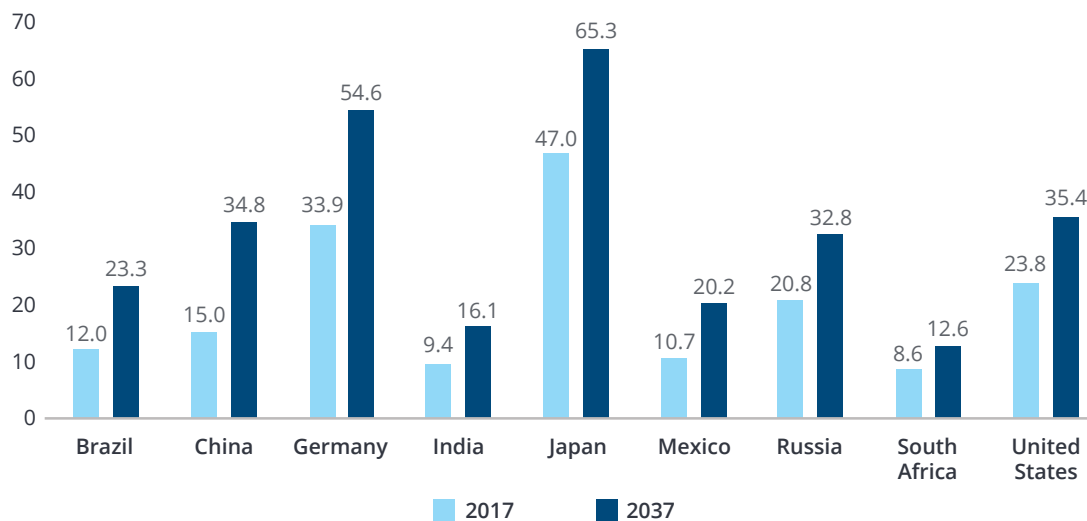


Source: US Census Bureau, International Data Base.

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**Figure 7. Retiree dependency ratios, selected countries**

Number of retirees per 100 working-age people



Source: US Census Bureau; International Data Base.

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important potential implications and actions to consider.

**Use data for workforce planning and identifying shifting demographics.** Do your company's workforce planning and analyses reflect the changes in your workforce demographics? Data analytical tools can assist in better understanding how your workforce is aging and can provide greater insights on your organization's future workforce. Leaders can proactively prepare talent strategies by utilizing data and workforce planning tools to provide a clearer line of sight into their changing workforce composition.

**Develop cross-generational and diverse talent pipelines.** Do your development programs reflect the evolving realities of your workforce demographics and, specifically, the needs of different generations and populations in your workforce? It could be beneficial to diversify your leadership pipelines to ensure all populations are well represented in the future. Research for the 2017 Deloitte *Global Human Capital Trends* report showed that, across a sample of 10,400 surveyed executives, many reported weak programs in their pipeline and training for:

- Millennial leaders (45 percent reported weak program capabilities)
- Women leaders (43 percent reported weak program capabilities)
- Diverse leaders (31 percent reported weak program capabilities)

Better addressing the development needs of these often-underserved populations—specifically, by supporting secondary education or additional leadership training—can help strengthen your future workforce pipelines.

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Organizations should consider a focus on training that balances both skills development for current roles while also cultivating the necessary skills for future roles and opportunities.

**Develop talent strategies for workforce segments at all ages and at different stages of their career.** Generational diversity will likely continue to define the workforce, with older workers representing one of the fastest-growing segments. Providing targeted training solutions that meet their needs and

learning styles can be important in ensuring continued productivity throughout a worker's career. Research shows that younger and older adults have somewhat different learning styles.<sup>12</sup> Therefore, organizations should consider putting development programs in place to meet these varying generational needs and

learning styles at each stage in a worker's career.

**Offer opportunities for lifelong learning and reskilling.** Do your learning and development programs and incentives support, encourage, and reward ongoing learning and reskilling? Do your training policies support the need for constant training in response to the rapid evolution of business and functional knowledge and technologies? Organizations should consider a focus on training that balances both skills development for current roles while also cultivating the necessary skills for future roles and opportunities. To do this, em-

ployers are encouraged to facilitate formal degree programs—allowing employees to obtain a second or third degree or certification—to expand their skills, complementing informal programs and resources and gaining access to new career paths.

As the 21st-century labor market becomes older, brings newer skills, and shifts across regions, businesses that expect to be able to manage their future workforce the same way they do today may see less success, while those that start planning for these changes will be at an advantage. ●

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## Endnotes

1. The Millennial generation is generally considered to be those born between 1980 and 1995. For a closer examination, please see *A new understanding of Millennials: Generational differences reexamined*, Deloitte University Press, October 16, 2015, <https://dupress.deloitte.com/dup-us-en/economy/issues-by-the-numbers/understanding-millennials-generational-differences.html>.
2. The labor force is composed of those working or looking for work. Workforce and labor force are used synonymously in this article.
3. Mitra Toossi, "Labor force projections to 2024: The labor force is growing, but slowly," *Monthly Labor Review*, December 2015, <https://www.bls.gov/opub/mlr/2015/article/labor-force-projections-to-2024.htm#top>.
4. US Census Bureau, "Current population survey," *2015 Annual Social and Economic Supplement*.
5. See Patricia Cohen, "A rising call to promote STEM education and cut liberal arts funding," *New York Times*, February 21 2016. <https://www.nytimes.com/2016/02/22/business/a-rising-call-to-promote-stem-education-and-cut-liberal-arts-funding.html>.
6. These categories are Deloitte-derived aggregates from Department of Education data.
7. Jaison R. Abel and Richard Deitz, *Agglomeration and job matching among college graduates*, Federal Reserve Bank of New York Staff Report No. 587, Federal Reserve Bank of New York, revised December 2014.
8. See, for example, Debra Humphreys and Patrick Kelly, *How liberal arts and sciences majors fare in employment: A report on earnings and long-term career paths*, 2014, Association of American Colleges and Universities, Washington.
9. Aggregations as defined by Deloitte from BLS occupational categories.
10. See *The skills gap in US manufacturing: 2015 and beyond*, Deloitte, 2015.
11. Angus Knowles-Cutler and Harvey Lewis, *Talent for survival: Essential skills for humans working in the machine age*, Deloitte, <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/Growth/deloitte-uk-talent-for-survival-report.pdf>.
12. Baker College Effective Teaching and Learning Department, *Teaching across generations*, <https://www.scribd.com/document/279878650/Teaching-Across-Gen>, accessed June 16, 2017.



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