



# Sizing the emerging global **labor market**

*Rational behavior from both companies and countries can help it work more efficiently.*

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**The topic of offshoring** generates extreme differences of opinion among policy makers, business executives, and thought leaders. Some have argued that nearly all service jobs will eventually move from developed economies to low-wage ones.<sup>1</sup> Others say that rising wages in cities such as Bangalore and Prague indicate that the supply of offshore talent is already running thin.<sup>2</sup>

To a large extent, these disagreements reflect the confusion surrounding the newly integrating and still inefficient global labor market. Much as technology change is making it possible to integrate global capital markets into a single market for savings and investment, so digital communications are giving rise to what is, in effect, a single global market for those jobs that can now, thanks to IT, be performed remotely from customers and colleagues.

The newly integrating nature of this global labor market has strategic and tactical implications for companies and countries alike. Information and insight about it are sparse, however, and executives and policy makers have little of either for making the decisions they face. To provide help

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<sup>1</sup>Erica Kinetz, “Who wins and who loses as jobs move overseas?” *New York Times*, December 7, 2003.

<sup>2</sup>Manjeet Kripalani and Josey Puliyenthuruthel, “India: Good help is hard to find,” *Business Week*, February 14, 2005.

**Article at a glance**

*The integration of global labor markets is tending to produce what amounts to a single market for jobs that can be performed remotely.*

*Today that global market is small. But as it grows, the demand for offshore labor from the developed world's companies will increasingly affect wage rates and employment levels in the developing world.*

*Offshoring is unlikely to create any sudden discontinuities in overall levels of employment and wages in developed countries.*

*Both companies and countries can take specific measures to help clear supply and demand more efficiently in this nascent global market.*

for governments and companies in both high- and low-wage economies, the McKinsey Global Institute (MGI) analyzed the potential availability of offshore talent in 28 low-wage nations and the likely demand for it in service jobs across eight of the developed world's sectors (chosen as a representative cross-section of the global economy): automotive (service jobs only), financial services, health care, insurance, IT services, packaged software, pharmaceuticals (service jobs only), and retailing. These sectors provide about 23 percent of the nonagricultural jobs in developed countries. The study,<sup>3</sup> which projects trends to 2008, aims to assess the dynamics of supply

and demand for offshore service talent at the occupational, sectoral, and global level and thus the likely impact on both employment and wages in the years ahead.<sup>4</sup>

MGI's analysis provides a panoramic view of the offshoring of services, as well as a number of useful conclusions, including:

- Offshoring will probably continue to create a relatively small global labor market—one that threatens no sudden discontinuities in overall levels of employment and wages in developed countries.
- Demand for offshore labor by companies in the developed world will increasingly push up wage rates for some occupations in low-wage countries, but not as high as current wage levels for those occupations in developed ones.
- Potential global supply and likely demand for offshore talent are matched inefficiently, with demand outstripping supply in some locations and supply outstripping demand in others.

<sup>3</sup> The full report, *The Emerging Global Labor Market*, is available free of charge at [www.mckinsey.com/mgi](http://www.mckinsey.com/mgi).

<sup>4</sup> The mid- to high-wage countries we studied in depth were Canada, Germany, Ireland, Japan, the United Kingdom, and the United States; Australia and South Korea were studied by way of extrapolation. The low-wage countries studied in depth were Brazil, China, the Czech Republic, Hungary, India, Malaysia, Mexico, the Philippines, Poland, and Russia. Additional low-wage countries studied were Argentina, Bulgaria, Chile, Colombia, Croatia, Estonia, Indonesia, Latvia, Lithuania, Romania, Slovakia, Slovenia, South Africa, Thailand, Turkey, Ukraine, Venezuela, and Vietnam.

The more efficiently the emerging global labor market functions, of course, the more value it will create for its participants by allocating resources more economically. Both companies and countries can take specific measures to raise its efficiency in clearing demand and supply.

### **The demand for offshore talent**

Broadly speaking, a suitably qualified person anywhere in the world could undertake any task that requires neither substantial local knowledge nor physical or complex interaction between an employee and customers or colleagues. Using these criteria, we estimate that 11 percent of service jobs around the world could be carried out remotely.

Of course, some sectors provide an unusually large number of such jobs. As a rule, industries with more customer-facing functions have less potential in this respect. Consequently, the retailing sector, in which the vast majority of employees work in stores, could offshore only 3 percent of its jobs by 2008. Yet because retailing is such a huge employer around the world, this would be equivalent to 4,900,000 positions. In contrast, by 2008 it will be possible to undertake remotely almost half of all jobs in the packaged-software industry, but in this far less labor-intensive business, that represents only 340,000 positions.

Some occupations also are more amenable than others to remote employment. The most amenable to it are engineering, on the one hand, and finance and accounting, on the other (52 percent and 31 percent, respectively). The work of generalist and support staff is much less amenable (9 percent and 3 percent, respectively), because those workers interact with their customers or colleagues extensively. But generalists and support workers permeate every industry and therefore provide the highest absolute number of jobs that remote talent could fill: a total of 26,000,000.

In practice, just a small fraction of the jobs that could go offshore actually will. Today, around 565,000 service jobs in the eight sectors we evaluated have been offshored to low-wage countries. By 2008, that number will grow to 1,200,000. Extrapolating these numbers to the entire global economy, we estimate that total offshore employment will grow from 1,500,000 jobs in 2003 to 4,100,000 in 2008—just 1 percent of the total number of service jobs in developed countries. To put this number in perspective (in what is, to be sure, not a direct comparison), consider the fact that an average of 4,600,000 people in the United States started work with new employers every month in the year ending March 2005.<sup>5</sup>

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<sup>5</sup>US Bureau of Labor Statistics.

Why is the gap between the potential and actual number of jobs moving offshore so large? Many observers think that regulatory barriers stand in the way, but MGI interviews indicate that company-specific considerations (such as management attitudes, organizational structure, and scale) are generally more powerful deterrents.<sup>6</sup> Companies cite cost pressures as the main incentive to hire offshore labor, for example, but the strength of cost pressures varies by sector. Many companies lack sufficient scale to justify the costs of offshoring. Others find that the functions they could offshore in theory must actually stay where they are because their internal processes are so complex. Often, managers are wary of overseeing units on the other side of the world or unwilling to take on the burden of extra travel.

### **The supply of talent in low-wage nations**

On the supply side, developing countries produce far fewer graduates suitable for employment by multinational companies than the raw numbers might suggest. Nonetheless, the potential supply of appropriate workers is large and growing fast, and some small countries boast surprisingly large numbers of them.

The 28 low-wage countries we studied have some 33 million young professionals: university graduates with up to seven years of work experience.<sup>7</sup> The eight higher-wage nations in our study have 15 million—7.7 million in the United States alone.

Yet interviews with 83 human-resources managers for multinationals operating in low-wage economies indicate that, on average, only 13 percent of the university graduates from the 28 low-wage nations are suitable for jobs in these companies (Exhibit 1). The HR managers give a variety of reasons for the problem, especially a lack of language skills, an emphasis on theory at the expense of practical knowledge, and a lack of cultural fit (meaning interpersonal skills, as well as attitudes toward teamwork and flexible work, that are at odds with the norm in multinationals).<sup>8</sup>

The proportion of suitable job candidates varies by occupation and, even more, by country. So while 50 percent of the engineers in Hungary or Poland, for example, could work for multinational companies, only 10 percent and 25 percent of those in China and India, respectively, could do so. In general, university graduates from Central European countries

<sup>6</sup>The exception is the pharmaceutical industry, where regulations governing the development of drugs are the main obstacle to offshoring.

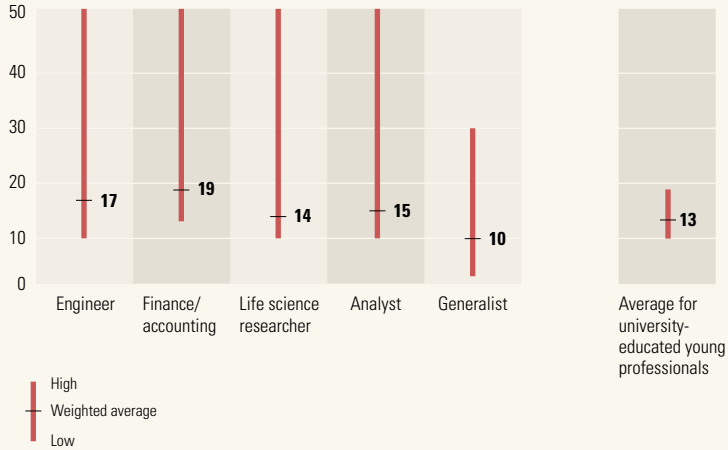
<sup>7</sup>We included engineers, finance and accounting specialists, generalist professionals, life science researchers, and quantitative analysts, but not doctors, nurses, and general support staff.

<sup>8</sup>This figure (13 percent) represents a weighted average, for all low-wage countries, of answers to the interview question, “Of 100 graduates with the correct degree, how many could you employ if you had demand for all?”

## EXHIBIT I

**Fewer than you'd think**

'Of 100 graduates with the correct degree, how many could you employ if you had demand for all?'  
Weighted average of all low-wage countries in sample.<sup>1</sup> %



<sup>1</sup> Argentina, Brazil, Bulgaria, Chile, China, Colombia, Croatia, Czech Republic, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Philippines, Poland, Romania, Russia, Slovakia, Slovenia, South Africa, Thailand, Turkey, Ukraine, Venezuela, Vietnam.

Source: Interviews with human-resources experts and heads of global-resourcing centers; McKinsey analysis

are well suited to work for multinationals. By contrast, job candidates from Russia are well educated but often by universities that fail to give them practical skills, while in India the quality of the educational system—top universities apart—handicaps graduates. A lack of strong English language skills is the most pressing issue for Brazil and China.

In large emerging markets, the pool of suitable talent shrinks further because many university graduates live far from major cities with international airline connections (twin criteria for multinational companies seeking offshore locations) and would rather stay close to home. Only one-third of Russian graduates live in major cities, and few of the others are willing to move. By contrast, nearly half of all Indian students graduate from universities close to major international hubs (such as Bangalore, Delhi, Hyderabad, and Mumbai), and Indians are also the most willing to relocate. In China, multinationals face an additional problem: strong competition from companies serving the domestic market.

These “pool-shrinking” factors mean that of the 33 million potential young professionals in the low-wage markets we studied, only about 3.9 million—12 percent—are both suitable for multinationals and realistically available

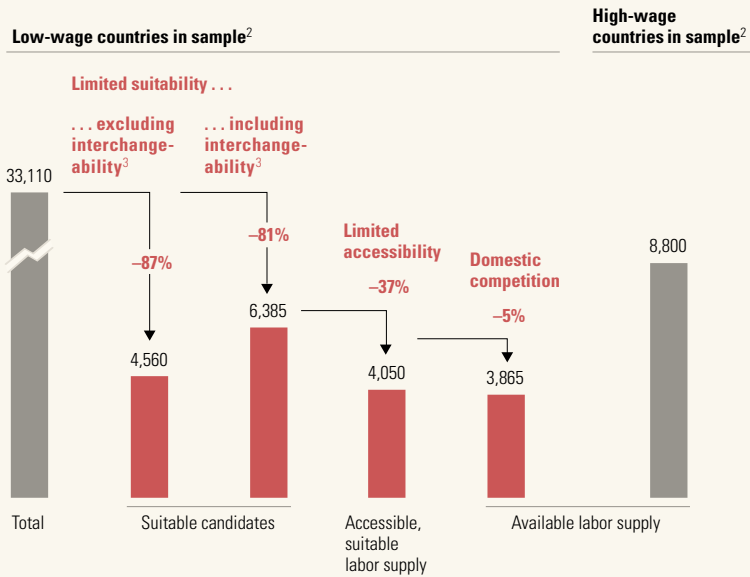
for hire. In our sample of high-wage countries, by contrast, 8.8 million young professionals meet both conditions (Exhibit 2).<sup>9</sup> But 3.9 million is still a deep pool. In some occupations, such as engineering, finance and accounting, and quantitative analysis, that number represents 75 percent or more of the suitable labor in our sample of high-wage countries.

Moreover, the amount of suitable labor in low-wage countries is growing fast. Their university graduates are increasing in number at a yearly rate of 5.5 percent, as compared with just 1 percent in developed countries. The growth in the ranks of people with qualifications that multinationals actually want is particularly rapid: in just five years, the proportion of degrees awarded in business and economics has jumped to 31 percent of the total, from 18 percent, in Russia and to 36 percent, from 16 percent, in Poland. What’s more, by 2008 the supply of suitable young engineers is

EXHIBIT 2

**A shrinking pool**

Estimated labor supply of university-educated young professionals,<sup>1</sup> 2003, thousands



<sup>1</sup> Occupations include engineers, finance and accounting specialists, generalist professionals, life science researchers, and quantitative analysts with ≤7 years of work experience.  
<sup>2</sup> Low-wage countries: Argentina, Brazil, Bulgaria, Chile, China, Colombia, Croatia, Czech Republic, Estonia, Hungary, India, Indonesia, Latvia, Lithuania, Malaysia, Mexico, Philippines, Poland, Romania, Russia, Slovakia, Slovenia, South Africa, Thailand, Turkey, Ukraine, Venezuela, Vietnam; high-wage countries: Canada, Germany, Ireland, Japan, United Kingdom, and United States; Australia and South Korea studied by way of extrapolation.  
<sup>3</sup> For example, unsuitable engineering/life science/finance graduates can still work as quantitative analysts when fulfilling suitability criteria of that group; all unsuitable graduates can still work as generalists when fulfilling suitability criteria of that group.  
 Source: Government statistics on labor, graduation for countries in sample; interviews with human-resources experts; surveys on student geographical mobility; McKinsey analysis

<sup>9</sup> This is a lower-boundary estimate, since the most suitable job candidates are likely to be the most mobile and to have studied in major cities.

likely to be almost the same in the developing and developed countries we studied, and suitable finance and accounting professionals from the developing countries will outnumber those from the high-wage ones.

A country's supply of suitable talent, as opposed to its overall number of university graduates, isn't proportional to the size of its population: though China's population is 16 times bigger than that of the Philippines, for instance, its pool of suitable young English-speaking engineers is only 3 times as big. Poland has nearly as many suitable engineers as does much more populous Russia. The Czech Republic, Hungary, Poland, and Russia together have as many suitable generalists as does India, which has 5 times their total population, and nearly as many suitable engineers. As a result, many countries besides China and India could play roles in the emerging global labor market.

### **An imperfect market**

In aggregate, the potential supply of offshore talent suitable for employment by multinationals exceeds likely demand in each of the eight occupations<sup>10</sup> we analyzed. In 2008, for instance, the potential supply of support staff and of young professional generalists suitable for employment by multinational companies will exceed likely demand by 98 percent and 78 percent, respectively. Only the potential supply of engineers from low-wage countries looks a little tight at the global level.

But the aggregate view creates an illusion of abundance. In fact, companies that hire offshore talent tend to follow one another to locations with a track record of providing it instead of choosing places that meet each and every need. The concentration of companies does have some positive effects, such as speeding improvements in infrastructure, communications, and the business environment. But eventually that approach can create local imbalances between demand and supply, and these imbalances in turn produce local wage inflation and high levels of attrition among workers.

This kind of concentration is already affecting the supply and cost of labor in some cities in the Czech Republic, India, and Russia. If current demand trends continue, the supply of suitable labor will be squeezed in Prague as early as 2006 and in Hyderabad by 2008, thereby making those cities less attractive for the many companies whose sunk costs in physical and human capital there will make it hard for them to switch locations. If companies were to disperse their demand more widely, overall wage levels for offshore labor would rise more slowly (see sidebar, "What offshoring may do to wages," on the next page).

<sup>10</sup> Engineers, finance and accounting professionals, quantitative analysts, life science researchers, doctors, nurses, generalists, and support staff.



## What offshoring may do to wages

Data about the effects of offshoring on wages are scarce in both the demand- and the supply-side countries. Yet we gained insight into these effects by modeling the outcomes of a variety of hypothetical corporate decisions.

### On the supply side

What, for instance, would be the effect on the wages of engineers in emerging markets if labor costs were the most important factor for US companies choosing offshore locations? Our analysis shows that salary levels for engineers in the lowest-cost countries would likely double (exhibit). But salaries in emerging markets wouldn't reach the prevailing level in the United States or Western Europe, since they will be capped at about 30 percent of average US wages, or the current level in Brazil and Mexico.

Local wage inflation will probably continue in some offshoring locations as long as the multinationals concentrate their demand in a few cities. Because of the sunk costs of setting up an offshore facility, if demand in that location begins to outstrip local supply, the wages paid by individual companies may rise above the levels prevailing in neighboring countries. Dispersing demand will slow down overheating in the hot spots.

Overall, although wages in the supply-side countries will probably rise, they won't reach the level of wages in the demand-side countries.

### On the demand side

Companies are moving their operations offshore at a slow pace, which means that over the next five years offshoring will have a negligible effect on overall employment in the demand-side countries for the occupations we analyzed.

EXHIBIT

### Wage growth is relative

Comparison of hourly labor costs for engineers; index: United States = 100



<sup>1</sup>Excludes consideration of retention, limited talent accessibility, domestic labor demand, and manager scarcity, which might inflate wages beyond these levels for at least some occupational categories.

Source: Government statistics from countries shown; interviews; Watson Wyatt; McKinsey analysis

<sup>1</sup> US Bureau of Labor Statistics (SIC 7370: current employment statistics).

Consider the impact in the United States. Over the past 30 years, the share of manufacturing jobs in total US employment has declined by 11 percentage points, to 21 percent, from 32 percent. By comparison, we estimate that only 9 percent of all US service jobs could, even in theory, be performed remotely, and it is unlikely that all of them will move offshore during the next 30 years. Wage levels too are unlikely to drop, for the same reason. Indeed, in the United States, growth rates for wages and the number of jobs in computer and data-processing services—a sector where offshoring is prevalent—are higher than those in the economy as a whole.<sup>1</sup>

This moderate impact and generally slow pace won't soften the blow for people who do lose their employment to offshoring. A sustained effort to retrain them is likely to yield results, since most of them are college graduates.

## Demand-side implications for companies

Different companies need different things from their offshore locations, depending on their home markets, their primary language, the scale of their plans for offshoring, the decision on whether to outsource or to set up captive operations, and many other factors. Different objectives mean that companies assign different costs and benefits to the same locations—a feature of the global labor market that creates a useful force for dispersing demand and reducing the pressure on wages. But companies must act rationally to control this force by finding better data on the location of suitable talent and then analyzing the real cost of employing it in each of these countries.

As we have noted, rather than being sidetracked by the absolute number of graduates in a given country, companies should consider the supply of suitable labor and the demand for it. If they want to gain access to bigger pools of labor and to avoid the negative effects of agglomeration in

EXHIBIT 3

### Choices, choices

Strengths and weaknesses of different countries in criteria for offshoring location (from viewpoint of US company), on scale of 1 to 5 where 1 = most attractive, 5 = least attractive

Weighting	50%	10%	10%	10%	10%	10%	
	Cost	Vendor landscape	Domestic market	Risk profile	Business environment	Quality of infrastructure	Location cost index
India	1.5	2.2	3.5	2.7	3.6	3.3	2.3
China	1.8	3.7	1.8	3.4	3.6	2.5	2.4
Malaysia	1.7	4.7	3.3	2.2	3.4	2.5	2.5
Philippines	1.5	4.5	3.5	3.9	3.7	2.8	2.6
Brazil	2.2	3.5	4.2	2.8	3.0	2.0	2.7
Mexico	2.2	4.7	2.8	3.5	2.6	2.0	2.7
Hungary	2.6	4.7	3.3	2.3	2.8	2.8	2.9
Czech Republic	2.6	4.7	3.5	2.2	3.0	3.0	2.9
Poland	2.7	4.0	3.3	2.7	3.1	3.0	3.0
United States	4.4	1.0	2.7	1.7	1.3	1.5	3.0
Canada	3.9	3.2	2.5	1.5	1.7	2.0	3.1
Russia	3.0	4.5	2.8	3.5	3.3	3.3	3.2
United Kingdom	4.6	1.8	2.8	2.1	2.1	2.3	3.4
Germany	4.4	2.5	3.0	1.9	2.5	2.8	3.5
Ireland	4.5	3.5	2.8	1.5	2.5	2.8	3.5
Japan	4.9	2.2	3.0	2.0	3.1	2.3	3.7

● Attractive    ● Unattractive

offshoring hot spots, they should assess a variety of possibilities, including second-tier cities and “telework” options. To work out the specific costs of offshoring in each potential location, companies should define their criteria, which usually include labor costs, the quality of local service vendors, the potential of the local market, its intrinsic risks, the quality of the local infrastructure, and the business environment. Each company can then use its particular goals and requirements to weight the criteria. Once it has gathered such data on all potential locations, it can calculate its true cost of offshoring in any of them and rank them accordingly.

China, India, and the Philippines—the most popular countries for offshoring today—have the lowest average labor costs. They are the most rational choices for companies that rank those costs above anything else. When companies use their varying particular needs to rank countries (Exhibit 3, on the previous page), more locations will emerge as attractive and demand will disperse.


Exhibit 4 shows how this dispersion works in practice. Using the location cost index (a data-based tool MGI has developed for companies choosing places to offshore their operations), we ranked countries for four different companies, each with its own criteria for an offshoring location. The results

## EXHIBIT 4

**The location cost index**

Disguised examples

		Case A	Case B	Case C	Case D
<b>Case profile</b>	Industry	Pharma	Banking	Pharma	Logistics
	Activity	Clinical trial	IT	R&D	IT
	Is company global?	Yes	Yes	Yes	Yes
	Location of headquarters	Europe	United States	United States	Europe
<b>Weighted by</b>	Cost	25	60	25	35
	Vendor landscape	0	20	0	0
	Domestic market	40	0	0	0
	Risk profile	10	5	25	10
	Business environment	10	5	25	30
	Quality of infrastructure	15	10	25	25
<b>Result</b>	Top-ranked countries by model; <b>company's actual choice</b>	<b>1. China</b>	<b>1. India</b>	<b>1. United States</b>	1. Hungary
		2. Malaysia	2. China	2. Canada	2. Malaysia
		3. Mexico	3. Philippines	3. Malaysia	<b>3. Czech Republic</b>
		4. Canada	4. Malaysia	4. Brazil	4. India

Weighted importance of factor: High  Low

Source: Interviews; location cost index database, McKinsey Global Institute

show the diversity of optimal locations, so companies following the herd might be making the wrong choice.

### Supply-side implications for countries

Since the demand perspective doesn't beget any general, fixed ranking of offshoring locations, the supply side has no preordained winners and losers. Any country that wants to attract offshoring investments should target the sectors and companies whose needs most closely match what it can already offer and then hone these attractive features. To do so, of course, it must know what they are and which sectors and companies might favor them.

In any case, all supply-side countries would benefit from improving the quality of their talent, not just its quantity. Many developing countries, for example, could make their large potential labor supply more attractive to the multinationals by improving the skills—especially the language skills—of their college graduates. If by 2008, Chinese engineers were as suitable as Indian ones are today, for instance, China's supply of such engineers would nearly double, to 395,000, thereby increasing China's relative attractiveness as an offshoring location. Improving the suitability of graduates is a complex undertaking, but governments can work with domestic and multinational companies to promote training in practical skills at universities and management-training programs.

Governments can also make their countries more attractive to the multinationals in any sector by reducing the level of bureaucratic interference, improving the local infrastructure, increasing the competitiveness of tax regimes, and strengthening intellectual-property laws.

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As global labor markets become increasingly integrated, rational action by companies and countries will help facilitate the efficient clearing of supply and demand for jobs. **Q**

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