

McKinsey Global Institute



March 2012

Help wanted: The future of work in advanced economies

Discussion paper

The McKinsey Global Institute

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Preface

Today 40 million workers across advanced economies are unemployed. At the same time, businesses in those nations say that they often can't find workers with the skills they need. This labor market dysfunction is symptomatic of structural changes that are altering the nature of work and shaping employment opportunities in advanced economies. Put simply, labor market institutions and policies have not kept up with the changes in business practices and technology that are defining what kinds of jobs will be created and where they will be located. As a result, simply restoring robust aggregate demand may not be enough to bring back pre-recession employment levels and will not prepare the workforce for the new jobs of the next two decades.

This discussion paper, *Help wanted: The future of work in advanced economies*, was written to highlight the long-term issues affecting jobs and employment and to contribute to the public debate on how to address these challenges. It represents a synthesis of our work on these topics, rather than new research. It draws on past and forthcoming research reports by the McKinsey Global Institute (MGI), as well as from McKinsey & Company work with leaders in government, industry, academia, and nonprofit organizations around the world. The five trends and potential solutions discussed in this paper were presented during a McKinsey panel discussion on jobs with distinguished leaders from business, government, and civil society during the World Economic Forum meeting in Davos, Switzerland, in January 2012.

Our goal in this paper is to highlight the structural challenges that are shaping employment and job creation in advanced economies in a way that will help lead to long-term solutions. The trends described here are transforming how work is done and are determining what kinds of jobs are created. We hope to continue the discussion that began in Davos about how advanced economies can better prepare their citizens for today's rapidly evolving labor markets and remove barriers to job creation.

Susan Lund and James Manyika of the McKinsey Global Institute and McKinsey director Byron Auguste led this project, and Sreenivas Ramaswamy served as project manager. Geoffrey Lewis provided editorial support, and we thank Julie Philpot and Rebeca Robboy from the MGI production and communications team for their assistance.

This paper draws on research and analysis conducted by our McKinsey colleagues, and we are indebted to those authors. We thank Richard Dobbs, Kai Holleben, Eric Labaye, Anu Madgavkar, Jan Mischke, Gordon Orr, Charles Roxburgh, and Katrin Suder. In addition, we have benefited from the thoughtful contributions and insights of two MGI academic advisers, Martin N. Baily, Bernard L. Schwartz Chair in Economic Policy Development at the Brookings Institution; and Laura Tyson, S. K. and Angela Chan Chair in Global Management at the Haas School of Business, University of California at Berkeley.

Finally, we are grateful for the insights provided by our distinguished panel in Davos: Thomas Friedman, Pulitzer Prize-winning New York Times columnist and author; Kris Gopalakrishnan, co-founder and CEO of Infosys, Ltd.; Lord Peter Mandelson, chairman of Global Counsel, LLP, and former UK minister to the European Union and secretary of state for business; and Michael Spence, Nobel laureate and William R. Berkley professor in economics and business, Stern School of Business, New York University.

This paper contributes to MGI's mission to help global leaders understand the forces transforming the global economy and move toward better national and international policies. As with all MGI projects, this research is independent and has not been commissioned or sponsored in any way by any business, government, or other institution.

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Help wanted: The future of work in advanced economies

Around the globe, 200 million people are out of work, according to the International Labor Organization. We estimate that 40 million of these people live in advanced economies¹ and that tens of millions more in those nations are underemployed or have become discouraged and dropped out of the labor force. This is the lingering legacy of what was the worst recession for most advanced economies since the Great Depression. With many nations still facing weak demand—and the risk of renewed recession—hiring has been restrained. By some estimates, up to two percentage points of the unemployment rate in the United States can be explained by weak demand.

Yet there are also long-range forces at play that will make it more difficult for advanced economies to return to pre-recession levels of employment in the years to come. In the United States, for example, there has been a growing lag between recovery of GDP and recovery of employment after recessions. In all the recessions between World War II and 1990, US employment returned to pre-recession levels roughly two quarters after GDP did. In the past three recoveries, however, there has been a lengthening lag: at current rates of job creation, it will take 45 more months to restore the jobs lost in 2008–09.

More broadly, technology is changing the nature of work: as companies redefine how and where different tasks are carried out, they require new skills and new employer-employee relationships. Globalization plays a role, too, by expanding access to pools of low-cost talent and creating greater need for workers with higher levels of education and specific skills in advanced economies. Indeed, despite elevated unemployment rates, jobs today go unfilled in mature economies because employers cannot find the skilled talent they need. Meanwhile, jobs for less skilled workers disappear—lost to automation or sent to low-cost locations.

In this paper we explore five trends that are influencing employment levels and shaping how work is done: the impact of technology; the widening gap between the skills that employers seek and those that the workforce has; growing geographic mismatches between where jobs are appearing and where they are needed most; growing pools of untapped talent; and disparity in income growth. Based on these trends, we see that the current disequilibrium in many national labor markets will not be solved solely with measures that worked well in decades past. The challenge for advanced economies extends beyond restoring jobs lost to recession—many of which will never return. The long-range jobs challenge is understanding how work is changing and finding ways to prepare as many workers as possible for the jobs of the future.

To understand why this is so and to help develop appropriate new responses, we examine these major trends and offer some thoughts about what policy makers and business leaders might do to address the growing jobs challenge.

¹ This includes the 31 high-income countries in the OECD. We use unemployment data from November 2011 for most of these countries; for a handful of others, we use data from the third quarter of 2011.

1. Technology is changing the nature of work

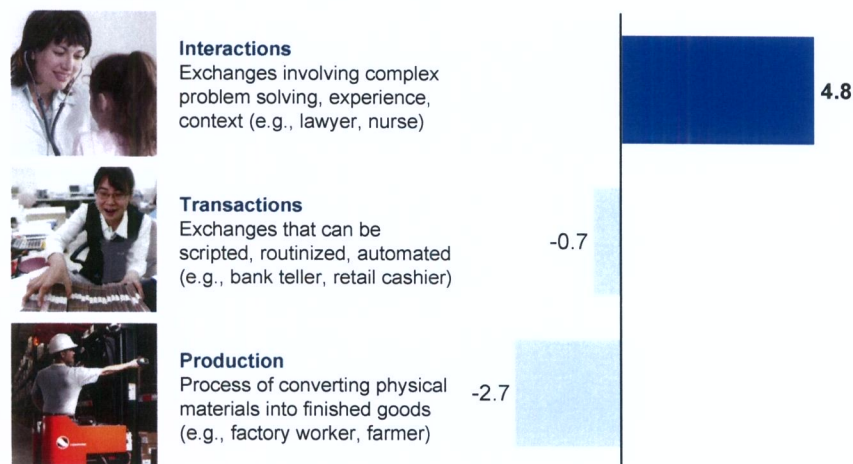
When jobs are created in advanced economies in the coming decades, they are not likely to resemble those of the past—or the jobs that were lost in the recession. For decades, technology has been transforming the nature of work and raising productivity, starting with the use of robots and other smart machines to automate routine production work, such as on an assembly line. A second wave of work redesign over the past 15 years has affected jobs that involved information processing and routine transactions. Transaction jobs that could be standardized and scripted—cashing checks and taking deposits, answering a customer call, or processing a service request—were automated,² or, with the aid of technology, they were shifted to workers in low-wage locations.

Now a third wave of change is reaching jobs that involve complex interactions and often require deep knowledge, independent judgment, and experience.³ These are the jobs of the knowledge economy and include managers and salespeople, as well as professionals such as doctors, lawyers, and teachers. For more than a decade, such interaction jobs—including both high-skill and low-skill ones—have been the fastest-growing category of employment in advanced economies. In the United States, for example, nearly all net new job creation over the past decade has been in interaction jobs; nearly five million interaction jobs were created between 2000 and 2009, while more than three million production and transaction jobs disappeared (Exhibit 1).

Exhibit 1

Most job growth in mature economies involves complex interactions, not routine production or transaction work

New jobs created in the United States, 2001–09
Million employees



SOURCE: US Bureau of Labor Statistics; McKinsey Global Institute analysis

- 2 Erik Brynjolfsson and Andrew McAfee, *Race against the machine: How the digital revolution is accelerating innovation, driving productivity, and irreversibly transforming employment and the economy*, Digital Frontier Press, Lexington, MA, 2011.
- 3 Bradford C. Johnson, James M. Manyika, and Lareina A. Yee, "The next revolution in interactions," *McKinsey Quarterly*, November 2005.

Many of those interaction jobs were added in “non-tradable” sectors, such as health care, government services, and education. These sectors are not exposed to global competition and the nature of such work has changed much less dramatically over the past decades. By contrast, in tradable goods and services, globalization and technology play an ongoing role in determining how work is done, particularly in production and transaction work. As a result, a highly globalized sector such as manufacturing, which has become extensively automated, can be a major contributor to national GDP and productivity growth without creating many new jobs. This phenomenon is seen across all advanced economies: even such manufacturing powerhouse economies as South Korea and Germany have experienced declining manufacturing employment over the past decade.⁴ And increasingly, jobs that are created in an industry such as manufacturing are in research and development, product design, engineering, and marketing, not on the factory floor.

Companies are now focusing on raising productivity in high-skill interaction jobs, a category that includes professionals such as doctors, lawyers, and engineers, as well as managers and salespeople. In many cases, this is the first effort by employers to apply efficiency measures to the work of their most highly paid employees. One technique is to “disaggregate” jobs by separating routine tasks that don’t require high skills and automating them or reassigning them to specialist workers. The classic model of disaggregation is the paralegal, who takes on the time-consuming basic research tasks of a highly paid attorney. This model is being applied in health care, engineering, computer science, and other fields where highly paid, highly skilled talent is in short supply and where middle-skill specialists can take over some tasks.

At the same time, employers are finding that they can change where and when jobs are carried out—to meet their needs and those of employees. Using ubiquitous broadband connections and other technology, many interaction jobs can be conducted “virtually,” whether from the road, remote offices, or a worker’s home. This not only enables employees to choose work routines that suit their lifestyle preferences (and gives employers access to employees they may not otherwise engage), but it also gives employers unprecedented flexibility in how they use labor.

Managing employees and contract workers across the Internet, companies now have the ability to make labor more of a variable cost, rather than a fixed one, by engaging workers on an as-needed basis. Across the OECD (Organisation for Economic Co-operation and Development) nations, part-time and temporary employment among prime-age workers has risen 1.5 to 2 times as fast as total employment since 1990. From 2000 to 2010, the number of temporary jobs in France rose by more than 66 percent, while the number of permanent jobs increased by just 7 percent. In our own surveys of US employers, more than one-third say they plan to increase use of contingent labor and part-time workers in the years ahead,⁵ and we see a range of new intermediaries emerging to supply high-skill talent for short-term assignments.⁶

4 According to OECD data, South Korean manufacturing employment declined from 4.3 million in 2000 to 3.8 million in 2009; German manufacturing employment fell from 8.1 million to 7.4 million over the same period.

5 *An economy that works: Job creation and America’s future*, McKinsey Global Institute, June 2011.

6 Thomas W. Malone, Robert J. Laubacher, and Tammy Johns, “The age of hyperspecialization,” *Harvard Business Review*, July–August 2011.

What it means

The jobs that will be created in the future are increasingly unlike those of the past. For businesses, the next wave of work redesign has great potential to improve both the efficiency and effectiveness of the most expensive talent in their organizations. This trend may also create new opportunities for people with mid- to high-level skills, such as nurses, nutritionists, and computer programmers. For policy makers, the continuing transformation of jobs by technology means that worker skills need to evolve ever more rapidly and that opportunities for unskilled workers will continue to dwindle in all but the very poorest nations. Policy makers must also review how the greater use of contingent work arrangements affects income, consumption, and access to health and retirement benefits.

2. Growing mismatches between worker skills and jobs

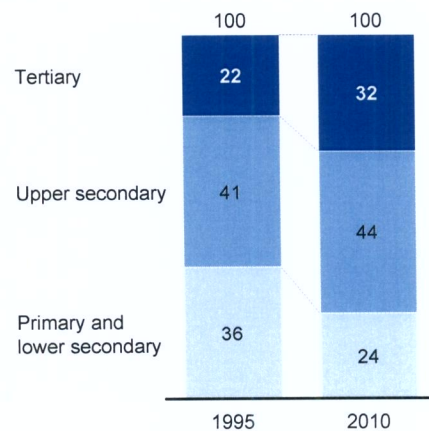
Workers with the strong cognitive, communication, and problem-solving abilities that are required for the most sophisticated types of work have experienced low unemployment and rising wages—the opposite of what has been happening to workers at lower skill levels. The diverging fates of high- and low-skill workers are seen across the OECD: the share of employed workers who lack an upper secondary degree has declined by one-third since 1995 (Exhibit 2). The result is growing polarization of opportunities in the labor market, with strong demand for both the most skilled workers and for workers in non-tradable, low-skill jobs (e.g., food preparation), but shrinking opportunities for those between these poles.⁷

Exhibit 2

Jobs in the OECD countries are increasingly for higher-skill workers

Educational attainment of employed workers in OECD countries

100% = Total employed



NOTE: Numbers may not sum due to rounding.

SOURCE: Organisation for Economic Co-Operation and Development, Education at a Glance 2011; McKinsey Global Institute analysis

⁷ David Autor and David Dorn, "The growth of low-skill service jobs and the polarization of the U.S. labor market," MIT working paper, June 2011.

In the past decade, the unemployment rate for workers with less than a secondary education rose by seven percentage points in Spain, three points in the United Kingdom, and two points in Canada and Germany. In the same period, the unemployment rate for workers with a tertiary education (a bachelor's degree or higher) fell by two points in Spain and Germany and remained steady in the United Kingdom and Canada.⁸ In the United States, the unemployment rate for workers without a secondary degree doubled during the Great Recession to more than 15 percent, while the unemployment rate for people with a college or graduate degree never exceeded 5 percent. In France, unemployment rates for workers who have passed the *brevet d' études du premier cycle* exam that is taken after the first stage of secondary education is 13.5 percent, compared with only 5.6 percent for those with a tertiary education. Across economies, workers with fewer skills are more likely to drop out of the workforce entirely.

Yet despite elevated unemployment rates in most advanced economies, many employers say they have difficulty finding enough workers with the specific skills they require. In 2011, 26 percent of employers in Europe reported having difficulty filling jobs for lack of qualified talent, particularly technicians and engineers—and 80 percent of Japanese companies reported the same problem.⁹ In another survey, two-thirds of European CEOs have said their key challenge in the next three years is the limited supply of candidates with the right skills.¹⁰ In 2011, when the US unemployment rate exceeded 9 percent, an MGI survey of 2,000 US companies found that 30 percent had positions open for more than six months that they could not fill.

By 2020, our research projects that the United States may have 1.5 million too few workers with college or graduate degrees—and nearly 6 million more workers lacking a high school diploma than employers will demand.¹¹ This problem is evident in other advanced economies as well. We project that France will have 2.2 million too few workers with a baccalaureate to meet demand in 2020 and 2.3 million more workers who lack a baccalaureate than can be employed.

Over time, emerging markets may face similar skill gaps as technology eliminates or reduces the need for many low-skill jobs. A forthcoming MGI report on global labor markets finds that some emerging economies, such as India, may find they have large surpluses of workers without secondary degrees who will be difficult to employ.¹²

What it means

A shortage of workers with the right training and skills could become a drag on business expansion and national GDP growth in advanced economies.¹³ Companies will be attracted to countries with the best pools of talent. Some may find they can build a competitive advantage by investing more heavily in

8 *Education at a glance 2011: OECD indicators*, OECD Publishing, September 2011.

9 ManpowerGroup, *2011 Talent Shortage*, a survey of 39,641 employers in 39 countries.

10 PricewaterhouseCoopers, 2011 Global CEO survey of 1,201 business leaders in 69 countries.

11 *An economy that works: Job creation and America's future*, McKinsey Global Institute, June 2011.

12 A comprehensive McKinsey Global Institute report on trends in global labor markets is currently scheduled for release in mid-2012.

13 Claudia Goldin and Lawrence F. Katz lay out the link between human capital and growth in *The race between education and technology*, Harvard University Press, Cambridge, MA, 2008.

building the workforce they need and providing ongoing training, particularly for mid-career workers who need to switch occupations. Swedish companies have taken this route,¹⁴ contributing to a relatively vibrant manufacturing sector. Long-term skill shortages have important policy implications as well, eroding national competitiveness, possibly hampering the ability to innovate, and contributing to widening wage inequality. Countries that currently compete in global labor markets on the basis of low-cost, low-skill workers increasingly will find that strategy challenged.

3. Geographic mismatches between jobs and workers

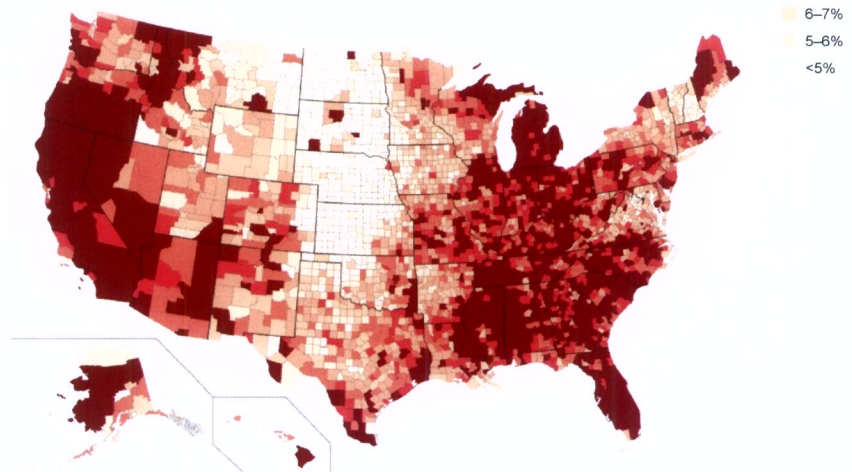
Geographic mismatches also are exacerbating the jobs problem: workers with desired skills may be in short supply where companies are hiring, while places with the highest unemployment may have little job creation. This geographic imbalance is occurring both across national borders and within them. In the United States, while unemployment stands at more than 12 percent in Nevada, a state that experienced a large real estate bubble, in Nebraska only about 4 percent of the workforce is out of a job (Exhibit 3). And, unlike their parents and grandparents, today's working-age Americans are less likely to relocate to find work. US labor mobility is at a 50-year low and only half the level as recently as 1989. Other advanced economies, such as the United Kingdom, France, and even Germany, have similarly stark regional differences in levels of growth and employment. In the United Kingdom, the unemployment rate is 6 percent in the Southeast and 12 percent in the Northeast.¹⁵

Exhibit 3

Geographic mismatches exist between jobs and workers, both within countries and across them

Unemployment rate in US counties, December 2010

%



SOURCE: U.S. Bureau of Labor Statistics; McKinsey Global Institute analysis

¹⁴ In 2005, Swedish companies provided twice as many hours in continuing vocational training as the EU-15 average. See forthcoming McKinsey report on the Swedish economy, spring 2012.

¹⁵ UK Office for National Statistics.

Compared with the United States, the European Union has an even more challenging geographic matching problem, given the barriers of language and culture, and the different systems of professional certification that make it difficult to transport skills. The average unemployment rate in Southern European nations is almost twice that of Northern Europe¹⁶ (13.1 percent versus 7.2 percent). Yet in Northern Europe, job vacancy rates are significantly higher than in other parts of the continent.

Another dimension of the geographic mismatch is between mature economies and developing ones. As the workforce in developed countries ages, and as the nature of work continues to shift toward higher skills, advanced economies may need to rethink their immigration policies. More than 200 million people around the globe are working outside their home countries today, and more than half moved from developing countries to advanced economies. Creating different criteria for immigration of workers with scarce skills could ease geographic differences in unemployment and help advanced economies fill job vacancies.

The rise of virtual work arrangements described above is another potential solution to geographic imbalances within and between countries, at least for jobs that can be performed remotely. Employers are increasingly offering remote, work-from-home flexibility to attract and retain workers and to tap lower-cost pools of talent in less costly locations. Remote work has long been a way to retain mothers who needed more flexibility, but it is becoming more appealing to other demographic groups, too, such as older workers who no longer want to commute or prefer to work part-time, and young “Generation Y” professionals who want flexible lifestyles from the start.

Governments can help encourage higher labor mobility within countries, too. Home ownership rates and housing policies play an important role in determining the frequency with which workers move (renters are more mobile than owners). Depressed housing markets within nations such as Spain and the United States limit relocation for employment, so efforts to resolve home mortgage issues will have a direct bearing on solving the geographic matching problem. Policy makers may take a further step of providing other incentives to encourage mobility.

What it means

Geographic mismatches between jobs and people stand in the way of employment and result in a higher long-term unemployment rate. A multi-pronged solution will be needed. With broadband and wireless connections, the Web, and cloud computing, companies are finding that a growing range of jobs can be performed just as well remotely as they can be done face-to-face. This can help overcome geographic mismatches for certain kinds of work, at least within countries or between those where language is not a barrier. Policy makers can also consider offering incentives for skilled workers to relocate to areas where their talents are needed. In addition, national databases with information about where jobs are being created and what skills are required can help workers decide whether they should stay where they are or relocate to improve employment prospects. Low-skill workers generally are less mobile than higher skill workers and may need programs that provide both retraining and relocation

¹⁶ We define Southern Europe as Cyprus, Greece, Italy, Malta, Portugal, Spain, and Gibraltar. We include Denmark, Finland, Norway, Sweden, and Iceland in the definition of Northern Europe.

assistance. Countries may also have to rethink approaches to immigration. Finally, governments should consider policies to spread economic growth more evenly across different regions of their countries.

4. Growing pools of untapped talent

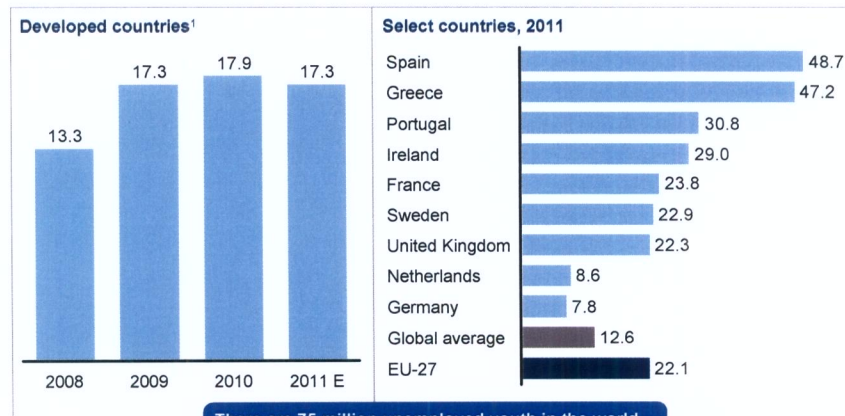
At the same time that companies are having trouble finding skilled workers, there are growing pools of untapped talent. Some of these groups may be quite difficult for employers to draw from, but others represent important opportunities to help drive growth and bridge the skill gap.

Widespread youth unemployment presents a daunting challenge. In developed economies, unemployment among young people¹⁷ peaked at nearly 18 percent in 2010, and reached much higher levels in Spain, Greece, Portugal, Ireland, and even Sweden (Exhibit 4).

Exhibit 4

Youth unemployment is high and rising, putting an entire generation at risk

Youth unemployment rate
%



There are 75 million unemployed youth in the world—nearly equivalent to the entire population of Germany

1 North America + EU.

SOURCE: ILO Global Employment Trends for Youth, August 2010 and 2011 update; Eurostat; McKinsey Global Institute

For young people, unemployment has long-term effects. Those entering the workforce during recessions have lower lifetime earnings.¹⁸ Many begin their careers with a spotty employment record and risk never engaging in sustained, full-time employment. In the United States, 6.1 million people between the ages of 16 and 24, who are neither in school nor in the workforce, generate costs to US taxpayers of nearly \$100 billion annually.¹⁹

17 For US-specific analyses, we use the Bureau of Labor Statistic definition of the youth worker category (ages 16 to 24). In most other cases, we use the International Labor Organization definition, which tracks youth aged 15 to 24.

18 Lisa Kahn, "The long-term labor market consequences of graduating from college in a bad economy," *Labour Economics*, Vol. 17, No. 2, April 2010. Also see Henry Farber, as quoted in Don Peck, "Early career moves are the most important," *National Journal*, May 8, 2010.

19 Clive R. Belfield, Henry M. Levin, and Rachel Rosen, *The economic value of opportunity youth*, Corporation for National and Community Service and the White House Council for Community Solutions, January 2012.

Major changes in the educational system are needed to provide job-specific skills to students who will not go on to college. Both the United States and the United Kingdom have an opportunity to remake non-university post-secondary education to focus community college and trade school programs on the skills needed for specific jobs. Given the long-term societal costs of youth unemployment, governments might consider a range of incentives for companies to give unemployed young people a path to a career. For example, national skills and credentialing standards can create new pathways for companies to recognize the competencies of young workers who lack academic training.

Another group that deserves attention in most advanced economies is workers over 55 years of age. In 1990, about 10 percent of the global workforce was over 55; by 2010 that share had risen to 14 percent and reached 18 percent in some advanced economies. By 2030, the proportion of older workers in the global labor force is expected to reach 22 percent. Given lengthening life spans, many of these people will likely need to keep working past traditional retirement age to save more for retirement. MGI research has found that only about one-third of workers in the enormous US baby boom generation, which is now reaching retirement age, had adequate retirement savings—and that was before the recent housing and equity market losses of the Great Recession.²⁰ France's older workers could also come up short: their labor participation rate is nine percentage points below the EU-15 average. Keeping older workers employed—even in scaled-back roles—can help economies make up for large shortfalls in retirement savings (both in pensions and in private accounts).

Older workers can also help narrow the skill gap. In many advanced economies, stagnant population growth will mean that there are not enough young workers to replace retirees, which could create acute shortages in specific job categories. Enabling older people to work longer could help fill this gap. Only 51 percent of workers in the European workforce are 55 to 64 years of age, compared with 65 percent in the United States and 70 percent in Japan.²¹ In Germany, for example, researchers found that the nation could add the equivalent of 1.2 million more full-time qualified workers if it could raise the labor force participation rate of people between the ages of 55 and 65 to the level of Sweden. This would fill approximately one-quarter of the projected skill gap for the country over the next 15 years.²²

Female workers are another source of labor that is not fully tapped. While male and female labor participation rates have nearly converged in many advanced economies, female labor force participation still lags significantly behind that of males in some countries. This keeps a large slice of the population from wage-earning activity and deprives the economy of a potentially valuable resource. Raising the female participation rate could help fill the skill gap, by bringing more well-educated workers into the job market. The German study cited above also finds that raising the share of women working full time to the level in Sweden could increase Germany's workforce by up to 2 million people by 2025, helping to slow the expected decline in the workforce due to aging and potentially eliminating as much as one-third of the expected shortage of skilled labor.

²⁰ *Talkin' 'bout my generation: The economic impact of aging US baby boomers*, McKinsey Global Institute, June 2008.

²¹ *Beyond austerity: A path to economic growth and renewal in Europe*, McKinsey Global Institute, October 2010.

²² *Perspektive 2025—Fachkräfte für Deutschland (Perspective 2025—Skilled Workers for Germany)*, Federal Labor Agency, Nuremberg, 2010.

What it means

Untapped pools of talent represent both challenges and opportunities for policy makers and businesses. Unemployment of young people is a growing global issue that, left unaddressed, could lead to higher risk of social conflict. Reducing it will be a complex and lengthy effort that will require creative thinking and a commitment by both government and business. Keeping older workers employed may also require some policy changes and creativity on the part of employers. Raising labor force participation rates of women may require overcoming cultural hurdles, removing tax disincentives for married women to work, and providing other incentives, such as affordable and high-quality child care. Tapping different pools of underutilized talent is not a zero-sum game; keeping older workers in jobs need not prevent young people from being employed. Advanced nations have a human capital challenge that cuts across age and demographic groups—solutions should as well.

5. Disparity in income growth

The trends in job creation and employment that we have outlined have significant impact on income growth across advanced economies. Income growth for households at the bottom of the distribution has been low or even declining in many countries, which raises questions about aggregate demand, living standards, and social stability.

As we have seen, globalization and technology have greatly increased demand for highly skilled workers, pushing up wages for these people and reducing demand for the less-skilled. The extent to which technology or globalization have been responsible for these trends is the subject of debate among economists.²³

Other factors are driving growing income polarization as well. One is shifting patterns in family formation: across the OECD, the proportion of single-headed families has risen by 25 percent since the 1980s, limiting the rise of household income. At the same time, marriage rates rise along with educational attainment and high earners are more frequently marrying one another, further raising household incomes of wealthy households and widening the income gap.²⁴

The result is stagnant or even declining incomes for households at the lower end of the income distribution and rising income disparity across advanced economies. The gap between the US median income and the mean income has grown by nearly 50 percent since the mid-1970s, indicating that returns to labor have been skewed disproportionately toward the top wage earners.²⁵ Exhibit 5 shows that since the mid-1980s, incomes have risen faster for the top 10 percent of households than for the bottom 10 percent in most OECD nations—and income growth for the bottom 10 percent has barely increased in some countries,

23 See Alan B. Krueger, "The rise and consequences of inequality in the United States," speech, January 12, 2012 (www.whitehouse.gov). Also see David H. Autor, David Dorn, and Gordon H. Hanson, "The China syndrome: Local labor market effects of import competition in the United States," MIT Working Paper, August 2011.

24 *Growing income inequality in OECD countries: What drives it and how can policy tackle it?*, Organisation for Economic Co-operation and Development, May 2011.

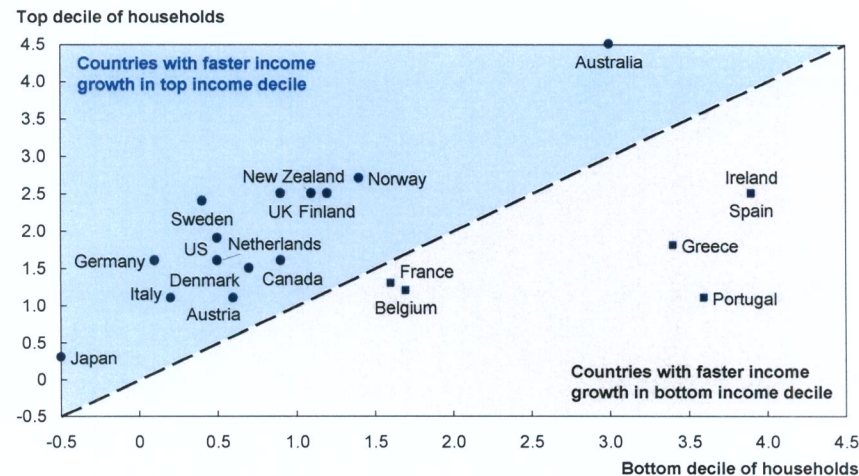
25 *Changing the fortunes of America's workforce: A human capital challenge*, McKinsey Global Institute, June 2009.

including the United States, Germany, Sweden, and the Netherlands. Similarly, the Gini coefficient (a measure of how equally income is distributed within a country) has worsened by 7 percentage points across the OECD.

Exhibit 5

Incomes increased faster for rich households than for poor ones in many advanced countries over the past 25 years

Average annual change in real household income, mid-1980s to late 2000s
%



SOURCE: Organisation for Economic Co-Operation and Development; McKinsey Global Institute analysis

The effects of changes in income distribution vary across nations, but some economists fear they could limit growth. Stagnant income growth leaves middle- and lower-income citizens with less money to spend, while rising incomes among the wealthiest households do little to raise overall consumption, because the wealthy save more of what they earn. According to some analyses, the dispersion of income growth in the past decade has already reduced the size of the US middle class,²⁶ which would have implications for consumer demand and growth: in the United States, private consumption (including health care) accounted for 71 percent of GDP in 2011. Across the OECD, consumer spending made up nearly two-thirds of GDP and private consumption, accounting for 56 percent of France's GDP and 65 percent of Germany's over the past decade.

In retrospect, we see that the effects of income disparity were obscured before the recession because consumers saved less and borrowed more to maintain their lifestyles. Saving rates fell to historic lows, and American consumers extracted \$2.2 trillion in home equity through cash-out refinancings and home-equity loans between 2003 and 2007. At least 20 percent of this money went directly to consumption. Without this boost to consumer spending, we calculate that US consumption growth would have been around 2 percent per year, rather than the 3 percent that was recorded.²⁷ Since the collapse of the credit bubble,

²⁶ The share of US households with incomes within 50 percent of the median fell from 50.3 percent in 1970 to 42.2 percent in 2010, according to the Council of Economic Advisers. See "The rise and consequences of inequality in the United States" speech by council chairman Alan Krueger, January 12, 2012.

²⁷ *Debt and deleveraging: Uneven progress on the path to growth*, McKinsey Global Institute, January 2012.

this source of funding for consumption has dried up. Today, households across advanced economies are “deleveraging” and saving rates have risen, placing additional constraints on consumption.

What it means

Disparities in income growth raise worrisome questions about future aggregate demand and economic growth, and they have impact on social cohesion and the costs of government programs. In the United States, many more households now qualify for public benefits, raising the costs of such programs and increasing the strain on government budgets. The experience of the past decade shows that in the absence of strong income growth, middle-class demand in many countries—including the United States, the United Kingdom, and Spain—was fueled by rising household debt. Such unsustainable growth has now ended and households in many affected countries are deleveraging, but the underlying problem remains.

Business and public sector responses

The five trends outlined in this paper point to a growing need for business leaders and policy makers to find new ways to address the disequilibrium in labor markets in advanced economies. Due to rapidly evolving digital technology and expanding globalization, creative destruction in the business sector has outpaced the ability of labor market institutions to adapt quickly enough, causing significant dislocations. Sustained effort and new approaches by business leaders and policy makers—over many years and across national borders—will be required to address these challenges. Here we look at a range of public policy responses to the growing jobs challenge and different strategic postures that business can take.

PUBLIC POLICY OPTIONS

Policy makers can respond decisively to the structural trends in labor markets—and in many instances are already doing so. The policies laid out here are not intended to be comprehensive but to provide a starting point for a policy discussion on job creation and highlight the different approaches that are being taken. The three sets of potential policy responses discussed below are not mutually exclusive and we believe that policies to manage aggregate demand and those aimed at structural trends in the labor market are complementary. Which response is the most effective will depend, to a large extent, on the unique circumstances of each country and the current state of its labor market institutions. For every advanced economy, it will be crucial to combine chosen policies into coherent strategies, as illustrated below.

1. Manage aggregate demand and macroeconomic stability

Job creation depends on economic growth, so government measures to support aggregate demand and raise consumer and business confidence remain important. Other policies, such as worker training programs, will be ineffective if employers are not hiring. Monetary and fiscal policies are key tools in this pursuit, as are automatic stabilizer payments, such as unemployment insurance, which kick in when growth is weak. Virtually all advanced economies have employed these tools to varying degrees over the past several years. Other potential stimulative tools include public investment projects, which can be aimed explicitly

at providing employment when private sector job growth is weak, and reforms aimed at boosting business and consumer confidence (for instance, laying out a long-term plan to address fiscal deficits). Maintaining aggregate demand and a supportive business environment is generally accepted as an appropriate role for government, and it is important for governments to execute these responsibilities well.

For many countries, responses aimed at restoring demand alone may not be enough. As we have seen, there is mounting evidence that structural shifts—including globalization and rapid technological change—are creating new sources of disequilibrium in labor markets, which are not automatically corrected by restoring demand. Moreover, even if stimulative measures could restore pre-recession employment levels, most governments in advanced economies today have limited capacity to raise public borrowing to support such programs. While the precise amount of “fiscal headroom” that governments have in the current environment is the subject of considerable debate among economists, many governments with the weakest growth prospects are finding private creditors increasingly unwilling to fund fiscal deficits.²⁸ In today’s financial markets, even countries that are in no danger of sovereign default must demonstrate fiscal discipline and credible plans for debt reduction to continue attracting private investors for their bonds. These governments need to find other policies to promote private sector job creation and higher employment.

2. Base economic strategy on human capital development

The trends described in this paper underscore a simple truth: advanced economies will succeed on the strength and quality of their human capital. Therefore, education, workforce training, and winning the global war for talent must be seen as vital economic priorities. In fact, a government could choose to make human capital central to its economic development strategy, on the theory that where the best talent resides, innovation will thrive and investment capital will flow to support all kinds of economic activity.

To improve their human capital at a faster rate than changes are occurring in global supply chains and the nature of work, government needs to invest in the entire system that builds workforce skills. In many countries, it is well understood that education systems are failing to teach the skills needed for a 21st century economy to the broad base of workers entering the labor market each year. However, the degree of change required may be much larger and the need to act quickly may be much greater than the conventional wisdom assumes. Primary and secondary education must be improved in many countries, not just by changing institutional structures or adding resources, but also by modifying curricula and changing how teachers teach and how principals lead.²⁹

In many advanced economies, post-secondary education will need to be redesigned to create a competency-based, personalized, lifelong learning model—one that can evolve quickly to meet rapidly changing employer needs. This effort should focus on improving the productivity of university and vocational training and better aligning curricula with employer needs. In our experience, there are ample opportunities to improve post-secondary graduation rates

28 Jonathan D. Ostry, et al., “Fiscal space,” IMF Staff Position Note, SPN/10/11, September 1, 2010.

29 Mona Mourshed, Chinezi Chijioke, and Michael Barber, *How the world’s most improved school systems keep getting better*, McKinsey & Company, November 2010.

and the economic value of such education by redesigning instruction delivery, reducing curriculum requirements that do not build employment skills, and creating structured pathways to graduation.³⁰

Advanced economies can prevail in the contest for global talent not only by developing their native-born students and talent, but also by becoming magnets for highly skilled immigrants. By reinforcing the global competitiveness of their research universities and other tertiary education institutions, nations can continue to attract the most ambitious students from around the world—and many may want to stay after graduation. Countries can also offer residency permits to foreign entrepreneurs who wish to set up businesses, or expand such programs where they exist.

Finally, unemployment systems should evolve from social safety nets that simply provide income to becoming efficient sources of retraining, job placement, and worker mobility. The models for this change have been implemented successfully in some countries. Germany and Australia, for example, have used different approaches that could be used elsewhere. In Germany, a series of labor policy reforms enacted from 2003 to 2005 (the so-called Hartz laws) simultaneously liberalized labor regulations and created new mechanisms to help workers.³¹ One is the “mini job” program, which creates opportunities for students, retirees, and others who are underemployed or cannot work full time to work up to 15 hours per week at a set pay rate. A separate “integration subsidy” targets the long-term unemployed: when companies hire a worker who has been unemployed for more than a year, the government pays up to 50 percent of wages for two years.³²

A critically important improvement in Germany was retooling its labor agency to boost effectiveness and efficiency in helping workers find jobs. By carefully segmenting the unemployed population according to their needs, it has been able to create more targeted training and placement programs. The agency also set clear performance goals for caseworkers in getting workers back into jobs. The result of these policies, even before the current recession, was remarkable: a drop of more than 40 percent in the unemployment rate.

In the recent recession, Germany was one of the few advanced economies whose employment increased rather than decreased—despite a sharper drop in GDP than in the United States or the United Kingdom. One factor has been its policy of *Kurzarbeitergeld*, a tool that permits an employer to apply for subsidies to keep workers on the payroll when they face weak demand. Although Germany is in many ways unique, the principles of this model can work elsewhere.

3. Unlock job-creating business investment and innovation

Beyond addressing weak aggregate demand, policy makers can unlock growth and job creation through action in three areas: promoting entrepreneurship and innovation; catalyzing investment in infrastructure; and streamlining business

30 Byron Auguste, Adam Cota, Kartik Jayaram, and Martha C. A. Laboissière, *Winning by degrees: The strategies of highly productive higher-education institutions*, McKinsey & Company, November 2010.

31 Macroeconomic factors have also supported job creation in Germany, including relatively flat unit labor costs over the past decade, which has boosted Germany's competitiveness within the eurozone.

32 There are several other criteria for the integration subsidy, including a worker's age.

regulations that unintentionally impede business expansion. If job creation is indeed the top priority of governments, as is often stated, much more can be done in this area,

Encouraging new company formation and entrepreneurship is critical. Yet new firm creation has been uncharacteristically slow since the end of the recession. Improving access to capital is one way to spur new businesses. Several policies can achieve this goal: creating tax incentives for early-stage investing, including tax credits for private “angel” investors; easing registration requirements for very small companies seeking to list public shares; creating a safe mechanism for “crowd-funding” to match small investors with start-ups outside of stock exchanges (with appropriate limits on the amount of funds that can be raised).³³

Many advanced economies are in need of significant infrastructure investments. In the United States, the American Society of Civil Engineers has called for \$1 trillion in investments to upgrade and maintain current infrastructure; additional funding would be needed to add high-speed rail, next-generation air traffic control, or clean energy systems. In the United Kingdom, it is estimated that more than \$500 billion is needed in the coming decades just to maintain the existing transport infrastructure. With the high levels of government debt in most advanced economies, attracting private investors to help fund infrastructure projects will be critical. Many large public pension systems, sovereign wealth funds, and other institutional investors are looking for infrastructure projects to fund.³⁴ An infrastructure bank that attracts private investors is one way to do so. With the right regulatory and pricing mechanisms in place, private investors can also make direct investments in such projects.

Finally, the unintended consequences of regulation often stand in the way of job creation. Consider the case of Spain. Many complex reasons are behind its 22.9 percent unemployment rate, but there is also at least one very simple reason: starting a new business is so cumbersome that Spain is ranked 133rd out of 183 countries by the World Bank in ease of opening a new business. And when businesses open, they face a raft of regulations that govern how they operate. Only recently, for instance, have large retail stores been given unlimited flexibility to set their own hours—and, even then, only in the Madrid region so far.³⁵

Even the most business-friendly countries have regulatory barriers that stand in the way of job creation. Companies hoping to build a new warehouse or factory in the United States, for example, must wrestle with multiple local, state, and federal agencies that have overlapping jurisdictions, and approval decisions can take years. Meanwhile, guild rules in medicine limit how health care can be delivered, preventing the reassignment of routine medical tasks from highly paid physicians to nurses and physician assistants. Changing such rules could provide badly needed productivity improvements in health care services, lower costs, and new middle-income jobs.

33 Legislation to enable crowdfunding and ease requirements for public listings are both under consideration in the US Congress as we write this paper in March 2012.

34 For example, the California State Teacher’s Retirement System (CalSTRS) made a \$500 million commitment to an investment fund that will invest in global infrastructure. Many of the other large North American pension funds also allocate some of their portfolios to infrastructure investments.

35 For more detailed information on Spain’s structural issues, see *A growth agenda for Spain*, McKinsey & Company and FEDEA, December 2010.

STRATEGIC POSTURES FOR COMPANIES

Business leaders have an immediate interest in ensuring that their companies have access to the talent needed to sustain and improve corporate performance in a knowledge-based economy, and they are also keenly aware of the potential consequences of persistent unemployment and growing income disparity. While rapidly growing emerging markets are contributing a larger share to global growth—and attracting corporate investment based on the scale of their rising domestic demand—consumer economies in the far richer developed nations will also remain important. Business leaders understand, too, that government alone will not provide the answers. We see three strategic postures that companies can take in the face of these challenges.

1. Optimize global supply chains

One obvious strategy for many global companies is to go where the talent is abundant or where the costs are low, as many companies have done in the past three decades. This means taking advantage of the most cost-effective sources of talent and other inputs wherever they exist. Such a strategy will require significantly greater flexibility in coming years, since global supply chains are dynamic and the trade-offs in choosing the best locations are becoming more complex. Simple labor cost arbitrage may not be sufficient. Global manufacturers, for example, are increasingly concerned about factors such as supply chain resilience in the face of natural disasters, geopolitical risk, and intellectual property protection. Companies are also thinking about how to make supply chains more agile and flexible to achieve greater speed and responsiveness to changes in consumer tastes and demand.

The economics of the global value chains that produce exportable goods and services are also changing. Wages are rising significantly in coastal China and in the Indian cities that have become global outsourcing centers. This has multinationals scouting for the next low-cost centers: Vietnam or Burma, smaller Indian cities, Eastern Europe or Central America. At the same time, outsourcing companies are now locating some functions in high-wage nations, often creating new roles to serve customers differently—for example, engaging workers in the United States or Europe for IT technical support and higher-value business services.³⁶ The companies adding centers in advanced economies are as likely to be Indian IT outsourcing companies as US or European companies. Companies are also opening call centers and back-office administrative support centers in low-cost cities in advanced economies and finding that, when all costs are considered, these operations often can be competitive with those in some lower-cost offshore centers.

2. Exploit technology to overcome skill and geographic mismatches

If workers don't have the right skills or live in the right place, companies can use technologies to adapt work to the skills of the available labor supply or move work electronically to available workers. With broadband communications and new online collaboration tools, an increasing range of jobs can be performed by employees working from their homes or from remote centers in low-cost areas within developed economies. For instance, companies are finding that call center agents, administrative assistants, insurance claims processors, law associates, and many people working in corporate headquarters functions (such as in human

36 Aditya Pande, "How to make onshoring work," *Harvard Business Review*, March 2011.

resources or finance) can work successfully from remote locations and come to the office only occasionally, if at all. Flexible work arrangements also are becoming a corporate tool to attract high-skill talent. In nations and regions with huge disparities in employment rates (e.g., among US states or between Northern and Southern Europe), remote work holds out hope of employment for workers with needed skills who cannot move easily.

Leading companies are also using technology and flexible work arrangements to be more precise in when and how they engage labor—moving closer to making labor a variable cost, rather than a fixed one. Companies find they can now choose to employ workers on a spectrum of work arrangements—from traditional full-time workers who come to the office every day to contingent remote workers, who are enlisted to meet spikes in demand. This allows companies to bring in talent as needed and to acquire the services of people with highly specialized expertise that many companies could not afford to hire full time. With new software tools for managing a variety of workers and contractors, companies can now reduce total labor costs and offer employment opportunities to people in untapped pools of talent who might not want to work full-time, whether they are parents of young children, post-secondary students, or people nearing or in retirement who want to supplement their incomes.

3. Make human capital development a competitive advantage

Instead of leaving it to government to transform education and training systems to meet their needs, companies may make the strategic decision to take a direct role in creating the skilled workforces and talent pipelines they need. In some industries, the ability to fill talent gaps more effectively may become an important competitive advantage. This strategy would most likely entail a much larger scale of employee education and training than we have seen from companies in recent decades.

IT outsourcing giant Infosys is a prime example. It has become one of the world's biggest and most effective training institutions, providing training for 45,000 employees each year. At its Global Education Center in Mysore, India, the company can accommodate 14,000 entry-level programmers at a time for a 23-week course. Infosys CEO Kris Gopalakrishnan says that the company had no choice, given its rapid growth and need for more specialized programmers than India's universities can provide. If Indian IT companies had simply accepted the workforce available in the country, they would be a fraction of their current size, as would their employment levels and market shares.

In the United States, IBM has taken the skill initiative into the public schools. It has invested in P-TECH (Pathways in Technology Early College High School), a technology-focused charter school in New York City that offers a six-year program that will provide students with a high school education and two years of focused post-secondary training in computer programming and related skills. In a nation in which 8 percent of young adults do not have a high school degree, such programs can both raise the overall graduation rate and provide the skills needed for employment in an advanced economy. New York is planning to open several more six-year schools similar to P-TECH with corporate partners, and other cities are exploring similar moves. Business leaders can play an important role in shaping these institutions and their successful innovations in training can be adopted more widely.

Businesses can also work with industry groups to define the skills needed in high-growth occupations and ensure that these skills are built into the curriculum at polytechnics and community colleges. Improved curricula are not sufficient, however; more students must complete post-secondary training to increase the pool of employable young people. In some countries, nearly half of the students who start a post-secondary program do not finish, often because they can't afford to forgo wages long enough to complete their studies. Creating a "modular" approach to education would allow students to get credentialed job training in a year or even less, then accumulate additional credits over time. They may eventually earn an associate or a bachelor's degree. In addition, a voluntary national testing and credentialing system—based on competencies rather than years of education—would allow workers who have accumulated valuable knowledge on the job to prove their qualifications to new employers. This can be of particular value to workers with less formal education or to those who need to find new skills mid-career.

Finally, businesses can address the skill gap by helping to create a 21st-century information infrastructure for the labor market. Given the fast pace of business change, students, workers, and educators need better information on the specific jobs that are open and those that employers are most likely to create. An online national database could show what jobs are in demand in every area; what educational credentials and experience are required; and what wages are paid for those jobs in different regions and cities. Armed with such information, students and workers can make better decisions in obtaining the skills they need and the private sector would be more likely to find the talent it requires.



The speed of business change has outpaced the ability of traditional labor market institutions to adapt, requiring new approaches to job creation and labor market challenges. "Business as usual" responses will not be adequate and both companies and governments need to adopt new strategies that measure up to the scale of the challenge. The choices that governments and business make will matter a great deal, and the relationship between the two will matter, as well. If governments focus only on demand management and global companies simply pursue a strategy of labor arbitrage, we won't solve the jobs challenge—and many millions will be left behind. By contrast, if both government and business invest in a skills revolution, advanced economies can make vastly more progress in solving the jobs challenge than if either works alone.