

## Talent tensions ahead: A CEO briefing

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Looming imbalances in global labor pools could make it harder for some companies to find enough skilled workers and for some less-skilled workers to find jobs.

**Technological advances**, industrialization, and liberalized trade have created a staggering 900 million nonfarm jobs in developing countries since 1980, lifting hundreds of millions of people out of poverty. As global companies have tapped (and helped fuel the growth of) low-cost labor sources, they also have created high-wage jobs for more than 50 million high-skill workers, while boosting productivity in developed and emerging markets alike.

This virtuous cycle appears to be reaching its limits, however, and there is a growing sense that something has gone wrong with the machinery that, for decades, delivered GDP growth, higher productivity, rising wages, and better standards of living. Indeed, new research from the McKinsey Global Institute (MGI) suggests that by 2020, the world could have 40 million too few college-educated workers and that developing economies may face a shortfall of 45 million workers with secondary-school educations and vocational training. In advanced economies, up to 95 million workers could lack the skills needed for employment.<sup>1</sup>

The projected gaps we identified are notional, and global labor markets will adjust in response to them. But their consequences

<sup>1</sup>According to a 2011 survey by employment-services company Manpower, 34 percent of employers around the world had difficulty filling jobs as a result of a lack of available talent, up from 30 percent in 2009.

would be serious: higher levels of unemployment (even as companies struggle to fill select vacancies), rising income inequality, and heightened social tensions testing political stability in countries around the world.

Senior executives and policy makers should study these imbalances closely because together they outline where dangers and opportunities will arise, and they provide a framework that business leaders and policy makers can use to guide their decisions. In this article, we'll look at the most significant labor imbalances by geography and then discuss the moves companies can begin making now to prepare for the talent tensions to come.

## **A new world for work**

To better understand the evolving global labor market, we analyzed 70 countries, representing 87 percent of global population and 96 percent of GDP. Segmenting these countries by educational achievement (a rough proxy for skill), median age, and GDP per capita highlighted clusters of countries sharing similar attributes (Exhibit 1). Using these clusters as a starting-off point, we modeled a “momentum” base case that combines current trajectories in demographics, GDP, educational attainment, and the supply of and demand for labor by skill level, all with the intention of highlighting potential labor imbalances that companies around the world might soon face. Four areas deserve close scrutiny from senior executives.

### **China's high-skill gap**

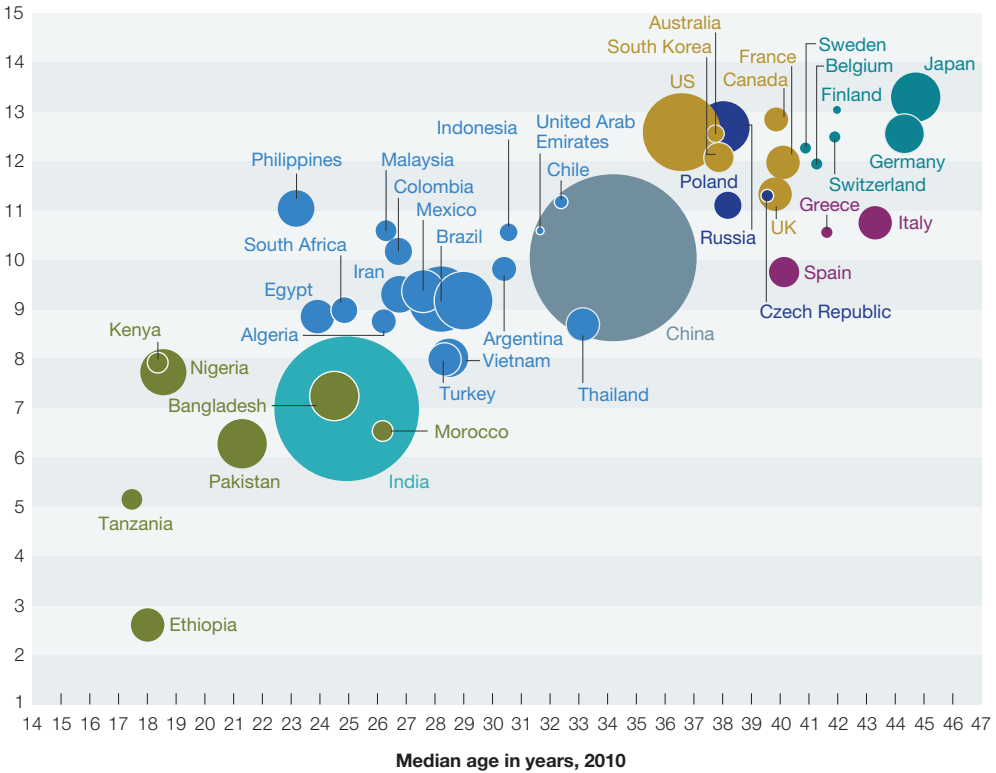
In recent decades, China's industrialization has moved hundreds of millions of workers from farms into urban manufacturing and services. These changes boosted the country's GDP per capita and productivity, while providing the developed world with a massive source of low-cost labor. More recently, China has expanded beyond its role as “workshop to the world” and become a vital growth market for global companies operating there.

Yet a confluence of factors—including China's aging population, the rapid growth of the country's service sectors, and the move into more skill-intensive manufacturing—means that by 2020 the economy will probably need 23 million more college-educated workers than

Exhibit 1

**An analysis of the global labor market reveals countries that share similar attributes.**

**Education index for selected countries<sup>1</sup>**



○ Size of circle indicates size of cluster's working-age population in 2010

<p><b>Young developing</b> 322 million workers &lt;\$3,000 GDP per capita<sup>2</sup></p>	<p><b>Young middle income</b> 640 million workers \$3,000–\$20,000 GDP per capita<sup>2</sup></p>	<p><b>Young advanced</b> 290 million workers \$25,000–\$50,000 GDP per capita<sup>2</sup></p>	<p><b>Aging advanced</b> 145 million workers \$30,000–45,000 GDP per capita<sup>2</sup></p>
<p><b>India</b> 469 million workers \$3,000 GDP per capita<sup>2</sup></p>	<p><b>China</b> 783 million workers \$7,000 GDP per capita<sup>2</sup></p>	<p><b>Russia, Central and Eastern Europe</b> 141 million workers \$10,000–\$20,000 GDP per capita<sup>2</sup></p>	<p><b>Southern Europe</b> 60 million workers \$20,000–\$30,000 GDP per capita<sup>2</sup></p>

<sup>1</sup>Education-attainment levels weighted by years of schooling and by working-age population; median age weighted by total population.

<sup>2</sup>All GDP per capita expressed at 2005 purchasing-power parity; exceptions to ranges noted for GDP per capita: for “young developing,” Morocco (\$7,100); for “young middle income,” United Arab Emirates (\$28,500); for “young advanced,” South Korea (\$23,500); for “Russia, Central and Eastern Europe,” Czech Republic (\$22,300) and Ukraine (\$6,000).

Source: International Institute for Applied Systems Analysis (IIASA); UN International Labour Organization (ILO); UN Population Division (2010 revision); McKinsey Global Institute analysis



For an interactive chart featuring all 70 countries MGI studied, see *The world at work: Jobs, pay, and skills for 3.5 billion people*, on [mckinsey.com](http://mckinsey.com).

it can supply (Exhibit 2). This gap, equivalent to 16 percent of estimated labor demand, will probably emerge despite massive investments, already made or planned, in education. (China, for example, is already on track to add more than 50 million workers with a college education by 2020.) The implications of the gap are huge, as an adequate supply of highly educated workers will be critical to securing the growth of higher-value-added industries and the productivity gains needed to sustain China's GDP trajectory, not to mention realizing the growth aspirations of companies around the world.

Boosting the share of college graduates in the labor force would help—it currently stands at 11 percent—but that will be tough. Getting to 17 percent by 2020 would require more than 85 percent of China's secondary-school graduates to complete a college education, compared with about 50 percent at present.

What's more, the country already has one of the world's highest female labor-participation rates, at 82 percent; increasing that level won't be easy.

### India's missing middle

India is a much younger country than China, and its shift out of agriculture and up the value curve is proceeding more slowly. From 2000 to 2010, India created just enough nonfarm jobs (about 67 million) to keep pace with the growth of its labor force, but not enough to move workers out of agriculture in substantial numbers. Consequently, India faces a unique set of labor market imbalances. In fact, it could be among the few countries with a *surplus* of highly skilled workers: in our momentum case, 36 million college graduates will join its labor force in the coming decade, about 6 million more than its domestic industries can employ.

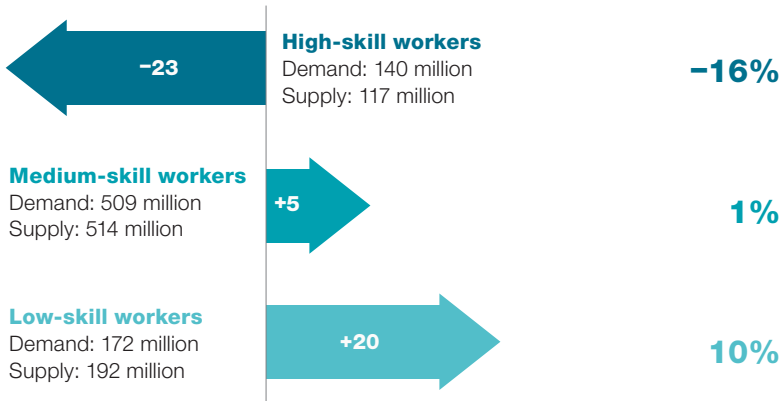
Nonetheless, the share of India's working-age population with a secondary education is less than half that of China and many other developing economies. Further, India's relatively low secondary-school graduation rate could mean a shortage of medium-skill workers, such as plumbers and welders, to fill the jobs created by the country's burgeoning construction, manufacturing, retail- and wholesale-trade, and service sectors. All told, we project a gap in medium-skill workers of 13 million, or about 10 percent of demand in 2020 (Exhibit 3). India already faces a shortage of medium-skill workers,

## Exhibit 2

### In China, demand for high-skill labor will probably grow faster than supply over the next decade.

**Projected 2020 labor demand and supply by skill level,<sup>1</sup>**  
millions of workers

**Share of total**  
% of demand (for shortages),  
% of supply (for surpluses)



<sup>1</sup>High-skill workers = college degree or higher; medium-skill workers = high school or vocational training only; low-skill workers = primary school or no education.

Source: National Bureau of Statistics of China; McKinsey Global Institute analysis

a fact reflected in high wage growth for vocationally trained people in sectors such as construction and mining.

Finally, if current population and education trends persist, India could have 27 million too many low-skill workers by 2020. This growing surplus of low-skill workers implies adverse social outcomes: millions of people trapped in low-productivity, low-income jobs. India would need an unprecedented increase in job creation and education levels (including vocational education) to address these labor market challenges.<sup>2</sup>

### From surplus to shortage

As China's labor force growth slows in coming decades, the young developing countries we studied, a group that includes Bangladesh,

<sup>2</sup>For more about the approaches India's manufacturers are taking to develop these skills, see Rajat Dhawan, Gautam Swaroop, and Adil Zainulbhai, "Fulfilling the promise of India's manufacturing sector," *mckinseyquarterly.com*, March 2012.

Kenya, Morocco, and Nigeria,<sup>3</sup> will contribute about one-third of the growth in the global labor force. Today, these countries have ample numbers of college-educated workers—often more than their industries are ready to employ. In North African countries, for example, unemployment among highly educated workers is 20 percent, which is worse than the 8 percent rate for workers with only a primary education. (This difference reflects the fact that lower-skill workers engage in subsistence activities to survive in the absence of social safety nets.)

The labor surplus many of these countries have won’t last forever, because their economies are growing much faster than those of the developed world and represent important markets for multinational companies. African countries, in particular, have garnered significant attention in recent years as destinations for investment, and

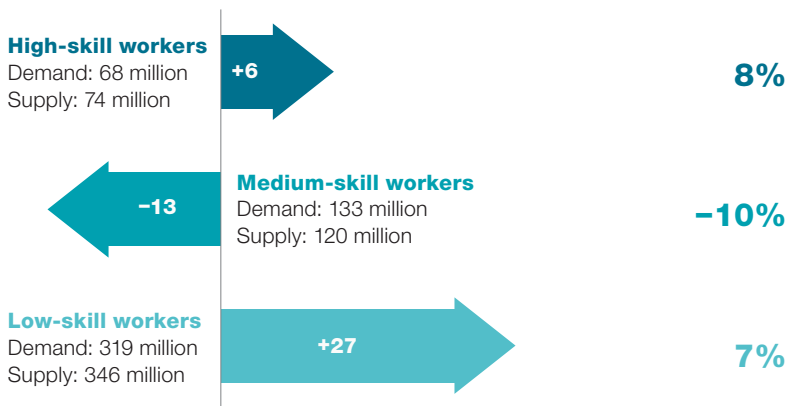
<sup>3</sup>The other countries in this category are Ethiopia, Ghana, Ivory Coast, Mozambique, Pakistan, Tanzania, and Uganda.

Exhibit 3

**India may soon have too few workers with a secondary education and too few jobs for low-skill workers.**

**Projected 2020 labor demand and supply by skill level,<sup>1</sup>**  
millions of workers

**Share of total**  
% of demand (for shortages),  
% of supply (for surpluses)



<sup>1</sup>High-skill workers = college degree or higher; medium-skill workers = high school or vocational training only; low-skill workers = primary school or no education.

Source: India census; India’s Ministry of Human Resource Development; National Sample Survey Organisation, India’s Ministry of Statistics and Programme Implementation; McKinsey Global Institute analysis

new research from MGI finds the continent has large untapped job potential in agriculture, manufacturing, and the retail and hospitality industries.<sup>4</sup>

Nonetheless, if current growth, population, and education trends persist, we conservatively project that the countries of sub-Saharan Africa and South Asia (excluding India) could have a shortage of 31 million workers with a secondary education by 2030 (Exhibit 4). Furthermore, young developing countries will need to find work for about 30 million low-skill workers with no education or only primary schooling. By 2020, the surpluses will represent 14 percent of the supply of such workers in these countries.

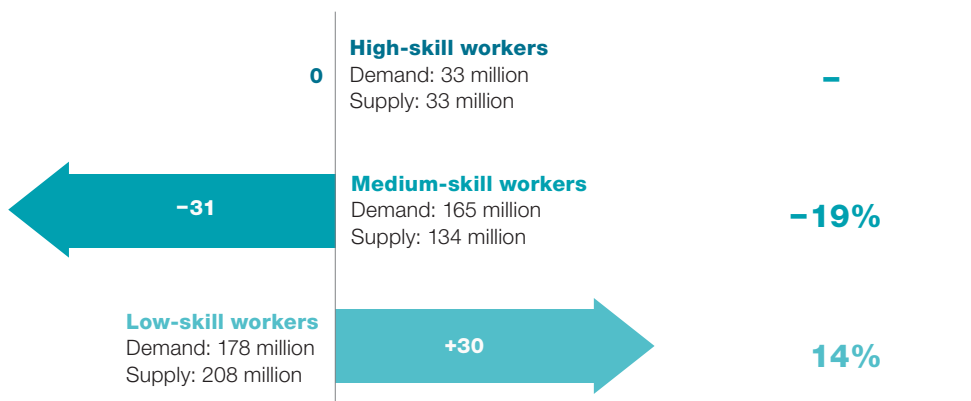
<sup>4</sup>For more, see the full MGI report, *Africa at work: Job creation and inclusive growth*, on [mckinsey.com](http://mckinsey.com).

#### Exhibit 4

### Young developing economies face a shortage of medium-skill workers along with an excess supply of low-skill workers.

**Projected 2020 labor demand and supply by skill level,<sup>1</sup>**  
millions of workers

**Share of total**  
% of demand (for shortages),  
% of supply (for surpluses)



<sup>1</sup>High-skill workers = college degree or higher; medium-skill workers = high school or vocational training only; low-skill workers = primary school or no education; young developing countries include Bangladesh, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Morocco, Mozambique, Nigeria, Pakistan, Tanzania, and Uganda.

Source: International Institute for Applied Systems Analysis (IIASA); UN International Labour Organization (ILO); UN Population Division (2010 revision); McKinsey Global Institute analysis

Addressing such imbalances will require young developing economies to more than double the growth of educational attainment and to raise their secondary-enrollment and -completion rates.

### High-skill shortage, low-skill surplus

Advanced economies, including those in Europe and North America,<sup>5</sup> face daunting challenges, too. Trends in educational attainment and projected employment needs indicate that employers there will require 16 million to 18 million more college-educated workers than will be available in 2020, a gap representing 11 percent of demand (Exhibit 5).

The skill gap will be widest in Southern Europe, where educational attainment is lowest and populations are relatively old. These countries could have 3.5 million too few college graduates in 2020. Other advanced economies with high median ages—such as Germany—could face a shortage of college-educated workers equivalent to 10 to 11 percent of demand, despite relatively high college completion rates. In the United States, a demographically younger economy, the gaps will be less severe: perhaps 1.5 million too few workers with college or graduate degrees by 2020.

Meanwhile, the advanced economies are likely to face an excess supply of low- and medium-skill workers. Our analysis of demand patterns indicates that in 2020, there could be 32 million to 35 million more workers without postsecondary education than employers will need—a surplus equivalent to 10 percent of the supply of these workers. That surplus implies a range of adverse social and economic outcomes: higher unemployment rates (even during periods of economic expansion), rising numbers of discouraged workers who opt out of the labor force permanently, and more workers forced to accept marginal jobs, resulting in downward pressure on wages.

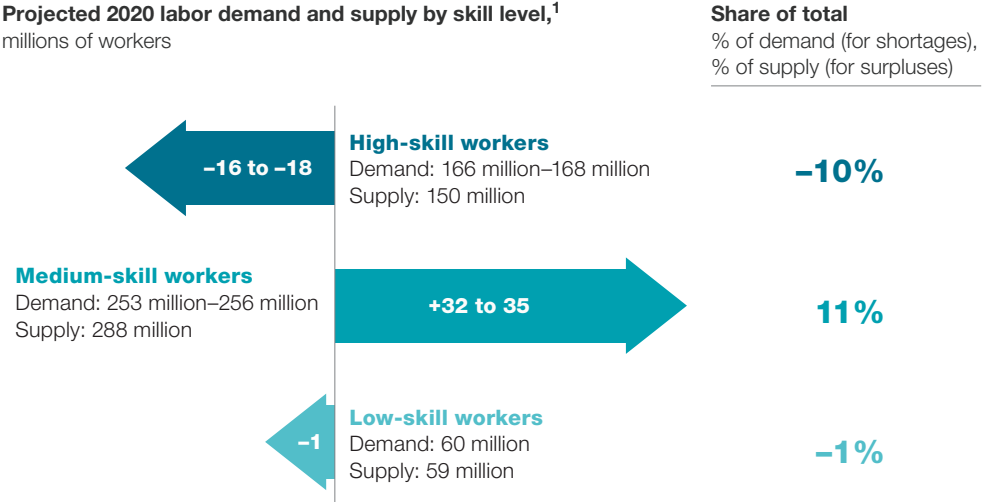
The oversupply of low-skill labor will be most acute where educational attainment is lowest. Current demand trends suggest that in 2020, as many as 16 percent of Southern Europe's roughly 50 million

<sup>5</sup>For the purposes of our study, we defined advanced economies as a set of 25 Organisation for Economic Co-operation and Development (OECD) countries with GDP per capita above \$20,000 in 2010 (at 2005 levels of purchasing-power parity).



Exhibit 5

**By 2020, advanced economies could have too few college-educated workers and too many workers with secondary degrees.**



<sup>1</sup>High-skill workers = college degree or higher; medium-skill workers = high school or vocational training only; low-skill workers = primary school or no education. Advanced economies are defined as a set of 25 countries with GDP per capita >\$20,000 in 2010 (at 2005 levels of purchasing-power parity); all are members of the Organisation for Economic Co-operation and Development (OECD) except for Hong Kong and Singapore.

Source: country sources for France and United States; GDP consensus estimates; Global Insight; International Institute for Applied Systems Analysis (IIASA); UN International Labour Organization (ILO); UN Population Division (2010 revision); McKinsey Global Institute analysis

workers without a postsecondary education could be unable to find employment.

Bridging the high-skill-worker gap would require raising young people’s rate of college completion by 2.5 times the historical rate of increase, and simultaneously raising participation rates of college-educated women and older workers at over twice the historical rate of increase. Even this won’t suffice to deal with the surplus of low-skill workers: the rate of job creation for them would need to be at least five times higher than it was in the past to create enough job opportunities.

## What business can do

As we've said, labor markets are dynamic: wages will adjust in the face of imbalances; workers will relocate; and the nature of work itself will continue to evolve. Technology has a critical role to play—both helping workers perform higher-skill jobs than they otherwise could and serving as a powerful aggregator of skills. (Consider how 20,000 low-skill workers in southern India are using smartcards, mobile phones, and kiosks to disburse microloans or how Amazon's Internet marketplace, Mechanical Turk, enables businesses to out-source simple tasks, such as writing product descriptions.)

The uneven distribution of skills and needs means that business leaders must develop a finer-grained view of shifting labor dynamics. By anticipating trends in education, aging, and incomes, executives can better tune their recruitment, offshoring, and investment strategies. In addition to sizing pools of appropriately skilled workers, companies will need to assess the quality of educational systems and the market forces that determine—often at the level of individual cities—the wage differentials among employees.

And then companies will need to take action. For those competing at the high end of the labor market, a deficit of high-skill workers implies an intensifying global war for talent (see “Preparing for a new era of knowledge work,” on [mckinseyquarterly.com](http://mckinseyquarterly.com)). Companies worried about losing the skills and institutional knowledge of older employees as they retire may need to provide them with more flexible options. In Japan, for example, Toyota Motor aggressively recruits among its retiring employees to bring workers back in half-time roles at the company or its affiliates.

Of course, business leaders will be establishing their labor strategies in an environment set by policy makers, who should focus on raising the output of educational systems and eliminating barriers to creating jobs for less-skilled workers. Looming labor market tensions suggest it would be unwise to take that context for granted. Particularly in high-demand STEM (science, technology, engineering, and math) disciplines, companies can play a larger role in shaping the educational content of colleges. The Great Minds in STEM initiative,

for example, is committed to increasing attainment in these subjects among Hispanic students through an extensive community and school outreach program facilitated by corporate partners such as Boeing, Lockheed Martin, and Northrup Grumman. Some companies may even want to participate directly in the large and fast-growing market for education and training.

Companies also can influence the context by focusing their corporate-social-responsibility efforts on youth unemployment and helping to bring the long-term unemployed back into the workforce. Beverage-maker Diageo, for instance, set up Tomorrow's People, a UK-based charity that has helped more than 400,000 of the long-term unemployed find jobs, education, or training. Three-quarters of the people it helps to place remain employed after a year. Diageo supported the charity, now an independent entity, with operational and financial help, as well as access to jobs in businesses it owns.



By taking decisive action now, companies and policy makers can help ensure that over the next two decades a growing global labor market continues to provide the opportunities and benefits it did over the past 30 years. Companies would continue to access the talent they need to sustain growth and create opportunities. Workers, in advanced and developing economies alike, would enjoy clearer paths out of poverty, along with improved—and improving—living standards. ○

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