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THE RELOCATION OF SERVICE PROVISION TO DEVELOPING NATIONS

The Case of India

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In 2003 the cover of ***Business Week*** posed a stark question for U.S. white-collar workers: "Is Your Job Next?" Motivating this alarming headline is the much larger question of whether the next great wave of globalization will come in services. This is such a profound question because the general wisdom in developed nations has been that although manufacturing might relocate to the developing world, it would be replaced by service activities. This chapter treats the globalization of services as the broader context for an examination of the political economy of the relocation of service employment. It focuses on the situation in India in order to provide insight into what might become an important source of employment in nations such as China and the Philippines, and also, perhaps, Anglophone and Francophone Africa.

Today, employment in the economies of advanced, developed nations is increasingly concentrated in the *processing of* digitized information and not in the manufacture of physical objects. Put differently, an increasing percentage of the population works at computer screens or on telephones. Even work in "manufacturing" firms is increasingly not on the factory floor, but rather in design, marketing, after-sales service, and monitoring. This strongly suggests that whatever further erosion there is in manufacturing employment, it is unlikely to have as dramatic an effect on the U.S. political economy as would an acceleration in the offshoring of services. How significant service offshoring will be for employment patterns in developed countries is difficult to calculate. However, services now make up the preponderance of all developed nations' total workforce. For example, according to the U.S. Bureau of Labor Statistics, in the fourth quarter of 2003, 8_3 percent of U.S. nonfarm employment was in services and only n percent in manufacturing. During the 19_9os, more

than 97 percent of the jobs added to U.S. payrolls were in services (Goodman and Steadman 2002, 3). Of these, business services and health care accounted for more than half of the total growth. Moreover, business-oriented industries grew from 30 percent of the total service employment in 1988 to 36 percent of the total employment in 2001, while consumer-oriented services fell from 55 to 52 percent (Goodman and Steadman 2002, 8). One recent study estimated that call centers employ as much as 3 percent of the work force of the U.S., and one consulting organization estimated that this will increase to 5 percent by 2010 (Mosher and Gist 2002).

Given the growth of services in developed nations, the scope for transferring services offshore is most remarkable. One of the earliest significant transfers beginning in the early 1980s was in software programming (Schware 1987). Software production was easily movable, because it can be directly done on a computer and does not demand extremely sophisticated communications capability (Arora and Athreye 2002; D'Costa 2003). Though offshore software production will undoubtedly continue to expand, the prospective displacement of a far larger and more diverse category of activities that come under the general rubric of services is far more interesting. The potential dimensions of this relocation of employment is best captured in the extreme words of an Indian executive who stated, "If you do not need to physically see the person doing the work, then it can be moved."

Estimates of the number of service jobs that could be offshored vary dramatically and are predicated upon varying assumptions. The U.S. General Accountability Office (2004, 44–45) provides a list of the various estimates and assumptions. The estimates range from one by Goldman Sachs that up to 6 million jobs could be affected in the next decade to Forrester Research's estimate that 3.5 million jobs will he moved by 2015. Another study that simply examines which types of jobs might be amenable to offshoring calculates that there are 15 million jobs in those categories (Bardhan and Kroll 2003, 6). All these are estimates, and all are likely to overestimate in certain categories and do not include other categories that might be affected. For example, the GAO (2004, 40) lists occupations at risk but does not project how many of those jobs will be lost. The difficulty with projections is that in addition to the call center, medical transcription, claims processing, and data entry types of activities, much more may be possible, even though it may turn out that call center work is not as movable as was once thought. In other words, the types of work that it is possible to discharge offshore are not limited to low-wage unskilled activities and will impact wages in highly skilled occupations as well. The operative determinants for offshoring are the skills available in the low-cost environment and the necessity of spatial proximity for the function to be discharged.

This chapter examines the dimensions and growth trajectory of what in India is termed the "information technology-enabled services (ITES)."' Despite the fact that this offshoring is at an early stage, we aim to provide some understanding of the scale and scope of the phenomenon and consider its implications. Currently, ITES is treated as an industry; however, from a value-chain perspective, it is more plausible to understand it as a spatial reorganization of the location of service activities in a wide variety of value chains. In this sense, service offshoring resembles general-purpose technologies (Bresnahan and Trajtenberg 1995; Helpman 1998). As such, today nearly all existing firms, Indian and multinational alike, are considering how to utilize the lower-cost service labor in developing nations that is now an exploitable resource. New firms are being established to mobilize this newly available labor to package their services to offer them in the global marketplace.

We begin by providing a brief overview of the relocation of services in the past. In the next two sections, we describe the technologies and environment for the relocation of services currently under way and then the important policies and regulations that contributed to the relocation. The fourth section examines the value proposition for relocating services from the point of view of the firm. The fifth section describes the characteristics of the different types of firms providing services from developing nations. Because India is the largest destination for services, in the fifth section we explore the Indian experience. In the discussion and conclusion, we speculate on the implications of the offshoring of services for developed and developing nations and possible policy initiatives for developing nations interested in the possibility of entering the ITES sector.

SERVICES AND THEIR RELOCATION

The disaggregation of service activities into discrete functions that can be relocated spatially is relatively recent. The initial relocation that grew to noticeable proportions was intranational, within the United States and began in earnest in the 1960s. The earliest efforts to minimize wage costs for back-office business processes saw U.S. firms move their back-office operations to smaller Midwestern towns where labor costs were lower, education was adequate, accents were neutral, and, at that time, the labor relatively more reliable. The cost savings were likely in the 20-30 percent range. Beginning in the 1980s, some credit card processing and call center services for the U.S. market were relocated to Latin and Central America and the Caribbean (Posthuma 1987). Later, some components of back-office services, such as payroll and order fulfillment, and some front-office services, such as customer care, were relocated

to English-speaking developing nations — especially India, but also other nations such as the Philippines.

ITES offshoring directly targets the back office and administrative functions. These staff functions include marketing, human resources, accounting, facilities management, purchasing, finance, customer relationship management, and a plethora of others. Until recently, these functions were treated as a fixed cost and received little management attention. And yet, these can account for up to 15–zo percent of corporate expenses and headcount. The discharge of most customer services is the result of an entire chain of bureaucratic activities, or what collectively is termed a "business process" (BP). [2] Each of these activities represents costs to a firm.

The separation of a process into different activities is illustrated in Figure 9.1, which depicts an insurance claim settlement process. The settlement of an insurance claim is a complex chain requiring the completion of a large number of discrete activities. A large insurance firm such as Aetna would employ thousands of persons to undertake these functions. Any of the activities could possibly be offshored, but presently the vast majority of these activities are conducted in the United States, whereas initially the offshore operation in a country such as India might simply key data into a standard form from information on a digitized "image" of the claim. It may then be possible to transfer certain of the "Investigation and Valuation" activities to the Indian operation. With experience, Indian accountants or engineers can be trained to "Determine fraud/exaggeration of claims" or, at the least, flag unusual claims. Here, the Indian employees would make decisions requiring greater judgment and have a greater impact on the firm's bottom line. Ultimately, depending upon corporate strategy, it might be possible to relocate all activities that do not need direct face-to-face human interaction. Obviously, the offshoring and outsourcing process is eased if portions of the value chain can be modularized through the development of highly standardized linkages (Baldwin and Clark 2000; Gereffi, Humphrey, and Sturgeon 2005).

ENABLING TECHNOLOGIES AND THE BUSINESS ENVIRONMENT

The reengineering movement that swept management in the 1 $_{99}$0s focused attention on the savings that could be achieved by reorganization. One part of this reengineering was to break down, examine, and standardize the activities necessary to complete a process (Hammer and Champy 1 $_{993;}$ Cole 1994). This was often accompanied by a digitization of some business activities. Reengineering permitted detailed consideration of the most cost-effective way

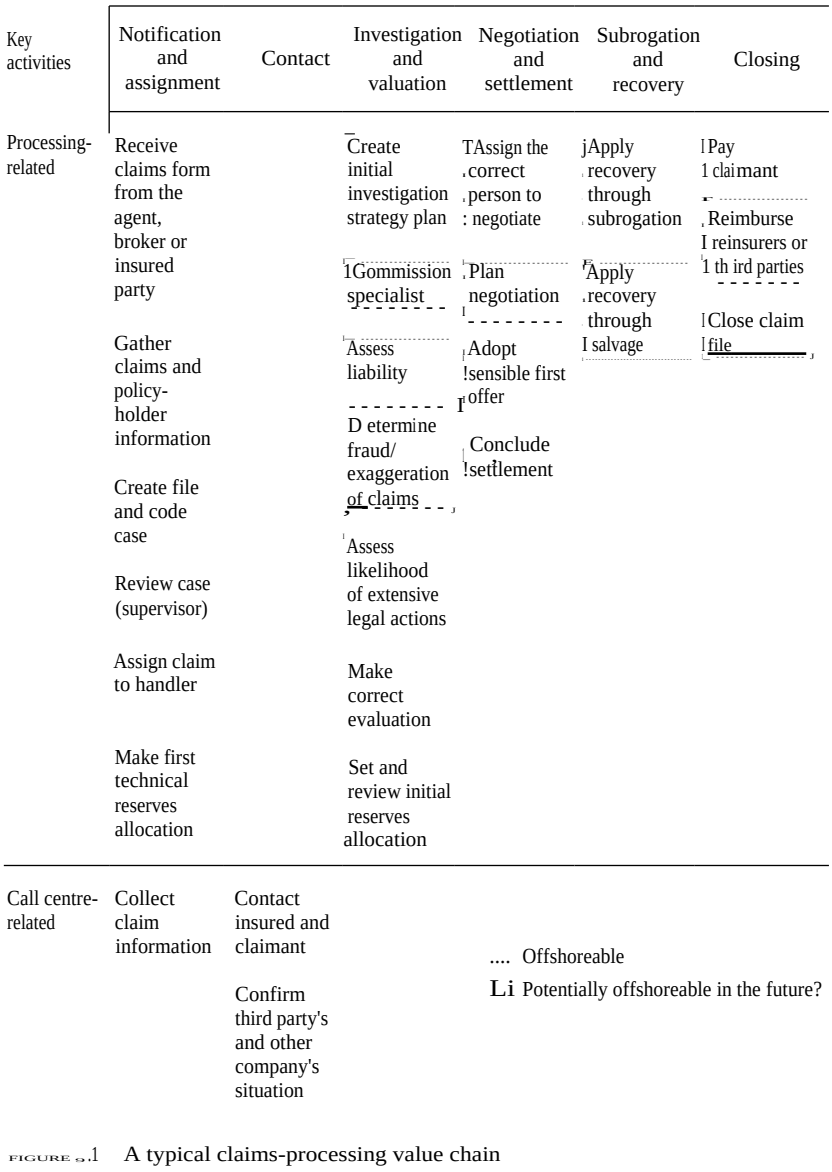

FIGURE 3.1 A typical claims-processing value chain

Source: NASSCOM-McKinsey 2002, *modified by the authors*

of completing each activity. In turn, it sensitized management to the ability to standardize and therefore the possibility of outsourcing activities that previously had been performed internally.

The current ability to offshore services is rooted in technological development in the 1970s. Engineers and corporate visionaries in Silicon Valley and a few other places in the world were designing the "office of the future," in which paper would be eliminated and replaced by digitized images on a screen (for a discussion, see Kearns and Nadler 1992). Though paper has not actually been banished, the information that was encoded on it has increasingly been digitized. Remarkably, the costs of transmitting bits of information have continued to drop exponentially for the last two decades.' Simultaneously, during the Internet bubble of the 1990s, telecommunications carriers installed a glut of new international fiber optic cable capacity, accelerating price declines. In cost terms, formerly distant locations such as India have become increasingly proximate, even as many of their other characteristics, such as labor costs, remain remarkably "distant." This provides the opportunity for organizations capable of spanning the physical distances and of mobilizing equivalent labor power in low-wage environments to undertake labor-cost arbitrage.

The increasing acceptance of standardized software platforms, such as IBM and Oracle for databases, Peoplesoft (which has been acquired by Oracle) for human resources management, Siebel for customer relations, and SAP for supply-chain management, facilitated offshoring. Adoption of these platforms meant that firms and employees had to make fewer asset-specific investments (Coase 1937; Williamson 1975, 1985). Employees in developing nations could learn a set of portable skills, lessening their risk. This encouraged investment in learning and facilitated the creation of a workforce compatible with the world market.

Technological advances were necessary but not sufficient to convince firms to move their service activities to India. The second important force was the conviction that such relocation could be undertaken with minimal disruption. For this, a degree of comfort concerning appropriate levels of security and assurances on business continuity was necessary. Two factors enabled this: the already successful offshore software operations of the MNCs and Indian software outsourcing firms that had a track record of satisfying international customers; and the fact that pioneers in BP offshoring were large multinationals, such as General Electric and American Express, that had established large Indian operations much earlier.

The final factor driving the offshoring of services is the pressure to increase profits. With revenues largely stagnant since 2000, firms are under intense

pressure to cut costs while retaining service levels. Automation was one response, but many "routine" activities are not sufficiently routinized, and human intervention is still necessary. This last pressure even convinced firms that moving mission-critical, time-sensitive processes offshore was essential for satisfying stockholders.

GOVERNMENT POLICIES

In the last two decades, there have been a number of government policy changes that have affected the offshoring of services. The most significant of these was the global movement to deregulate telecommunications industries in both developed and developing nations, establishing competition in the market and contributing to a drop in prices, nationally and globally. International rates were formerly far higher than those for internal domestic calls, but this is no longer true on the whole. India deregulated very successfully; a number of other nations did so much less well, and prices did not drop as dramatically there.

The Indian government, from the 1980s onward, gradually deregulated business. Entrepreneurship flourished in those sectors that were deregulated or had never been regulated, such as software and business service provision. During this period, the Indian government gradually lowered tariffs on important information technology hardware and software. This allowed Indian rms access to the newest technology, which was a necessity for serving multiational clients (Heeks 1996). Indian tax policy was also important because rofits on exports were not taxed, encouraging domestic firms to export.

Another important action by the Indian government was the establishment f the Software and Technology Parks of India (STPI). STPI was created as a eestanding entity with its own sources of funds, removing it both financially d in terms of governance from the Indian government bureaucracy, which d a well-deserved reputation for sluggishness and corruption. STPI branches re established throughout India to serve both domestic firms and MNCs. ey built the physical infrastructure of the free trade zones and controlled and gated telecommunications bandwidth.

In terms of intellectual property (IP) protection, the Indian government is inging its policies into conformance with the demands of Western corporans and governments. Although India has had a more mature judicial system bye to its stage of economic development than many similar countries, enement was often delayed by overloaded courts. India's IP protection regime always superior to China's, yet China has outperformed India in terms of nomic growth. India has nonetheless agreed to come into full compliance

with TRIPS by January 1, 2005, thus enabling product patent protection granted elsewhere to apply in India. This is of particular relevance to the pharmaceutical industry and will help the outsourcing and offshoring of clinical trials, which are becoming ever more expensive and regulated in developed nations.

The most important U.S. government policy facilitating the offshoring movement was the Hi-B, Ji, Li, and Ei visa programs, which permitted foreign white-collar professionals to come and work in the United States, either in pursuit of a permanent residency status or more temporarily. All of these contributed to the software body-shopping operations that gave the Indian firms their initial toehold in the U.S. market (Heeks 1 $_{99}$6; Hira and Hira 2005). The program also made U.S. managers aware of the capability of Indian programmers and white-collar workers more generally. This convinced them that even greater savings could be achieved by employing Indians in their home market, where it was not necessary to pay for their stay in the United States. Visa programs also allowed Indian managers to come to the United States to facilitate the transfer. The Indian pioneer in the field of BP outsourcing was Tata Consultancy Services (TCS), the first software exporter from India, established in 1 $_{9}$68. As with many such beginnings, chance mattered. TCS's capabilities as a software exporter were discovered by its hardware partner in India, Burroughs. Burroughs discovered that TCS's programmers did a good job installing and maintaining Burroughs's mainframe systems in India and thought that they could do so in the United States as well; therefore they invited TCS to send its programmers to install Burroughs's mainframes in the United States (see Dossani and Kenney 200 $_{4}$). In this way, U.S. visa policy has been very supportive of the development of the Indian ITES industry (Hira and Hira 2005).

OFFSHORING FROM THE PERSPECTIVE OF THE FIRM

The decision to offshore an activity is a strategic one involving the firm's consideration of its core competences and the trend toward specialization (Garner 200 $_{4}$). Although technology enables certain decisions, it does not determine them. In choosing which processes to undertake offshore, it may be thought that the simplest processes would be offshored first, since the skills for undertaking more complex processes might take a longer time to learn and, in general, this is the case. However, as Bruce Kogut (200 $_{4}$) has shown, an MNC's foreign subsidiaries are capable of learning. Already many of the more mature MNC foreign operations, such as those of General Electric and Hewlett-Packard, have absorbed higher value-added activities.

The single greatest motivation for considering India or any other developing nation for outsourcing is, quite simply, that labor costs are significantly lower than those in developed nations. Yet savings in direct labor costs, though impressive, do not capture the entire calculation a firm undertakes prior to offshoring an activity. Only in a few instances are the offshored functions a set of skills that cannot be secured in the developed nation. Though hotly debated, the one vocation for which this generalization may be not true is software programmers, where there were labor shortages in the 1 $_{99}$05 as demand increased rapidly.4

The wage differences between the United States and India are dramatic. For example, in 200$_4$ a junior accountant at a large U.S. firm with less than one year of experience would earn between $\$_{3}$5,$_{7}$50 and $\$_4$2,500 per year (American Institute of Certified Public Accountants [AICPA] 2005), and approximately io percent more if he or she was a certified public accountant. In India, a newly graduated junior accountant would typically earn less than $\$_9$,000 a year. The differential for less skilled workers is even greater: the Indian wage rate for entry-level call center employees in metro areas is $2, $_4$00 a year. Moreover, even the more mundane jobs are considered attractive.

The infrastructural costs of siting an operation in India are approximately the same as they would be in a U.S. industrial park. Previously, on-site equipment and service may have been an issue, but during the last decade all major electronics vendors have established customer support operations in India, so maintenance and repair are no longer issues. Telecommunications capacity is critical for ITES, but in our interviews no firms expressed any difficulties with connectivity in terms of capacity or quality, though all had redundancy built into their systems. The most difficult remaining infrastructural issues appear to be the utility and transportation infrastructures. Corporations have developed private solutions, including multiple redundant back-up power and fleets of private buses to ferry employees to work. These do add overhead costs to the operations, but they appear to he manageable.'

Further savings can be had by taking advantage of the economies of scale derived from concentrating activities in fewer locations. In developed nations, activities such as credit card processing or customer service call centers are often scattered in a number of locations, because operations are limited in their ability to expand owing to the shallow local labor pools. Relocating to a large city in a developing nation can address the scalability problem because they have large labor pools and complementary services. For example, the Mumbai, Delhi, and Bangalore regions each have over 5 million inhabitants, and other cities such as Chennai, Hyderabad, and Kolkota have similarly sized workforces. The call centers in India we visited varied in size, but the median

size was 1,000 employees. The average size in the United States is under 400, and many employ between 15o and 300 employees.

The reengineering that occurs as part of a transfer process can uncover significant savings. The source of these savings is the study and planning necessary to transfer a business process. In the process of study, often aspects of the current methodology for discharging the process are discovered that do not add value. During the transfer process, it is easier to reform or abandon inefficient practices than it would be at an existing facility where they have become a "natural" part of the daily routine (see, for example, Adler et al. 1999; Florida and Kenney 1991; Kenney and Florida 1993). These reforms can be implemented without disrupting work patterns, since the workers in the new location are met with a fait accompli. Though difficult to quantify, significant savings can be achieved through this transfer process.

The expected savings from relocating the activity to India are at least 40 percent. One Fortune Soo firm that consolidated several global fulfillment operations to Bangalore reported overall cost savings as high as 8o percent.' The NASSCOM-McKinsey report (2002) found that General Electric (GE), one of the pioneers in offshoring service operations to India, in 2002 had achieved an annual savings of $340 million per year from its Indian operations. In 2005, GE sold the bulk of this operation to a group of private equity firms for approximately S5oo million.

The ability of Indian operations to offer services in a fashion as timely as or more timely than would be available in a developed nation is an important attraction. Undertaking service activities in India permits firms to operate around the clock through, for example, global development teams or a division of labor in which Indian workers debug the day's software built in its developed nation's operation. This use of the entire day allows deadlines to be shortened. In the case of medical transcription, a doctor's notes for patients in intensive care can be completed in as little as two hours because Indian operations can afford greater slack resources to meet peak loads than their Western counterparts can.

Set against these cost and time benefits, there are significant strategic concerns. These concerns are usually not so pressing in the more highly commoditized and well-understood service activities. However, given the novelty of business service offshoring, even activities that might be considered routine in the developed country can be subject to quality slippages in the offshore destination owing to unexpected difficulties such as retaining staff, cultural misunderstandings, or employee dissatisfaction in the home country. For activities that have higher knowledge and creative inputs, the firm seeking to transfer an activity is often concerned about whether the service quality

will decline. For example, the remote location may not be able to understand or match the quality needed. This is most likely for activities that have a large tacit component or where intimate market knowledge is necessary. Activities such as design and marketing usually create the highest added value and are not usually commoditizable; they are likely to be the most difficult to transfer.

MNCs may also be concerned about a loss of competencies in a certain location that would be costly (or even impossible) to reacquire in that location if ever again required. Overdependence on a single developing nation, could, if unique skills atrophy in the home nation, lead to a disruption of access. One way MNCs mitigate these concerns is by developing a "blended" strategy whereby the activity is shared between some domestic capacity, "near-shore" capacity in somewhat lower-cost labor nations such as Canada for the United States or Eastern Europe for Western Europe, and "offshore" locations such as China, India, and the Philippines.

A firm's decision on whether to offshore an activity is a complicated process. Implementation is also difficult, especially for firms without experience in the Indian environment. And yet increasing numbers of firms are deciding that their competitive situation compels them to respond to offshoring moves by their rivals. Whereas only five years ago offshoring services was not a high priority among most Fortune 500 firms, in 2003 it had become almost a mantra among corporate executives. For example, the senior vice president of Microsoft's Windows division, Brian Valentine, in a presentation to company managers advised them to "pick a project to outsource today" (Nachtigal 2003). The available evidence indicates that relocating service activities to developing nations, especially India, is compelling from a financial perspective and thus likely to continue.

THE INDUSTRIAL STRUCTURE OF THE OFFSHORE ITES INDUSTRY

There are two important dimensions for categorizing the ownership of firms in the ITES sector. First, are they domestically owned and operated or owned and operated by a multinational? Second, are they a captive or a firm that undertakes outsourced work? Because the potential market is so great and the economics so compelling, there has been a plethora of entrants from a large variety of backgrounds. Because ITES offshoring is only in its earliest stages, it is premature to predict which organizational forms will become dominant. It is not clear whether there will be a single ITES industry in India, nor whether the captives or independents will dominate or even compete. Further, there are niche areas such as medical transcription, geographical information system (GIS)

data entry, and document conversion that may remain separate from the industry's mainstream.

Like the earlier movement of software programming offshore, the MNC captives led the way in the establishment of the first ITES offshoring operations. They are still the largest operations and, more important, the most sophisticated. This contrasts with software outsourcing, where the Indian firms soon became dominant in terms of the numbers of employees and earnings.

MNC Captives

The MNCs have ITES subsidiaries in a number of nations. Typical of large MNCs, for example, Siemens Business Services has a global help desk for products and IT support for hardware maintenance in Turkey; an Indian center for software programming and support, human resource and financial processes, application management, and services for SAP and legacy systems; a Vornazh, Russia, center for administrative and human resource processes and SAP support services; a global help desk for products in Cork, Ireland; and a Toronto, Canada, global help desk and remote services center. In the case of U.S. MNCs, however, India is becoming the preponderant location. Though they will have a number of locations undertaking an activity such as global back office financial operations and there will be 24-7 support with a European and North American office, the largest number of workers will be in India.

In the last four years, many firms that previously had the preponderance of their service functions in the United States, with some other operations in lower-cost developed-nation environments such as Ireland or Canada, have begun massive and rapid expansions in India. This would include firms such as Dell Computers, AOL, and SAP, which previously had had no Indian operations. Dell launched its Indian call center operation in June 2001. By June 2005 it had grown to nearly io,000 employees in the original Bangalore facility, opened a second facility in Hyderabad, and was completing its own Bangalore campus. AOL's Indian operations experienced similarly dramatic growth. It commenced operations in July 2002 with zoo employees and as of July 2003 had grown to 1,500 persons (Ribeiro 2003). Such examples emboldened other firms to follow.

As internal operations, the captives have significant advantages. First and foremost, they have guaranteed markets for their services. Decisions on allocating volume are hierarchical and the information driving decisions is excellent. In the case of lower-value-added, routinized work, the advantages of captives may not be great and risks may be minimal, so the decision to outsource or do the work in house may be made almost solely on price, though even here

there may be advantages to conducting these activities in house to allow the firm and its employees to gain experience. In the case of higher-value-added processes, it may be more prudent to retain them in a captive operation. Not surprisingly, the initial activities transferred were at the low end of the value-addition spectrum. However, this has not proved to be the end state for the more mature operations.

In a number of cases, higher-value-added activities have been transferred over time. For example, GE's Indian operation, which in 2005 was spun-out as an independent firm has moved up the value-added chain, adding employees doing actuarial support, data modeling, and portfolio risk management. In its health insurance operations, GE employs forty medical doctors to evaluate and classify medical claims. Leading firms such as GE, Intel, and Microsoft are hiring scientists and engineers with doctoral degrees. Some have already developed intellectual property for their employers. GE's India-based engineers have filed for ninety-five patents since 2000 (Kripalani and Engardio 200$_3$). Microsoft's Beijing research laboratory is doing basic research that will contribute to its global operations. More recently, Microsoft announced that it was establishing a research laboratory in Bangalore that would augment its large global service operation in Hyderabad.

Financial institutions have been especially quick to open back-office operations in India. For example, two large investment banks, J. P. Morgan Chase and Morgan Stanley, have hired several dozen junior analysts in Bombay for analyzing U.S. markets. With their enormous need for white-collar talent, these firms can achieve enormous cost savings. For example, in 2002 the average salary for MBAs graduating from India's prestigious Indian Institutes of Management was 1_3$,226, illustrating the possible cost savings (Saritha Rai, "As It Tries to Cut Costs, Wall Street Looks to India," *Wall Street Journal,* October 8, 200$_3$). As a result, global money center banks have both outsourced activities to Indian firms and built large captives that undertake all manner of work including sophisticated data-mining and software development.

Operating a captive requires significant managerial talent. For those with long-established Indian operations (typically serving Indian markets), this is likely to be available internally, whereas the new MNC entrants are likely to experience significant learning costs. One dilemma they face is whether to staff the operation with expatriate executives or to hire domestically. During the initial ramp-up, new entrants had to send some expatriates despite the expense. For these firms, the expense of maintaining expatriates will become an issue, but at present the savings appear to be large enough to offset the expense.

Some MNCs are converting their developing nation operations into a global center of excellence. In many firms, business processes are nationally

based and were developed in different historical eras, so they vary in their performance of identical functions. Enforcing standard operating practices in the different national environments can be difficult because there is a constant tendency to "go native." This drift is endemic in even the best firms and may be most pronounced in the less intensively "managed" parts of the national unit's operations, such as the back offices. The transfer of these processes to a specialist organization dedicated to managing them not only creates economies of scope and expertise, but also provides an opportunity for standardization and the removal of the process from national drift. For global headquarters this can be a way of exerting control and improving monitoring. The risk in removing a particular process from the national operation is that the global operation will lose touch with the national environment.

The growth of the MNC subsidiaries in developing nations is best illustrated in India, where in 200$_4$ these subsidiaries had become the largest sector of the ITES industry. There is every reason to expect this will continue for the foreseeable future. The advantages of a subsidiary are considerable in terms of reducing risk and possibly leaking knowledge, capturing profits internally, and using internal operations to benchmark outsourcing contracts. Since less than io percent of the Global Fortune 1000 firms currently operate in India, it seems likely that more firms will establish operations and those currently operating will expand.

Multinational Outsourcers

Service outsourcing has a long history and has grown rapidly during the last decade. Estimates of the total size of the BP outsourcing market vary widely. Different consulting reports have estimated the global BP outsourcing market would grow to 5_{44}$ billion by 200$_4$, $1.2 trillion by 2006, or 1_4$0 billion by 2008. The remarkable divergence in estimates is perhaps due to the fact that definitions differ, and because business service outsourcers are a varied category that includes data systems outsourcers such as EDS and IBM; payroll and accounting processors such as ADP; call center and customer relationship managers such as Convergys, Sitel, and Sykes; large consulting firms such as Accenture; and many others. Globalization is not new for these firms. Not only do the larger ones provide services internationally, but many of them already had cross-border operations prior to the current phase of offshoring to developing nations.

The international outsourcers established their Indian operations in 2001 or later as a response to competition from MNC subsidiaries and Indian independents. These MNC outsourcers have long-established customers

and enormous domain knowledge, making them formidable entrants. These capabilities and existing customers have permitted them to scale up their developing-nation operations very rapidly. For example, in late 2001 Convergys opened its first Indian operation in New Delhi. By April 200 3 this facility had more than 3,000 employees. It built a second facility in Bangalore that in 2005 employed 3,000 Indians and intended to increase its Indian workforce to 20,000 by 2007.

The ability to transfer customers to their Indian operations while providing backup in the United States and other locations allows global solutions and service level guarantees that firms operating only in India cannot provide. The conundrum for the MNC outsourcers will be how long their customers will support higher-cost U.S. facilities. It is a near certainty that the MNCs will continue to downsize their higher-cost U.S. operations as they undertake a global redistribution of their facilities.

MNC Specialists

India is also attracting smaller MNCs that perform various specialty services. These services are wide ranging but are based on specialized domain expertise. Though many of these are not strictly speaking business processes, they are included in the broader category of ITES. Examples of this type of work include medical transcription, tax preparation, patent application preparation, map digitization, cartoon animation, document entry and conversion, and other tasks. The sheer diversity of these services is remarkable.

Taken individually, these activities have limited employment potential. In aggregate, however, their total employment may be quite large. For example, there are approximately 270,000 medical transcriptionists scattered around the United States. The market is as decentralized as the location of the medical doctors, making sales and marketing difficult. Recently, there has been an effort to consolidate the industry. This consolidation might be hastened if it could be relocated offshore, where transcription can be done at much lower costs and with comparable quality. Transcription and map digitization are only two illustrations of a labor-intensive service activity that is being relocated to developing nations. Other areas include legal research using Lexis-Nexis, drawing of tables and figures, drawing and/or digitizing blueprints, etc. The variety of niches within which businesses could be built is remarkable given that transcription, paper-based document digitization, database-centric research, and many more activities exist in the pores of so many U.S. organizations and the economy as a whole. One drawback is that many niches may be too small to justify offshoring, yet cost pressures are encouraging an examination of its

feasibility. The MNC specialists are fascinating because of their sheer diversity and the likelihood that their decisions will be largely unnoticed by policy makers owing to each niche's relative insignificance. Yet if these myriad firms begin transferring activities and processes overseas, the aggregate impact could be great.

Domestic Specialists

Developing-nation specialty firms are also entering fields such as medical transcription, tax preparation, map digitization, and manuscript preparation. The difficulty for developing-nation entrants is their relative lack of domain knowledge. For those with deep enough domain expertise, it may be possible to transform their business proposition from offering simple labor cost arbitrage to providing significant value addition. For example, an Indian publishing firm that initially only prepared drawings for chemistry texts now offers a full range of back-office services, including copy editing, HTML formatting, and technical support. It has expanded its product list to include academic and professional journals and even time-sensitive publications such as newsletters. The enhanced capability not only allows the addition of greater value, but also provides the firm greater bargaining capacity with its customers. Developing domain expertise and specializing is difficult and has risks because the firm becomes dependent on a single industry or activity. Yet it also offers the potential to occupy niches that may not be drawn into the extremely ferocious competition found in the highly commodified sectors.

Domestic Independents

A large number of developing-nation firms have been established for the sole purpose of offering outsourcing services to foreign firms. Some of these are venture capital—supported and were formed during the Internet boom to provide back-office services to U.S. Internet firms such as Yahoo! and Amazon. Not surprisingly, the collapse of the dotcom boom forced these firms to rethink their corporate strategies. Since these firms were supplying back-office services, such as answering e-mails and Web-related questions, it was not difficult to switch their service offerings toward call centers. Newer independents have been funded by venture capitalists in an effort to take advantage of the outsourcing boom.

The independents face significant strategic difficulties. Some independents have experienced rapid growth as they have found customers. Yet they often rely upon a few larger customers, making them vulnerable to contract

termination. Because of the ferocious competition and the pressure to expand (often at the prodding of their venture financiers), the independents are pushed to pursue any and all business prospects. This militates against their expressed desire to develop domain expertise that would enable them to charge higher rates. Another difficulty is that the U.S. market is the largest in the world, but sizing a facility for that market means the facility is often idle during the day in Asia. The independents have been able to secure some business from Europe, especially England, which allows them to extend facility utilization; however, it is still difficult to utilize the entire facility for more than one and a half shifts. To increase capacity utilization, the independents bid aggressively for activities that do not require real-time processing. The MNC captives are at an advantage in this respect, because the parent firm can transfer a portfolio of activities so as to more fully utilize the facility.

The ultimate fate of the independents is difficult to predict, and for the smaller ones survival will be precarious. The larger ones should be able to strengthen their marketing in the United States. However, these independents might be acquired either by Indian firms or multinationals wishing to quickly enter the BP outsourcing field. For example, in 200 3, the Indian software firm Wipro purchased a leading BPO firm, Spectramind. In May 200 4, IBM purchased one of the largest Indian independents, Daksh. The strongest Indian independents may be able to remain independent and grow sufficiently to rival the multinational outsourcers, but survival as an independent may be difficult.

Developing-nation IT Industry Subsidiaries

When we consider ITES, the most important developing nation IT subsidiaries are Indian. They have grown remarkably fast over the last decade through the provision of outsourced programming and IT services to the global market (Arora and Athreye 2002; Singh 2002; D'Costa 2003). Because of their ability to use lower-cost Indian software talent, they have made significant global market share gains. Further, their interaction with the global economy has contributed to the development of executive and managerial talent capable of securing overseas contracts, managing the interface with foreign customers, and migrating activities across national and corporate boundaries. In the process, these firms have cultivated close connections with foreign customers, easing the burden of convincing them to trust Indian firms with other services.

Given the growth in ITES, the Indian IT firms believe that it is a sector in which they can expand. Their strategic question has been how to enter this new industry. The major firms have answered this question differently. Infosys

and Satyam established subsidiaries, one of which, Progeon, has grown rapidly. It recently divided a five-year, $16o million contract from British Telecom with HCL BPO. In contrast, the Satyam subsidiary has experienced only limited growth. TCS, the largest Indian software firm, entered the outsourcing sector through a joint venture and has since made a small acquisition; it crossed 4,000 employees in March 2004. Finally, Wipro and HCL entered the industry through acquisitions. Wipro acquired Spectramind, and HCL acquired the Northern Ireland call center subsidiary of British Telecom, though the preponderance of HCL's outsourcing employment growth has been in India.

The Indian IT firms have significant advantages in terms of access to capital, linkages to customers, and experienced managers. But the ITES outsourcing business is quite different from IT. In terms of marketing, the customer's key decision maker for ITES is not the chief information officer or chief technical officer. These services must be sold directly to the various responsible divisions or departments, and the ultimate decision rests with the chief financial officer or chief executive officer. This means different marketing channels must be mastered.

The ITES workforce, from commerce and social science backgrounds, is also quite different from the engineers who comprise the workforce and managers of the IT sector. Since service-outsourcing work often requires direct interaction with customers, the salient workforce skills are interpersonal, rather than technical. Moreover, customer interaction can be extremely stressful, putting a premium on workforce management. In addition, many ITESs are undertaken in real time, so errors and mistakes have an immediate impact. Service level agreements are tightly written and monitored, and problems are exposed nearly immediately. In contrast, software bugs can be rectified later. The ability of Indian IT firms to manage nontechnical personnel in extremely price-competitive environments will be tested. There is also the possibility that the technical skills within the IT parent could be used to automate aspects of the BP outsourcing process, creating another level of value addition that would improve profitability and enabling the IT firm subsidiaries to create advantages beyond routine labor cost arbitrage. Although today rapid market growth ensures an appearance of success for many entrants, the ultimate success of the IT firms in the BPO space has not yet been settled.

THE INDIAN CONNECTION

At this moment, India is by far the most important location for the relocation of service activities, though other nations such as Russia, Turkey, China, the Philippines, Costa Rica, and Ghana have also attracted a certain amount of

investment. India's attractiveness as a site for undertaking ITES is a combination of preexisting conditions and the result of a variety of policies. The preexisting conditions included a large pool of English speaking, college-educated persons, many of whom were unemployed or underemployed and willing to work for wages that were a fraction of those demanded in developed nations. Also, beginning in the mid-1980s, the Indian government began to liberalize its economy, and various states established policies aimed at attracting MNCs. The relocation of ITESs to India can be traced to the emergence in the mid-1980s of India as an offshore site for software production by both MNCs and a large number of Indian independents (Arora and Athreye 2002; D'Costa 2003). It was this experience in software that suggested to MNCs that other service needs might be fulfilled from India.

Nearly all the policies that enabled the development of the ITES sector were already being implemented as part of a general deregulation of the Indian economy and a policy of encouraging exports. The most significant policy reform for the ITES sector was the reform and deregulation of the communications infrastructure (Dossani 2002). Beginning in 1999, India liberalized its public monopoly telecommunications system and permitted Indian private providers to begin offering services. They could select their specializations, which ranged from the provision of niche services such as backbone and network management to full-service integrated voice and data operations. For larger cities, the result has been the creation of a telecommunications network with quality and cost levels approaching those of developed countries. This service is being extended to second-tier cities with populations in excess of 1 million.

By 2000, the conditions in India were prepared for the take-off of the ITES sector. According to NASSCOM (2005), employment growth was extremely rapid as the ITES grew at a compound annual rate of 52.6 percent from fiscal year 2000/2005. Software and software services employment grew more slowly at a compound annual rate of 23.6 percent. Sales of software and software services exports in fiscal year 2005 reached $12 billion (NASSCOM 2005). ITES employment had grown from 254,000 in fiscal year 2004 to 348,000 in fiscal year 2005. During the same period, export revenues in ITES grew from $3.6 billion in fiscal year 2004 to $5.2 billion in fiscal year 2005, a growth rate in revenues of 49 percent. (NASSCOM 2005). Whether such growth is sustainable is open to question; however, there is every reason to believe that growth, at some level, will continue. If ITES offshoring to India is restricted to call centers and financial data processing, the business may grow sufficiently large to overtake software outsourcing, but it will not have a dramatic impact on the employment situation in the developed and developing nations. On

the other hand, if India can offer the entire spectrum of services, then the impact on both the United States and India could be enormous. What if India were to parallel in BP services the importance China has achieved as a manufacturing destination? As an indication of how fast the growth might be, as of March 2004, approximately 150 U.S. firms (almost all in the Fortune 500) had offshored service work to India, and on average they predicted their employment would increase by 50 percent during the next twelve months.

The initial activities relocated to India have been highly routinized and resemble the initial phase of software outsourcing. Experience, combined with the lower cost of more highly skilled personnel, may prompt a rethinking of earlier cost-benefit decisions. As discussed above, the cost of a trained accountant in India is so much lower than in the United States that it becomes possible to audit a greater number of cases and/or lower the threshold for universal auditing. The end result is a diminution of mistakes and fraud, leading to greater cost recovery. It was thus typical, in our experience, for the same process to employ a larger number of employees in India than in the United States, which the lower costs made possible. For example, in medical transcription, one person doing work in the United States was often replaced by at least two persons, both of whom transcribed the same material and compared notes. Sometimes, a third person, a supervisor, "arbitrated" the result. The cost differential makes such experimentation and back-up possible.

For developing-nation firms and policy makers, *where* the nation ends up in the value-addition process is critical. For example, even today, the Indian software industry operates in the low-value-added segments, typically in applications development, testing, and maintenance, while the high-end work, such as developing IT strategy, identifying software needs, systems design, and integrating the project with other packaged and custom components, is discharged by U.S. firms. If developing-nation ITES operations are not able to move up the value chain, offshoring may not prove to be so important to the development of the national economy.

There are several challenges to India's ability to maintain the current growth pace, although these are not likely to have a short-term impact. The first is a shortage of managerial talent. Particularly significant is locating managers capable of managing the migration of a business process from an overseas firm to Indian operations. The larger and apparently more successful ITES providers reported that it often took up to a year to make such a transfer for some of the more complex back-office operations, while the simpler ones, such as outbound call centers, could be transferred within a month. Another managerial task is the maintenance of a seamless relationship between the overseas entity receiving the work and the organization in the developed

country. It is also necessary to have managers capable of maintaining and raising the productivity of operator-level staff. Though some firms, notably multinationals, have achieved productivity rates that match or even exceed those of their developed-country counterparts, productivity has been a problem for independent firms and is greatly exacerbated by high staff turnover levels caused by high demand and stress created by the unusual work hours in the call-center industry. An industry group, NFO World, estimates that 33 percent of Indian call center workers quit within a year of joining the industry (Ashok Bhattacharjee, "India's Call Centers Face Struggle to Keep Staff as Economy Revives," *Wall Street Journal,* October 29, 2003). The labor pool may also be shallower than statistics of overall graduation rates indicate: of the Li million graduates each year in India, perhaps no more than io speak English well enough to work in a call center (ibid.), and quality may already be suffering. Although the turnover rates may be lower than in developed countries, some Indian firms we interviewed reported attrition rates of 7 percent per month, although 3.5 percent per month was the average rate. Wage pressures are also in evidence: our interviews showed that wages were rising at about io percent per annum.

Indian operations, particularly the independent firms, suffer from a shortage of expertise, especially in the fastest-growing vertical sectors such as finance, insurance, real estate, health care, and logistics.[8] Unfortunately, horizontal skills are also in short supply. According to the Outsourcing Institute, horizontal expertise is most needed for payroll, customer care, document processing, and benefits management. For this reason, though we expect growth to continue at a rapid pace, it might also slow as the best-qualified labor is absorbed and high turnover rates continue.

DISCUSSION AND CONCLUSION

The implications of the offshoring of service work are significant for both developed and developing nations. Service jobs, which formerly were rooted relatively close to where they were generated owing both to the sheer logistics of moving paper documents and to formerly high telecommunications costs, have now been made mobile by technological improvements and a new willingness on the part of management to consider offshore service processing. During the next decade, it is likely that globalization will sweep through the ranks of service workers, who until now have been largely immune to competition by lower-wage foreign workers. As enterprises seek to drive down their costs, a new round of globalization will occur within which a complicated multinational and likely multicorporate chain for data capture and processing

will emerge. The old image of the developed nations concentrating on information services, data processing, and knowledge creation may give way to a world in which data and information will simply be commodities processed in developing-world factories.

The relocation of services offshore and especially to India has the potential to reorganize the global economy in the same way as the movement of manufacturing to China has been emblematic of a reorganization of goods production. For the developed nations, already reeling from the continuing loss of manufacturing jobs, the emergence of India as an option for firms aiming to lower the costs of providing services creates significant policy dilemmas. Economic development policies will also need to be rethought. For example, over the past two decades many American states have devoted resources to creating service clusters, typically around low-end services such as call centers in smaller and more remote towns. These strategies may be at significant risk because such work may be offshored (Kenney and Dossani 2004).

For India and other developing nations, the offshoring of services may provide a large flow of new employment opportunities. In the case of India, current estimates are that ITES employment may increase to as much as 1 million by 2008. Obviously, all estimates should be treated cautiously, but given the rapidly changing technologies, they may prove to be conservative. What is clear is that the number of service jobs being relocated is increasing rapidly. Limits may, in fact, be elastic so that what is impossible to relocate today may become amenable to relocation tomorrow, especially because IT is evolving so rapidly.

A remarkable aspect of service offshoring is the rapidity with which it can occur. Manufacturing's movement offshore was a gradual migration that began in the early 1960s. Though punctuated by dramatic factory closings, there was an opportunity for the U.S. economy to adjust. This may not be true in services, where the objects are pixels and electronic pulses that can be transmitted by photons and radio waves (Kenney 1997; Cohen, DeLong, and Zysman 2000). A number of the firms we studied in India experienced vertiginous growth as they expanded from start-up to 5,000 employees in less than three years. When such growth rates are experienced by a large number and variety of firms, the cumulative effect can be enormous indeed.

Policy had an important role in India's ability to be a lead location for business process offshoring, including, as discussed, the broader liberalization of the Indian economy. By providing MNCs a moderately business-friendly environment, the Indian government encouraged them to seek new opportunities for using the high-quality, English-speaking Indian labor force. Telecommunications deregulation was critical because it ignited competition that

resulted in increased bandwidth, greater quality of service, and lower prices. For ITES, it is telecommunications that provide access to the market, and lower prices improve access. For any nation seeking to follow India's lead, the proper telecommunications policies are absolutely critical for success (Dossani 2002). Adopting IP protection rules may also assist in development.

The ultimate dimensions of the service offshoring phenomenon are difficult to predict. Whereas for the last two decades manufacturing value chains increasingly extended across borders (Gereffi and Korzeniewicz 1994; Kenney and Florida 2004), it appears nearly certain that this will soon be equally true for services. Policy makers in developed nations must begin to prepare for this eventuality by considering what the core advantages of their populations are. We believe that the advantages will come from the sophisticated consumers in developed nations that set the fashion for most of the world's goods and from creative clusters such as Hollywood (Scott 2002), Silicon Valley (Kenney and von Burg 2000), Paris, Boston for mutual funds, northern Italy for a wide variety of goods, Tokyo for consumer electronics, and so on. Increasingly, if routine service activities can be relocated to lower-wage nations, the advanced, developed nations will have to compete in terms of superior creativity (Florida 2002).

For policy makers in the developing world, inexpensive telecommunication is opening a new world of opportunities in the export of services. The opportunities are substantial for Francophone Africa servicing France, Eastern Europe and Turkey serving the German-speaking nations, China serving Japan (because of the similarities in the written languages), and Estonia providing for Finland. Though we concentrated on India in this chapter, the Philippines is already providing services to the United States especially in terms of call centers, video animation, and as a backup for India. All these nations provide opportunities for indigenous entrepreneurs.

For the United States and other developed nations, it is important to note that it is not only low-end "service" work that is being undertaken in the developing nations. There is ample evidence that MNCs are rapidly increasing their R&D activities in developing nations, particularly India and China. This may be especially significant in the case of India, where most of the R&D is undertaken for the global market, suggesting that policy makers in the developed nations should understand that high-end service work may also be at risk and contradicting more sanguine observers, such as Frank Levy and Richard J. Murnane (2004), who assume that the transfer will be almost entirely composed of low-level routinized work. Whether U.S. R&D workers are fully prepared for a globalized economy in which their wages will be compared to those in environments with far lower labor costs is not yet certain.

The final concern worthy of mention is that even if most jobs are not relocated, the very fact that they can be may contribute to a global equilibration of wages for work that can be offshored. In other words, workers in developed nations will be required to compete with those in developing nations. Such international wage competition might, in the worst instance, lead to a generalized downward drift of wages that could create a shrinking global capacity to consume. Thus, if service offshoring were to become a far larger phenomenon, the middle-class lifestyle that service jobs provided in the developed nations might be threatened, and it is unlikely that the protectionism often invoked in trade in physical goods would be effective. Such a scenario might prompt a fundamental rethinking of the global income distribution system and the development of what we term a global New Deal.

NOTES

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1. ITES is a catchall term used for the myriad processes that any bureaucratic entity undertakes in servicing its employees, vendors, and customers. These include human resources, accounting, auditing, customer care, telemarketing, tax preparation, claims processing, document management, and a wide variety of other activities.

2. We define a "business process" as a complete service, such as handling a customer complaint, processing a medical claim, or processing a purchase order. Completing a process requires undertaking a set of activities. For example, in handling a customer complaint it is necessary to understand the complaint, decide on a course of action, undertake the action, and followup to ensure the action solved the complaint. Each of these is an activity that is potentially separable from the others.

3. The decrease in rates was facilitated by technological change, but also by U.S. government pressures on other countries to decrease their fees for connecting international calls (Cowhey 1998; Melody 2000).

4. For the argument that there is or, at least, was a shortage, see Barr and Tessler 1997. For the counterargument, see Matloff 1998.

5. From our interviews, transportation costs per employee averaged $50 per month.

6. Personal interview by the authors, April 2003.

7. According to the Outsourcing Institute, these are high-growth areas in the United States (http://www.outsourcing.com; accessed November 12, 2005).