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The Offshoring of America

When a good or service is produced at lower cost in another country, it makes sense to import it rather than to produce it domestically. This allows the United States to devote its resources to more productive purposes.

—The Council of Economic Advisors¹

President Bush is on an eight-day tour of Asia. He's visiting American jobs.

—David Letterman, late-night comedian

As the 2008 U.S. presidential campaign heated up, candidates scrambled for policy positions on a tricky topic: the movement of jobs from the United States offshore, often to developing countries and within American companies who had set up subsidiaries in foreign countries. In June 2007, a memo from Barack Obama's staff hit a nerve. The memo referred to Hillary Clinton as a senator from the Indian state of Punjab and suggested that Clinton was too close to executives and companies that were moving jobs to India. The memo backfired, forcing Obama to apologize to Indian-Americans and to reassure his business backers that he did not oppose all offshoring efforts.² Presidential candidates have struggled to explain what steps, if any, they would take to limit offshoring.

At the same time, senior managers struggled to decide which activities, if any, to move offshore and where to move them. Many companies, such as IBM, had taken dramatic steps. IBM had moved its global procurement chief from New York to Shenzhen, China in 2006; performed its back-office financial work in Rio de Janeiro, Brazil; provided global support for its Web sites out of Ireland and Brazil; and moved research efforts into China, India, and Israel.³ IBM's workforce in India grew from 3,000 in 2002 to 53,000 in 2007. During the same period, its headcount fell slightly in the United States, where computer programmers' salaries were two to ten times higher than in India.⁴ The shift in employment was controversial inside and outside the company: union organizers had interrupted a recent IBM shareholders' meeting with chants of "Offshore the CEO."⁵

Policy makers in developing countries also faced choices about offshoring—but as an opportunity rather than a challenge. For instance, Mexico's *maquiladoras*, China's Special Economic Zones (SEZs), and India's software outsourcers had attracted billions of dollars in foreign direct investment. The Mexican *maquiladoras* had existed since the 1960s, but they had become especially popular after the passage of the North American Free Trade Agreement (NAFTA) in 1993. The Chinese SEZs were formed in conjunction with reforms of the post-Maoist era to usher in gradual economic openness

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and trade with the West. India's intellectual capital created a potential for inexpensive white-collar labor after 1991 after the country's brush with bankruptcy forced a liberalization program that continued in 2008. The governments in all three countries created favorable business environments that enabled foreign companies to seize opportunities for sales growth or cost reduction not available in their home countries. In turn, Mexico, China, and India sought to increase inflows of foreign direct investment to fund this growth, employment, and the acquisition of management skills and technology.

The Nature of Offshoring

Debates about offshoring were muddled in part by the lack of an agreed-upon definition for the term.⁶ In its broadest sense, offshoring involved the transfer of job activities abroad, often to attain lower labor costs and centered mainly around manufacturing operations (e.g., a PC maker shuts down assembly operations in Texas and opens similar operations in China) and service delivery (e.g., a PC maker shuts down its technical support hotline in Colorado and opens a similar hotline in Bangalore, India). The term "offshoring" also described both the shift of activities from the U.S. facilities to wholly-owned subsidiaries (e.g., a company sets up an Indian subsidiary to run its data centers) and the outsourcing of activities to other companies abroad (e.g., a company signs a contract with Wipro to run its data centers in India). Further variations of offshoring arose when, for instance, a U.S. company expanded its operations overseas but maintained existing operations in the U.S., or when it opened an offshore facility but sold the new output exclusively overseas. **Exhibits 1 and 2** show two efforts by the U.S. Government Accountability Office to distinguish offshoring from other practices.

The character of offshore activity shifted over time as conditions in host countries changed, as companies grew skilled and comfortable in managing distant operations, as competition in various industries intensified, and as communication and computing technology evolved. Among the earliest jobs to move abroad en masse were low-skill assembly operations that migrated to Mexico and Asia in the 1980s. The gradual economic opening of China in the 1980s and 1990s, the renaissance of Eastern Europe after the 1989 fall of the Berlin Wall, and the development of contract outsourcers during the 1990s accelerated the shift of manufacturing jobs offshore. The so-called "Washington Consensus"—a set of economic liberalization policies that India began adopting in 1991—set the stage for gradually increasing foreign investment in India. Meanwhile, Indian software vendors proved their abilities by helping U.S. companies manage the potential Y2K computer crisis in 2000. The advent of the Internet, the popularization of email, the standardization of computer platforms, and overinvestment in global telecommunications capacity during the high-tech bubble—all events of the 1990s—facilitated the shift of offshoring from manufacturing to services. Among the first services to shift offshore in large scale were software programming, call-center operations, and data-center management.

By 2007, the general public associated offshoring with assembly operations, computer programming, and technical help desks. Yet a wider range of services were beginning to move overseas, as the following examples illustrate.

- Brickwork, a division of Indian firm B2K, offered a "remote executive assistant" service that allowed busy businesspeople to hire Indian workers to create PowerPoint presentations, do basic research, and check facts for about \$1,500 to \$2,000 a month. Taking advantage of the time difference between the U.S. and India, an assistant could receive an assignment as the executive was leaving work in the evening in the U.S. and then have the completed product in the executive's email inbox by the beginning of the next workday.⁷

- A number of American companies acted to tap pools of scientific talent turned to Eastern Europe, Central Europe, and Russia for scientific talent. In 2005, for instance, the investment bank Morgan Stanley opened a mathematical modeling center in Budapest, Hungary, to support its fixed income trading business. The following year, Morgan Stanley expanded its Budapest operations to provide its New York and London offices with services related to mortgage financing, financial control, and information technology. EDS, ExxonMobil, IBM, General Electric, Cisco, and SAP were said to have similar regional or international service centers in Hungary.⁸
- In a similar vein, investment banks in the United States and Europe were increasingly relying on Indian workers—not only for IT support, but also for investment research and financial modeling. Goldman Sachs, for instance, launched its Bangalore operation in 2004 to provide support services for global operations. By 2006, Goldman was performing a broad array of investment banking and securities activities in India. The Bangalore office was on track to eclipse Tokyo as the firm's third largest office worldwide. The *Financial Times* reported that, "Goldman's Bangalore staff includes software designers, transaction processing staff and, increasingly, highly skilled analysts who produce modeling and other data that appear in Goldman research reports."⁹ An array of Indian firms such as OfficeTiger and Copal Partners stood ready to provide financial and business research services to U.S. firms that did not want to establish their own operations in India.
- The number of U.S. tax returns prepared in India rose from 25,000 in 2003 to an estimated 400,000 in 2005. While the number of U.S. candidates sitting for the certified public accountant exam had declined during the 1990s, Indian universities produced 70,000 accounting graduates each year. It was estimated that U.S. tax preparation companies could pay \$39 per billable hour to employ an accountant in the U.S. or pay a middleman \$20 per billable hour for equivalent services performed in India. Accountants' salaries in India were estimated to start at \$100 per month.¹⁰
- Many U.S. hospitals were moving toward "teleradiology," in which images from X-rays, CAT scans, MRIs, and ultrasounds were sent electronically to, and read by, doctors who could be located anywhere in the world. U.S.-based doctors covered daytime hours while U.S.-trained doctors located in Israel, India, or elsewhere provided night coverage for U.S. patients, working normal hours in their countries of residence. This arrangement reduced doctor fatigue and mistakes, helped meet the rising demands of an aging population, and supplemented a shrinking base of caregivers. The largest teleradiology firm, Nighthawk Radiology Services, based in Zurich, Switzerland and Sydney, Australia, claimed to serve 933 hospitals (about 17% of the hospitals in the U.S.)¹¹ The firm Wipro Spectramind, based in India, managed the radiology services of Massachusetts General Hospital for its second and third shifts. Indian radiologists earned an average of \$20,000 per year, compared to the \$315,000 annual salary of an American radiologist.¹²
- The domestic operations of certain U.S. firms presaged other business activities that might soon be moved abroad. For example, several McDonald's franchises in Missouri had shifted the processing of drive-through orders to a call center in Colorado Springs. Employees in the call center would take a customer's order and then relay it, along with a picture of the customer, to the interior of the specific McDonald's via high-speed data lines. On-site workers would prepare the meal and deliver it to the drive-through window to be picked up by the customer. The process boosted the profits of the individual store by allocating employee time better and decreasing mistakes.¹³

- A clinic at Kawai Hospital in Anand, India, specialized in matching infertile couples from around the world with Indian women who were willing to be surrogate mothers. The clinic offered surrogacy services for a fraction of U.S. rates, and each Indian woman earned as much from one pregnancy as she might otherwise earn in ten years. These “pioneers of outsourced pregnancies” had given birth to approximately forty babies by the end of 2007.¹⁴

The Extent and Impact of Offshoring

Estimates of the number of jobs that had moved offshore, would move offshore, or could possibly move offshore varied widely—from the hundreds of thousands to the tens of millions. Official statistics on the phenomenon were hard to come by. Indeed, a 2004 report by the Government Accountability Office bore the inauspicious title, “Current government data provide limited insight into offshoring of services.” **Exhibit 3** summarizes six different efforts to determine the extent of offshoring. The efforts employed quite different methodologies.

Just as the extent of offshoring was debatable, so were its firm- and country-level effects.

Firm-level effects Most firms moved activities abroad in pursuit of profit. Especially compelling was the prospect of savings on labor costs. In services, for example, a financial analyst who earned \$35 per hour in the United States might receive \$10 in India. In the manufacturing sector, workers who earned \$20 per hour or more in the U.S. were replaced by similar employees who worked for a dollar or less per hour in China (**Exhibit 4**). Beyond labor savings, U.S. firms were drawn abroad for many reasons—to gain access to new markets, to serve business customers who were globalizing themselves, to tap new talent pools, and so forth.

Yet offshoring did not guarantee higher profits for a particular business. The success of an offshoring effort was driven by factors such as the firm’s ability to manage in remote locations and by the caliber and skills of the local labor force. In addition, exogenous factors such as political stability, language skills, infrastructure, and enforceability of intellectual property rights and business contracts affected the success of an offshore operation. In a survey of business executives performed by the Ventero Institute, a think tank devoted to studying global sourcing, 36% of executives reported that their offshoring strategies had failed. The Institute found that offshoring had led to an *increase* in costs in 28% of cases and no cost savings in 25% of cases.¹⁵

By 2007, stories of failed offshoring efforts were prevalent in the business press. For example, computer-maker Dell moved customer support for corporate clients back from India to the U.S. Customers, Dell said, complained that the foreign support operators were “difficult to communicate with because of thick accents and scripted responses.” The company did, however, retain call centers in India to serve the consumer market, which accounted for 15% of its customer base. Of Dell’s 44,300 employees, 54% were located outside the U.S.¹⁶ In another instance, a skateboard manufacturer, whose clients consisted mostly of teenage boys, moved its customer service operations to India. General cultural misunderstanding and the difficulty of communicating in specialized skateboarding jargon made the move disastrous for the company, and operations were moved back to the U.S.¹⁷ Similarly, Cogent Road, a software programmer for mortgage banking companies, found that a project it outsourced took twice as long as expected due to language barriers and time differences. It vowed never to offshore a “mission critical” project again.¹⁸

Country-level effects in the United States The macroeconomic impact of offshoring was hotly debated. “Just as consumers in the United States have enjoyed lower prices from foreign manufacturers, so too should they benefit from services being offered by overseas companies that

have lower labor costs,” argued Gregory Mankiw, chairman of the White House Council of Economic Advisors.¹⁹ Mankiw cited outsourcing of healthcare jobs as an example of beneficial offshoring, concluding that such a practice would help control rising medical costs.

Supporters of offshoring also claimed that offshore operations ultimately created jobs in the U.S. export sector, lowered domestic firms’ costs, and provided services to consumers at lower prices. According to one economist, “instead of altering the number of jobs, free trade changes the mix of jobs in the country to reflect those areas in which we have the greatest competitive advantage over other countries. International trade in services expands the process of job specialization and raises living standards.”²⁰ Studies such as the one summarized in **Exhibit 5** argued that offshoring was a “win-win”: each dollar spent on offshored activity produced benefits for the recipient country *and* more than \$1 of benefit for the source country.

Opponents of offshoring, in contrast, viewed the practice as a grave threat to American jobs. Critics feared not only job losses, but also downward pressure on effective wages. As low-skilled workers lost their jobs to foreign markets, they usually found replacement jobs that paid 20–40% less than their previous earnings. And, according to the American Policy Institute, newly expanding firms were less likely to provide workers with health insurance than firms that were cutting jobs. Such employment situations contributed to rising income inequality in the United States. CNN newsman Lou Dobbs had been an especially vocal critic of offshoring. In his 2004 book, *Exporting America*, Dobbs referred to outsourcing as “simply destructive to our way of life . . . It has to end.”²¹

Detractors of offshoring also worried about the impact of the practice on American intellectual property. In a prominent recent case in India, an employee fired by an Indian software company had tried to sell source code from an American client company to its competitors. Leakage of intellectual property was averted only because India’s Central Bureau of Intelligence and the U.S. Federal Bureau of Investigation learned of the situation and arrested the former employee.²² Rumors also circulated of Indian, Chinese, and Russian vendors that would build software for American companies, then sell the software themselves in local markets. Intellectual property laws varied widely across countries, as did the willingness of law enforcement authorities to pursue violations and the propensity of courts to enforce the laws.

Exhibits 6, 7, and 8 present economic data that supporters, opponents, and neutral observers of offshoring often reviewed as they tried to discern the true impact of offshoring.

An early wave of offshoring activity, during the 1980s and 1990s, focused on the movement of manufacturing operations—for instance, to Mexico’s *maquiladoras* or China’s Special Economic Zones (SEZs). A more recent wave involved services, often relocated to India. The rest of this case describes offshoring activity in Mexico, China, and India.

Mexico: *Maquiladoras*

A *maquiladora* was a factory or assembly plant operated in Mexico under a preferential tariff program. *Maquiladoras* originated as part of the Mexican government’s 1965 Border Industrialization Program, which aimed to stimulate the manufacturing sectors of depressed economies in the northern border region and to provide employment for workers displaced by the end of the Bracero Program (which had allowed Mexican agricultural workers to work legally in the U.S. on a seasonal basis). These changes, coupled with the substantial devaluations of the peso, made Mexico attractive to U.S. firms that were facing increased pressure from Asian competitors. The Mexican government formally recognized the *maquila* industry in 1985 and entered into the General Agreement on Trade

and Tariffs (GATT) in 1986.²³ The enactment of the North American Free Trade Agreement (NAFTA) in January 1994 created, over 15 years, a free trade zone for Mexico, the United States, and Canada. After the enactment of NAFTA, Mexican imports from the United States and the U.S. share of Mexico's trade increased substantially. The number of *maquiladora* plants and employees are shown in **Exhibit 9**.

The name *maquiladora* was coined from a process in colonial Mexico in which millers charged a "maquila" for processing other people's grain. Modern *maquiladora* plants imported inputs from a foreign country, processed the inputs, and shipped outputs either back to the country of origin or to another country. (The company posted a bond guaranteeing that the outputs would not be sold in Mexico.) The outputs were then marketed for sale or processed further. The inputs and machinery entered Mexico without payment of import tariffs, and on return to the country of origin, the shipper paid import duties only on the value added by the manufacturing or assembly process in Mexico.²⁴

Low-cost Mexican labor, advantageous tariff regulations, and close proximity to U.S. markets made the *maquiladora* program very attractive to American firms, which accounted for 90% of *maquila* ownership and 79 of the top 100 *maquiladora* employers.²⁵ As a result of the program, foreign investment in Mexico was concentrated in the northern states closest to the U.S. border (**Exhibit 10**), and cities with many *maquiladoras* grew rapidly, not only industrially but in terms of population and employment. The growth of the *maquila* industry also coincided with the growth of Mexico's middle class and was partly responsible for the country's recovery from a severe economic crisis in 1994.

The rapid growth of the *maquiladora* sector generated both criticism and praise. U.S. labor organizations for example, argued that *maquiladoras* took jobs from U.S. workers and that the wage differentials were exploiting Mexican workers. Others contended that since most employees in *maquiladoras* came from poor, rural communities with high unemployment rates, *maquiladoras* gave employees opportunities to support themselves and their families without crossing the U.S. border to find work. William C. Gruben, senior economist at the Federal Reserve Bank of Dallas, argued that *maquiladoras* allowed the U.S. to compete with Hong Kong, Korea, Singapore, and Taiwan; if policy changes limited *maquiladoras*, jobs displaced from Mexico would go to those countries and not return to the U.S.²⁶

China: Special Economic Zones

After the death of Mao Zedong in 1976, the People's Republic of China began an ambitious and steady plan to move away from a focus on nationalized heavy industry to a more open, market-based economy with rapid economic growth. Under the leadership of Deng Xiaoping, who emerged as Communist Party head in 1978, five coastal areas were designated as Special Economic Zones (SEZs) and allowed to benefit from liberal economic policies in an attempt to attract foreign investment. The term "special" came to be used to describe policies that were conducive to international commerce and did not exist in China outside of SEZs. These new policies included special tax incentives, a relaxation of China's restrictive labor laws, and greater freedom for international trade. Sino-foreign joint ventures were preferred, if not required, and manufactured products were primarily for export, at least for the first decade or two.

Between 1980 and 1984, the Beijing government established SEZs in Shantou, Shenzhen, and Zhuhai in Guangdong Province and Xiamen in Fujian Province, and it designated the entire island province of Hainan as a SEZ. In 1984, China opened 14 additional coastal cities to overseas investment (**Exhibit 11**) and expanded the coastal area further in 1985 with more open economic

zones. Together, these areas were the catalysts for China's economic development by promoting the export of low-cost products and the import of technologies and management skills (**Exhibit 12**).

The results of Deng Xiaoping's strategy were extraordinary. China's economy grew at an average annual rate of almost 10% for 29 years.

Despite the opening of the Chinese economy and a gradual improvement in Sino-American relations, the SEZs were a focus of criticism. Detractors cited their adverse impact on the U.S. economy, the loss of jobs to China, and the impact of American companies moving to the SEZs. In China, accelerated economic development created considerable regional disparities, which in turn led to economic and social problems.²⁷ Conservatives at the highest levels of the Chinese Communist Party condemned the SEZs for re-creating a class system and giving foreigners economic privileges that exploited Chinese workers. For this group of critics, the SEZs were not different from the 19th century "treaty ports" that were once a source of China's humiliation. In addition, arable land was being used for development and industrialization while farmers and small landowners were forced to vacate their property, creating disputes between the government and Chinese citizens. The Beijing government hailed industrialization as the path to reduced poverty, but many rural residents disagreed, sometimes violently. A final critique came from environmentalists who condemned SEZs as sources of global pollution. In September 2006, the United Nations Environmental Program labeled Shenzhen a "global environmental hotspot."

India: Emerging Heavyweight

With more than one billion citizens, India was the world's second most populous nation. India also boasted one of the fastest growing economies in the world, with GDP growth of 9.2% during 2006–2007. Pricewaterhouse Coopers estimated that India's economy would be the world's third largest by 2032, behind the economies of the United States and China.²⁸

Since 1991, India had gradually opened its markets through economic reforms and reduced government controls on foreign trade, foreign investment, and privatization. The primary objective was to accelerate economic growth and reduce poverty by injecting competition into the economy. The Industrial Policy of 1991 promoted both foreign and domestic investments by relaxing restrictions on investors. Price controls were eased; industrial licensing was abolished except for industries focusing on public health, safety, and security; and industries other than atomic energy and railroads were opened to the private sector. At the state level, efforts were made to simplify rules and procedures for setting up and operating individual businesses. In addition, a Special Economic Zone Policy, similar to China's system, was announced in April 2000 and approved in April 2005. The policy aimed to increase economic activity, promote exports of goods and services, spur investment from domestic and foreign sources, create employment opportunities, and develop infrastructure.²⁹

As a result, the Indian economy had become a fast-growing consumer and producer market. Foreign exchange reserves had risen from \$5.8 billion in March 1991 to \$256 billion by October 2007.³⁰ Foreign direct investment in India had grown much more slowly, rising to \$17 billion by 2006 (**Exhibit 13**).

Policy changes coupled with improvements in technology and telecommunications allowed India to enter the global economy in new ways. Offshoring in India gravitated to two main industries: business processes and software services.

Business processes The term "business processes" referred to white-collar activities that most companies undertook to meet the needs of employees, vendors, customers, and regulators. Common

processes included customer care, payroll processing, telemarketing, accounting, auditing, tax preparation, and claims processing, for instance.³¹

India quickly became the largest provider of offshored business process services. The first American company to offshore such work was American Express, which began to conduct its bookkeeping in India in 1993. General Electric, Citibank, AOL, and other firms followed suit in the mid-1990s, setting up back-office facilities and call centers in cities such as Gurgaon, Bangalore, Hyderabad, Chennai, and Mumbai (**Exhibit 14**). Soon after, a wave of venture capital-backed start-ups emerged in India, offering to perform business processes for American and European firms that had no Indian operations. Over time, Indian information technology firms such as Wipro entered the business processes market, and Indian subsidiaries of multinationals such as British Airways began to sell their business-process services to external customers.³²

India's exports of business-process services grew from \$6.3 billion in FY 2005–06 to \$8.4 billion in FY 2006–07 and were expected to reach \$10.5–11bn in FY2007–08.³³ More than 400 companies—Indian and multinational—offered business process services from operations in India. The United States was the main consumer of such services, with a 67% share, followed by Western Europe, which accounted for 25% of export revenues (**Exhibit 15**). Customer care and support services accounted for 34% of the industry's revenues, finance-related services represented 22%, and administration and content development were 13% and 19%, respectively.³⁴ The most commonly offshored services involved call centers, which employed about 200,000 people in India at the end of 2003. Most of the offshored call-center jobs required only basic skills, such as the ability to make outbound calls from strict scripts.

Software services The other focus of Indian offshoring, software services, got its start in 1973 when the Indian government required multinational firms to reduce their shareholdings in domestic firms to 40%. Many firms, including IBM (India's largest IT firm at the time), chose to shut down Indian operations rather than adjust. These firms' departure created an opportunity for Indian entrepreneurs and firms, such as Tata Consulting Services, to enter the market and fill the void left by the multinationals. This trend would continue into the 1990s. By 2008, the leading Indian software firms were Tata Consulting Services, Wipro Technologies, Infosys Technologies, Satyam Computer Services, and HCL Technologies.

Scores of foreign software and high-tech firms were also attracted to India. Texas Instruments set up a semiconductor design unit as early as 1985, followed by biopharmaceutical firm Astra in 1987. In the 1990s, Motorola, Microsoft, Intel, Daimler-Benz, and Pfizer were among the best-known firms offshoring services to India. In 2006, IBM had 30% of its employees in the Asia-Pacific region and boasted 38% revenue growth in India.³⁵ Exports of IT software and services contributed 2% of India's GDP.

Attractions of India

Education India's education system focused on higher education, with the government funding 18 central universities. In 2004, more than 340,000 students were admitted to bachelor degree programs in engineering.³⁶ With over seven million students enrolled—more than one million in technical programs alone—India produced more college graduates than almost any other country in the world.³⁷ Collaboration between educational institutions and firms led to relationships that benefited both companies and students. The use of English as the language of instruction for technical and managerial education had produced a vast number of graduates who were able to communicate with employers and customers in other countries (**Exhibit 16**).

Low wages The availability of many well-educated students created a supply of well-trained, affordable workers. The surplus of labor, combined with a low cost of living, caused wage rates in India to be as much as 90% lower than the rates of comparable occupations in developed countries. For example, average software programmers in India and the United States would earn roughly \$6,000 and \$63,000, respectively (**Exhibit 17**).³⁸ The cost of a call-center employee was \$7,500 in India and \$19,000 in the United States.³⁹ Although wages in India and other developing countries might rise over time, the size of the population and differences in the costs of living led most observers to believe that wage differentials would remain for many years.

Improved technology Improvements in telecommunications infrastructure and technology made it increasingly easy and affordable to share information around the world. For example, the cost of a one-minute phone call from India to the United States dropped more than 80% between early 2000 and late 2003.⁴⁰ As data transmission costs went down, the declining costs of personal computers and workstations as well as the standardization of Unix/C as a programming language facilitated the offshoring of software development.

Government incentives State and central governments in India offered firms a range of financial incentives. To attract foreign investors, many states offered enticements such as tax concessions, capital and interest subsidies, reduced power costs, a single-window approval system for setting up industrial units, stamp duty exceptions, reservation of plots for foreign investment projects, rebates on land costs, and so forth. Central government incentives included 100% tax deduction on profits made as a result of developing, maintaining, and operating infrastructure facilities; tax exemption of 100% on export profits for ten years; various capital subsidies and financial incentives for expansion in the northeastern region; and tax deduction of 100% of profits for five years and 50% of profits for the next two years for undertakings in SEZs.

Time zones By taking advantage of differences in time zones, teams with members in, say, India and the United States could work on projects around the clock without incurring the cost of overtime pay and fatigue that 24-hour operations would normally entail.

Potential Concerns

As a large developing nation, India faced many challenges, including substandard infrastructure, corruption, and other problems typical of poor nations. These led some foreigners to approach offshoring opportunities in India with caution.

Infrastructure India's power networks, roads, transportation systems, and ports faced huge demands from the nation's rapidly growing economy, while years of neglect had left them in ill repair. Within the past few years, the government had recognized these problems and had begun to direct funds toward infrastructure improvement, but it was unclear if the government had the funds to effect lasting change. It was estimated, for instance, that it would take approximately \$45 billion in public- and private-sector investment to improve India's power system alone.⁴¹

Corruption In 1988, India enacted the Prevention of Corruption Act, an attempt to define clear punishments for public servants who received monies by corrupt means. Still, questions remained about the extent of corruption in the country. Transparency International ranked India 90th out of 145 countries in its 2004 Corruption Perceptions Index. (The index, released annually, was based on a survey that asked business people and risk analysts to share their impressions of the degree of corruption among public officials and politicians.) By 2007, India's corruption ranking had improved to 72nd out of 179 countries.⁴²

Quality control and information security Despite instruction in English, not every graduate in India spoke the language well enough to meet the needs of multinational companies. Cultural differences amplified these language issues, and call-center companies had to make significant investments in training before their Indian workers could handle calls from Americans effectively.

Managers contemplating Indian operations also worried about the security of corporate information. Regulations in some industries reinforced these concerns. In healthcare, for instance, the Health Insurance Portability and Accountability Act (HIPAA) required that patient data be handled in certain ways to protect confidentiality.⁴³

Political stability Potential investors also worried about India's political stability, both domestically and internationally. Problems between ethnic and religious groups had produced episodes of violence and instability in states ranging from Nagaland in the east to Gujarat in the far west. Continuing friction with Pakistan over the border of Kashmir made some foreigners nervous about Indian operations, and there were reports that Kashmiri separatists intended to target offshoring facilities as a way to damage India's economy.⁴⁴

Global Services Location Index

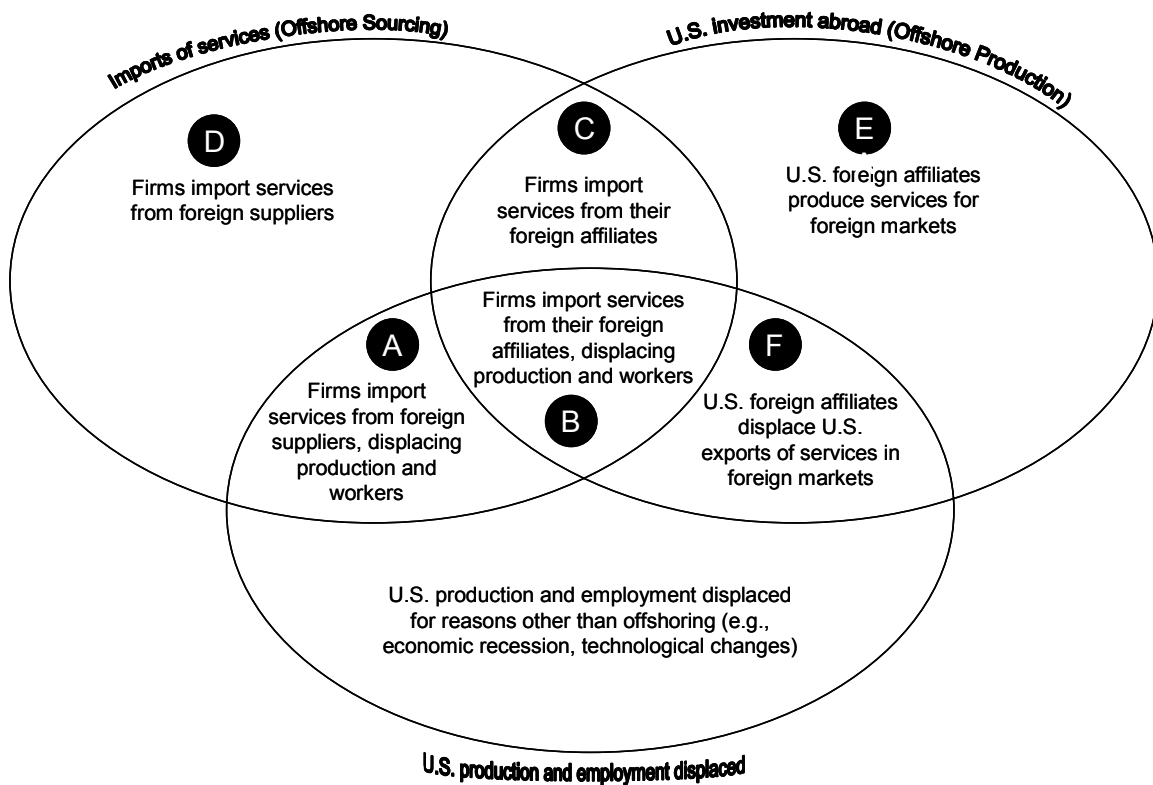
For several years, A. T. Kearney had analyzed the top fifty locations worldwide that provided services such as call centers, IT support, and back-office operations in order to produce a Global Services Location Index. Each country was scored in three categories: financial attractiveness, availability of people and skills, and business environment. Financial attractiveness was further broken down into subcategories that included compensation, infrastructure, and tax and regulatory costs. The availability of people and skills was assessed on the basis of education and language, labor-force availability, remote services sector experience and quality ratings, and attrition risk. The business environment was scored on the basis of country environment, infrastructure, cultural exposure, and security of intellectual property. **Exhibits 18a** and **18b** show India leading A. T. Kearney's rankings in 2005 and 2007.

Conclusion

In January 2007, Princeton Economics Professor Alan Blinder testified before the U.S. Senate's Joint Economic Committee. The title of his talk, "Will the Middle Class Hold?" summed up his fears about the impact of offshoring on America's economy and society. In closing his testimony, Blinder noted:

Mr. Chairman, you may remember a popular 1960s musical comedy called *Stop the World, I Want to Get Off*. I understand the sentiment. You hear it a lot these days. But we cannot stop, and we cannot get off. Instead, we Americans need to prepare ourselves for the future of globalization, whether we like it or not. There is much to be done.

Exhibit 1 Offshoring and Related Activities



Examples of business activity:

- A** A U.S.-based company stops producing its accounting and payroll services in-house and instead purchases them from a foreign-based company.
- B** A U.S.-based company moves its accounting and payroll services from its domestic operations to its new foreign-based affiliate set up to produce these services.
The most common definition of offshoring includes the types of activities represented by areas A and B.
- C** A U.S.-based company imports additional accounting and payroll services to supply its expanding U.S. business, but does not displace any current domestic production or employment. The foreign supplier is the company's own foreign affiliate.
- D** A U.S.-based company imports additional accounting and payroll services to supply its expanding U.S. business, but does not displace any current domestic production or employment. The foreign supplier is an unaffiliated foreign-based company.
- E** A U.S. company produces accounting and payroll services abroad through its foreign affiliates and sells them to other companies abroad. These services do not directly compete against U.S. exports of services.
- F** A U.S. company produces accounting and payroll services abroad through its foreign affiliates and sells them to other companies abroad. These services compete against U.S. exports of services, causing some U.S. production and employment to be displaced.

Source: United States Government Accountability Office, *International Trade: Current Government Data Provide Limited Insight into Offshoring of Services* (Washington, DC: Government Printing Office, September 2004), p. 57, <http://www.gao.gov/new.items/d04932.pdf>, accessed September 2007.

Exhibit 2 Offshoring versus Outsourcing: A Company's Sourcing Options

	Domestic	Offshore
In-house	<i>Domestic in-house production</i> Example: Company produces its products domestically without any outside contracts	<i>Offshore in-house sourcing</i> Example: Company uses services supplied by its own foreign-based affiliation (subsidiary)
Outsourced	<i>Domestic outsourcing</i> Example: Company uses services supplied by another domestically-based company	<i>Offshore outsourcing</i> Example: Company uses services supplied by an unaffiliated foreign-based company

Source: United States Government Accountability Office, *International Trade: Current Government Data Provide Limited Insight into Offshoring of Services* (Washington, DC: Government Printing Office, September 2004), p. 58, <http://www.gao.gov/new.items/d04932.pdf>, accessed September 2007.

Exhibit 3 Private Sector Estimates of Offshoring and Its Potential Effects

Source	Findings
Bardhan & Kroll ^a (University of California, Berkeley)	Finds fourteen million jobs in “at-risk” occupations in 2001, or 11% of U.S. workforce. These occupations include both IT and other occupations. Describes this as the “outer limit” of potential direct job loss, not actual number of jobs that will be offshored. Study does not provide a lower limit of potential job losses.
Deloitte Research ^b	In the financial services sector, 850,000 jobs may move offshore (15% of industry employment).
Forrester Research ^c	Across all services occupations, 3.3 million jobs are projected to move offshore by 2015.
Gartner, Inc. ^d	By the end of 2004, 500,000 IT jobs may be displaced. One out of every 10 jobs within U.S.-based IT vendors and IT service providers may move to emerging markets, as may 1 of every 20 IT jobs within user enterprises (non-IT companies that employ IT workers).
Goldman Sachs ^e	Estimates that U.S. producers have cumulatively moved fewer than 200,000 jobs to overseas affiliates but could increase the number of jobs overseas to a few hundred thousand per year over the next two to three years. Up to six million jobs could be affected by offshoring over the next decade.
Global Insight, Inc. ^f	About 104,000 of the 372,000 IT jobs were lost from 2000 to 2003 owing to offshoring (or 2.8% of total core IT jobs in 2000). After initial higher unemployment (2000 to 2002) primarily due to displaced IT jobs, net employment rebounded with jobs being created in both the IT sector (though more slowly than if there were no offshoring) and in other sectors of the economy. Other effects include higher real earnings (due to lower inflation and higher productivity), increased spending on IT (diffusion through the economy), higher gross domestic product, and increased exports.

Source: United States Government Accountability Office, International Trade: Current Government Data Provide Limited Insight into Offshoring of Services (Washington, DC: Government Printing Office, September 2004), pp. 44-45, <http://www.gao.gov/new.items/d04932.pdf>, accessed September 2007.

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^d Diane Morello, Gartner Inc., “U.S. Offshore Outsourcing: Structural Changes, Big Impact” (July 15, 2003).

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Exhibit 4 Hourly Labor Costs in Manufacturing (in U.S. dollars)

Country	1995	2003	Country	1995	2003
Germany	31.88	29.91	Taiwan	5.82	5.84
USA	17.20	21.97	Hong Kong	4.82	5.54
France	13.34	21.13	Czech Republic	1.30	4.71
United Kingdom	13.77	20.37	Brazil	4.28	2.67
Japan	23.66	20.09	Malaysia	1.15	2.51
Canada	16.03	19.28	Mexico	1.51	2.48
Ireland	NA	19.14	South Africa	1.02	1.50
Italy	16.48	18.38	Russia	0.60	1.20
Spain	12.70	14.96	India	0.25	0.80
Korea	7.40	10.28	China	0.25	0.64
Singapore	7.28	7.41	Indonesia	0.30	0.20

Source: Compiled by casewriter.

Exhibit 5 Benefit to the United States and India per U.S. Dollar of Spending on Offshoring

United States	
Savings accruing to U.S. investors/customers	0.58
Imports of U.S. goods and services by providers in India	0.05
Transfer of profits by U.S.-based providers in India back to U.S.	<u>0.04</u>
Net direct retained in U.S.	0.67
Value from U.S. labor re-employed	<u>0.45–0.47</u>
Potential net benefit to U.S.	1.12–1.14
India	
Labor	0.10
Profits retained in India	0.10
Suppliers	0.09
Central government taxes	0.03
State government taxes	<u>0.01</u>
Net benefit to India	0.33

Source: "Offshoring promises huge benefits to consumers," *The Economist*, December 11, 2003.

Exhibit 6 Private-Sector Employment in Selected Industries in the United States

Industry	Thousands of employees in June 2004	Average annual change in employment, March 2001–June 2004
Legal	1,162	2.5%
Scientific research and development	562	1.8%
Architectural and engineering	1,281	0.5%
Total nonfarm	132,325	0.2%
Business support	753	-1.2%
Telephone call centers	367	-2.9%
Software publishers	241	-4.5%
Computer systems design and related	1,122	-5.7%
Payroll	132	-6.1%
ISPs, search engines, data processing	408	-7.2%
Telecommunications	1,048	-7.2%
Accounting and bookkeeping	760	-7.9%

Source: United States Government Accountability Office, *International Trade: Current Government Data Provide Limited Insight into Offshoring of Services* (Washington, DC: Government Printing Office, September 2004), p. 36, <http://www.gao.gov/new.items/d04932.pdf>, accessed September 2007.

Notes: The payroll category is a subset of accounting and bookkeeping, and the telephone call-centers category is a subset of business support.

Exhibit 7 U.S. Imports of Private Services

Category of service	Imports in 2006 (billions of dollars)	CAGR in imports, 2001–2006
Travel	72.0	3.7%
Passenger fares	27.5	4.0%
Other transportation	65.3	11.0%
Royalties and license fees	26.4	9.8%
Other private services	116.5	12.0%
Education	4.4	13.9%
Financial services	14.3	5.0%
Insurance services	33.6	15.0%
Telecommunications	4.6	-0.9%
Business, professional, and technical services	58.2	13.9%
Other	1.5	17.9%
Total	307.8	8.6%

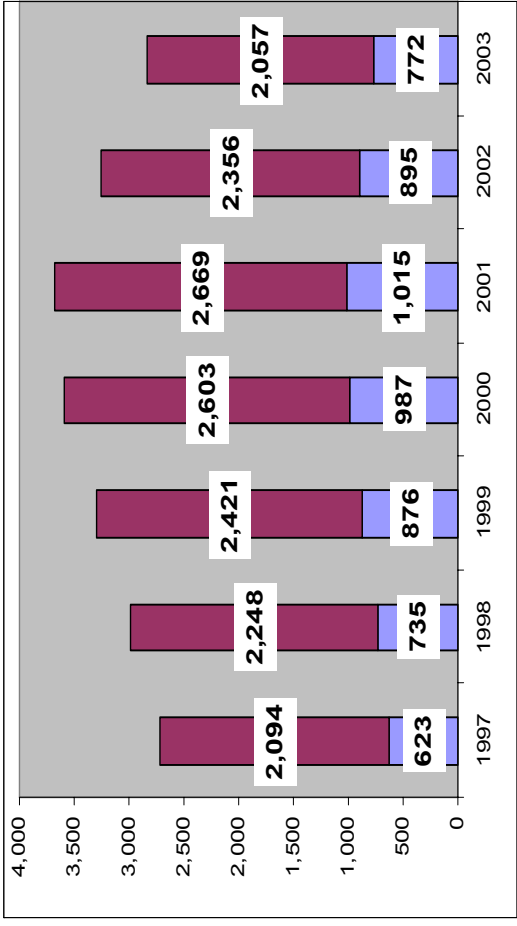
Source: Compiled with data from United States Department of Commerce, Bureau of Economic Analysis, <http://www.bea.gov/international/xls/tab1b.xls>, accessed November 2007.

Exhibit 8 Changes in Hourly Wage and Employment for U.S. Computer Specialist Occupations

Occupations	Hourly wage, U.S. \$ (May 2005)	Percentage change in hourly wage (2001–2005)	Number of jobs (May 2005)	Percentage change in employment (2001–2005)
Computer and information scientists, research	45.21	22.2	25,890	1.1
Computer software engineers, systems software	40.54	13.2	320,720	22.6
Computer software engineers, applications	38.24	9.9	455,980	26.1
Computer systems analysts	33.86	10.5	492,120	9.8
Computer programmers	32.40	7.2	389,090	-22.4
Database administrators	31.54	12.3	99,380	-4.7
Network systems and data communications analysts	31.23	7.7	185,190	46.9
Network and computer systems administrators	30.39	12.0	270,330	18.6
Computer support specialists	20.86	3.5	499,860	1.3
All U.S. occupations	18.21	11.4	130,307,850	1.8

Source: United States Government Accountability Office, *Offshoring: U.S. Semiconductor and Software Industries Increasingly Produce in China and India* (Washington, DC: Government Printing Office, September 2006), p. 34, <http://www.gao.gov/new.items/d06423.pdf>, accessed September 2007.

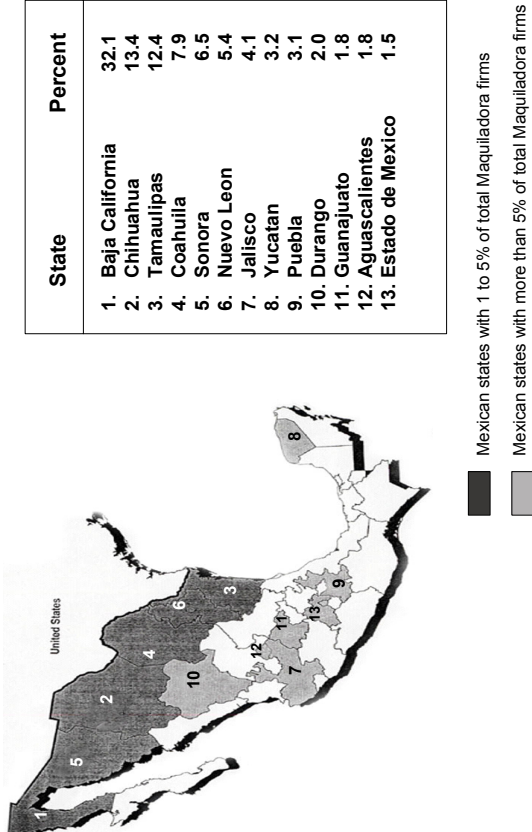
Exhibit 9 Maquila Plants in Mexico



Source: *Mexico Now*, Year 2, Number 9, March/April 2004, p.62.

Note: Top number represents the number of plants in border states; bottom number represents number of plants in interior states.

Exhibit 10 Map of Mexico Showing Share of Maquiladora Establishments, by State



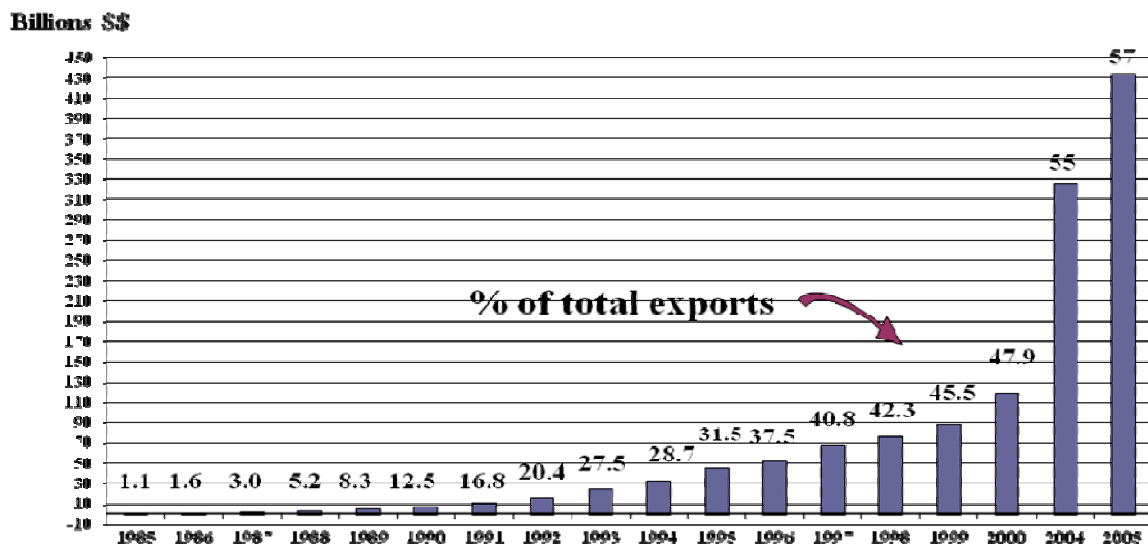
Source: Center for Analysis and Economic Projections of Mexico (from United States General Accounting Office, Report to Congressional Requesters: International Trade: Mexico's Maquiladora Decline Affects U.S.-Mexico Border Communities and Trade; Recovery Depends in Part on Mexico's Actions, July 2003).

Exhibit 11 China's Economic Zones

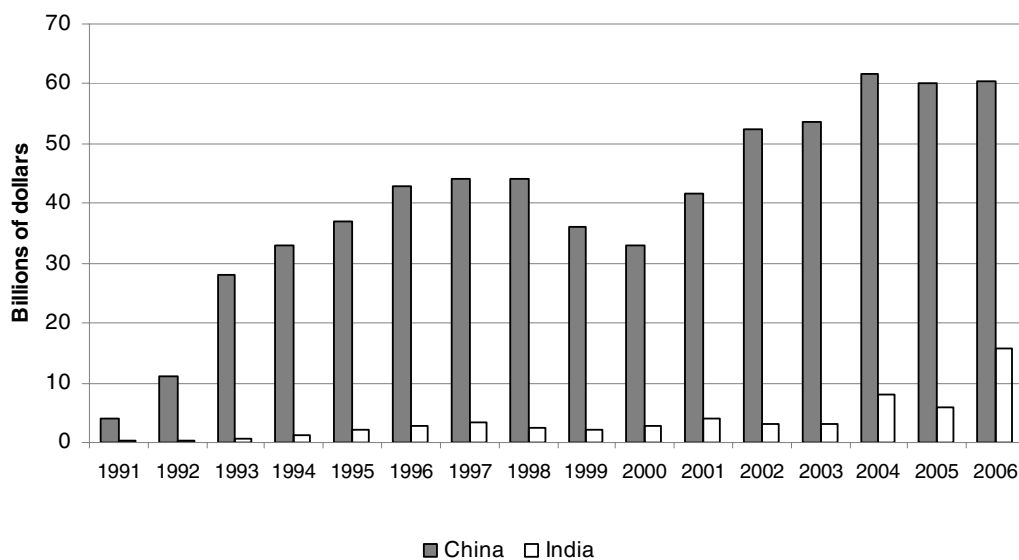


Source: Courtesy of the University of Texas Libraries, The University of Texas at Austin.

Exhibit 12 Outward-bound Exports of China's Foreign-Invested Enterprises



Source: The Brookings Review; China Statistical Yearbook; WTO Trade Policy Review, March 17, 2006.

Exhibit 13 Foreign Direct Investment in India and China

Source: Compiled with data from The International Monetary Fund.

Exhibit 14 Major Offshoring Areas in India

Source: Original map courtesy of the University of Texas Libraries, The University of Texas at Austin; specific cities highlighted by casewriter.

Exhibit 15 Employees and Revenue in Outsourcing Services and Information Technology in India

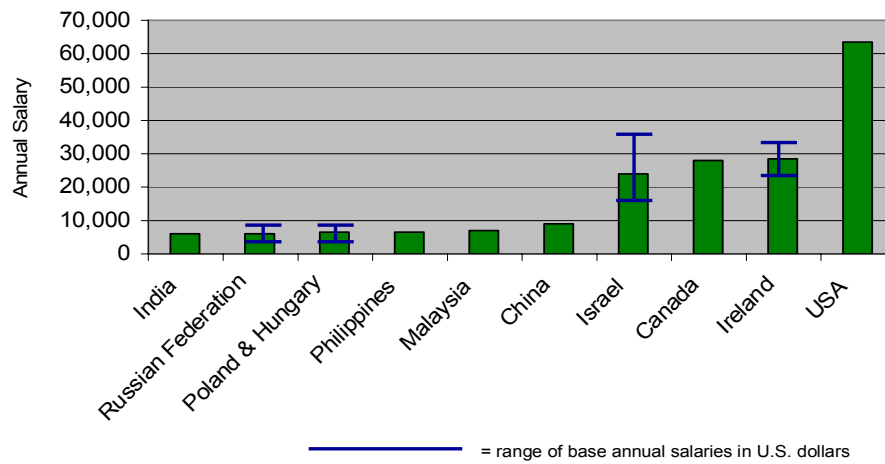
	FY 2004	FY 2005	FY 2006	FY 2007 E
Number of employees (thousands)				
IT services	215	297	398	562
IT-enabled services – business process outsourcing	216	316	415	545
Engineering services/ R&D/software products	81	93	115	144
Domestic market (including user organizations)	318	352	365	378
Total	830	1,058	1,293	1,629
Revenue (billions of dollars)				
Domestic	8.3	10.2	13.2	15.9
Export	13.3	18.3	24.2	31.9
Global markets (percent of revenue)				
Americas	69.4	68.3	67.2	
Europe	22.6	23.1	25.1	
Rest of the world	8.0	8.6	7.7	

Source: National Association of Software and Service Companies.

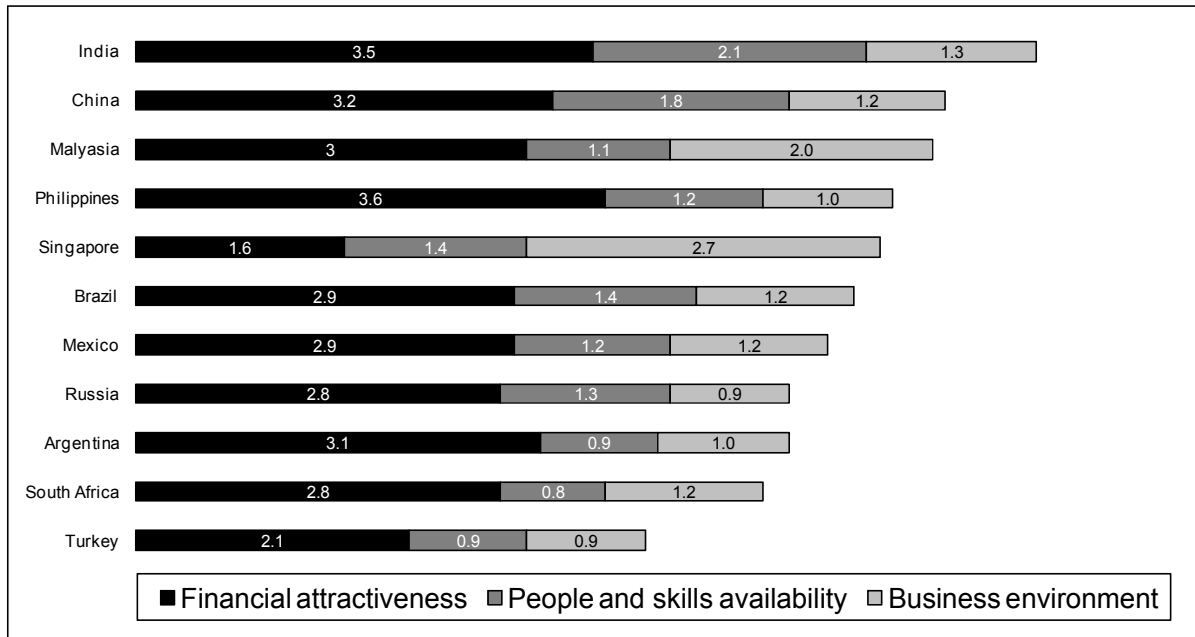
Exhibit 16 Indian IT Labor Supply: IT Software and Services

	2003–04	2004–05	2005–06	2006–07	2007–08 E
Thousands of engineering graduates					
Degree (four years)	139	170	222	270	290
Diploma & MCA (three years)	177	195	219	231	246
Thousands of engineering IT graduates					
Degree (four years)	84	102	133	162	180
Diploma & MCA (three years)	95	99	113	118	123

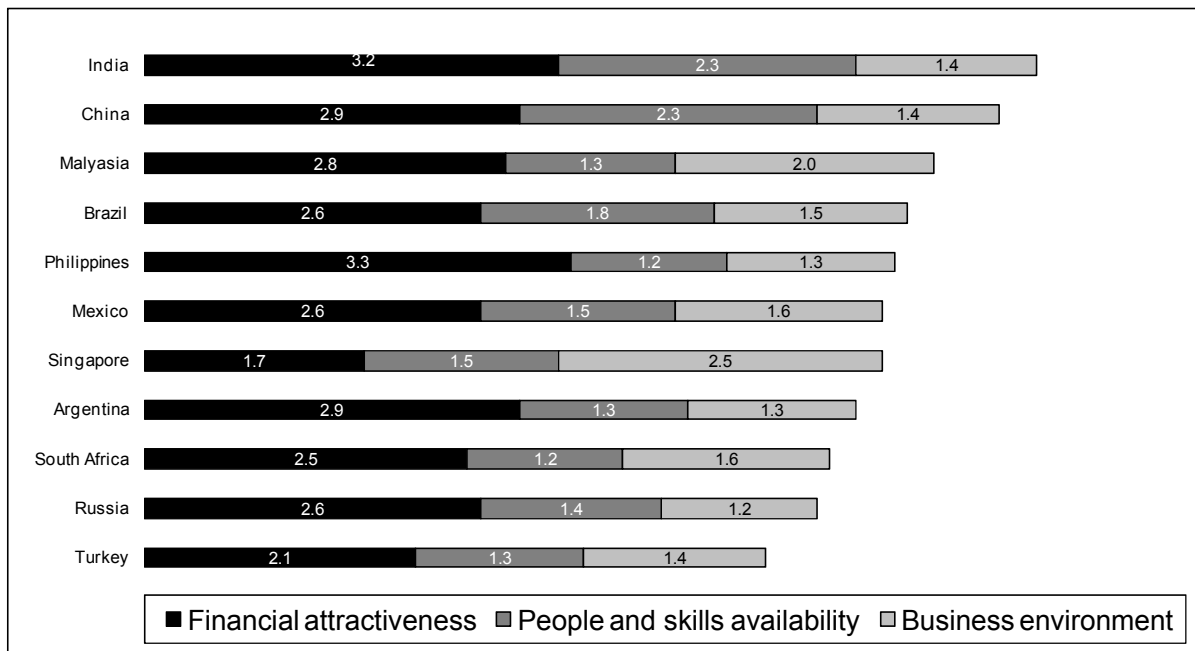
Source: National Association of Software and Service Companies.

Exhibit 17 Annual Salaries for Software Programmers in Various Countries

Source: Compiled with data from Thomas Hoffman and Patrick Thibodeau, "Exporting IT jobs," *Computerworld*, vol. 37, no. 17 (April 28, 2003), p. 39, accessed via ABI/INFORM Global.

Exhibit 18a A. T. Kearney Global Services Location Index Score, 2005

Source: Compiled from A. T. Kearney.

Exhibit 18b A. T. Kearney Global Services Location Index Score, 2007

Source: Compiled from A. T. Kearney.

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