

# **The New Offshoring of Jobs and Global Development: An Overview of the Contemporary Global Labor Market**

## **Lecture #1**

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# **The New Offshoring of Jobs and Global Development: An Overview of the Contemporary Global Labor Market<sup>1</sup>**

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## **1. The Great Global Job Shift**

A cover story in the February 3, 2003 issue of *Business Week* highlighted the impact of global outsourcing over the past several decades on the quality and quantity of jobs in both developed and developing countries (Engardio et al., 2003). The first wave of global outsourcing began in the 1960s and 1970s with the exodus of production jobs in shoes, clothing, cheap electronics, and toys. After that, routine service work, like credit-card receipt processing, airline reservations, and the writing of basic software code began to move offshore. Today, the computerization of work, widespread access to the Internet, and high-speed private data networks have allowed a wide range of knowledge-intensive jobs to become more footloose.<sup>2</sup>

Global outsourcing reveals many of the key features of contemporary globalization. It deals with international competitiveness in a way that underscores the growing interdependence of developed and developing countries; a huge part of the debate centers around jobs, wages, and skills in different parts of the world; and there is a focus on how economic activities are organized across firms and country boundaries, and where in this production chain value and employment is created. There are enormous political as well as economic stakes in how global outsourcing plays itself out in the coming years, particularly as well-endowed and strategically

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<sup>1</sup> Much of the material discussed in these lectures reflects a close collaboration with John Humphrey (Institute of Development Studies, University of Sussex, UK) and Timothy Sturgeon (Industrial Performance Center, Massachusetts Institute of Technology, Cambridge, Mass., USA) as part of joint work on the Global Value Chains Initiative funded by the Rockefeller Foundation in New York, NY. Information about this project can be found at <http://www.globalvaluechains.org>. However, the opinions or any errors contained in this paper are the sole responsibility of the author.

<sup>2</sup> The extent of global outsourcing is impressive. In 2001, about 90% of all consumer electronics sold in the United States were produced offshore, as were 80-85% of footwear, toys, luggage and handbags, watches, clocks, games, and television sets, 70% of bicycles, 60% of computers, and 57% of apparel (USITC, 2002).

positioned economies increase their participation in global value chains. Countries like India, China, the Philippines, Mexico, Russia, and parts of Eastern and Central Europe are replete with college graduates who speak Western languages, have technical training in engineering and the sciences, and can handle outsourced information-technology work.

The rise of global outsourcing has triggered waves of consternation in advanced economies about job loss and the degradation of capabilities that could spell the disappearance of entire national industries. Many have dismissed these concerns, arguing instead that global outsourcing should be embraced as a mechanism for economies to shift out of low-value activities and old industries, freeing up capital and human resources for higher-value activities and the development of newer industries and cutting-edge products (*The Economist*, 2004a; 2004b). But clearly such assurances are of little comfort to those whose economic survival has been placed in jeopardy by direct competition with firms and workers with low wages and good skills.

Global outsourcing has also triggered a debate about the benefits and costs of globalization for developing countries. Some claim that it has been extremely beneficial, but others argue that global outsourcing has led only to “immiserizing” growth and a “race to the bottom,” as developing countries compete with one another to offer transnational companies the lowest operating costs (Kaplinsky, 2000; 2005). The recent emergence of China and India as important nodes of activity — or hubs — in global value chains has expanded the global labor force so significantly that globalization may bid down the living standards not only for unskilled work and primary products, but increasingly for skilled work and industrial products as well.

Despite popular notions to the contrary, global outsourcing has not meant a wholesale transfer of economic activity out of developed economies and into developing ones. A large and important set of activities have remained rooted, at least so far, in advanced economies, even as they have become tightly linked to activities located elsewhere. The cumulative effect is that cross-border linkages between economies and firms have grown more elaborate. Firms are less likely to simply make products and export them; they increasingly participate in highly complex cross-border arrangements that involve a wide array of partners, customers, and suppliers. Global

outsourcing has given rise to a new set of economic structures in the world economy that we refer to as “global value chains” (Gereffi and Kaplinsky, 2001; Gereffi et al., 2005).

In these lectures, the global value chains perspective is used to look at how offshore outsourcing has affected the quantity and quality of jobs in the global economy. There are four main themes that run through the ILO Social Policy Lectures this year. First, an analysis of jobs in the contemporary global economy requires an integrated framework that looks at the industrial structures of both advanced industrial and developing economies, which are closely linked through the dynamics of global value chains. The strategies of new types of lead firms in these chains since the 1970s (global retailers, branded marketers, and brand-name manufacturers) have tied what is sometimes referred to as the deindustrialization or “hollowing out” of manufacturing sectors in developed countries to export-oriented industrialization in many parts of the developing world.

Second, jobs in the global economy are most usefully conceptualized not by their location in particular industries or countries, but rather by their role in global value chains. This paper discusses four types of jobs in the global economy: (1) assembly jobs, usually involving the processing of imported inputs for export of diverse manufactured products; (2) manufacturing jobs associated with the “full-package” production of finished consumer goods, typically led by U.S. and European retailers and branded marketers in a process of buyer-oriented industrial upgrading; (3) jobs related to original design manufacturing (ODM) and own brand manufacturing (OBM), which often involving the supply of key components or subassemblies to large manufacturers in a process of supplier-oriented industrial upgrading; and (4) knowledge-intensive jobs linked to the offshore provision of information technology and business process services.

Third, while contemporary globalization has been associated with the geographical dispersion and fragmentation of production and trade networks, there has been a significant consolidation of global value chains in recent years. These consolidation trends will be illustrated with reference to China, India, and the apparel industry.

Fourth, and finally, we believe that these features of global value chains, industrial upgrading, and the global labor market highlight the need for a rethinking of the development agenda in both the developing and advanced industrial economies. This is driven not only by changes in the capabilities of countries and workers that participate in the global economy, but also by pressures from transnational civil society actors to redefine and expand our contemporary notions of global corporate social responsibility and private as well as public governance.

## **2. Offshore Outsourcing, and Development: Old and New Trends**

Offshore outsourcing has been gathering pace since the 1970s. This process combines two quite distinct phenomena.. “Outsourcing” is a standard aspect of all businesses, which frequently and continually need to make the decision to “make or buy” specific inputs and services. While companies regularly decide whether they wish to produce goods and services “in house” or buy them from outside vendors, the tendency in recent years has shifted in the direction of “buy.” Major manufacturers, such as the automakers General Motors, Ford, and Toyota, have spun off their huge internal parts divisions as independent suppliers (Delphi, Visteon, and Denso, respectively), and many businesses have outsourced a wide range of services, such as accounts receivable, insurance, and logistics, to specialized firms. In industries like electronics, manufacturing itself has become a service.

“Offshoring” refers to the decision to move the supply of goods and services from domestic to overseas locations. These activities may be carried out in facilities owned in whole or in part by the parent firm, by transnational suppliers, or by local suppliers. The geographic shift of industries is certainly not a new phenomenon. In the early twentieth century in the United States, many industries that were established in New England, such as textiles, apparel, footwear and furniture, began to move to the U.S. South in search of abundant natural resources and cheaper labor, frequently in “right to work” states that made it difficult to establish labor unions. The same forces behind the impetus to shift production to low-cost regions within the United States eventually led U.S. manufacturers to cross national borders to places like Mexico, Japan, and Singapore, and eventually to most of East Asia. Another major driver of industry re-location have been trade rules, which either tilted the balance for market access in favor of local

production or reduced tariffs in outward processing trade (or production sharing) to the point where manufacturing offshore for the home market became highly attractive.

The offshoring of jobs is not a new trend. It reflects the fragmentation and geographical expansion of international production and trade networks in the global economy, which has been going on for decades. What the global value chains perspective highlights are the various forms of explicit coordination or governance in global industries, and the existence of “new drivers” (most notably, retailers and branded marketers) in a wide range of agricultural, manufacturing, and service industries (see Gereffi et al., 2005; Gereffi, 2005).

From the point of view of global development, the offshoring of both manufacturing and service jobs is important because it has helped to spur the industrialization and upgrading processes that have occurred in developing countries. This has been one of the main positive aspects of globalization. But a closer look at the kinds of jobs being created in global value chains reveals striking asymmetries and knowledge gaps.

### **3. Jobs in the Global Economy: A Global Value Chains Perspective**

From a global value chains perspective, the industrial structures of the advanced countries are intrinsically linked with networks of suppliers and workers across the world. A striking feature of contemporary globalization is that a very large and growing proportion of the workforce in many global value chains is now located in developing economies. In a phrase, the center of gravity of much of the world’s industrial production has shifted from the North to the South of the global economy. In the 1970s and 1980s, many of the newly industrializing economies were narrowing the industrialization gap with advanced economies, and by the end of the twentieth century, the proportion of gross domestic product (GDP) in manufacturing was actually higher in various parts of the developing world than in advanced industrial regions<sup>3</sup> (Arrighi et al, 2003).

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<sup>3</sup> The percentage of GDP in manufacturing in the Third World moved from 78.3% of the First World average in 1970 to 99.4% in 1980, 108.1% in 1990 and 118% in 1998. There was considerable unevenness at the regional level. Thus, in 1998, China was at 190% of the First World average, Japan was at 119%, East Asia (without China and Japan) at 130%, and Latin America at 105%. On the other extreme, West Africa and North Africa were just over 70% of First World manufacturing levels, Sub-Saharan Africa stood at 78%, and South Asia at 79% (Arrighi et al., 2003: 12).

These aggregate figures only tell part of the jobs and development story, however, and they hide deep and pervasive asymmetries in the global economy. First, the trend toward industrial convergence noted above was due primarily to First World de-industrialization, rather than to endogenously generated industrial development in the Third World. The shift of manufacturing jobs from developed economies to lower-cost production sites overseas entails what some see as a “hollowing out” of the industrialized world, including the growth of a vast service sector that accounts for two-thirds to three quarters of the jobs in high-wage economies, such as the United States, the United Kingdom, Canada, Germany, and Japan (see Chart 7.1). Thus, the offshoring of manufacturing jobs from industrialized nations is a key factor in explaining the impetus behind recent Third World industrialization.

Chart 1 about here

Second, the gains from industrial growth are highly concentrated in both the developed and developing portions of the world. If we look at manufacturing value added (MVA) as an indicator of the amount of industrial activity actually carried out in different countries, the top three performers in 2000 in terms of their share of global MVA are the United States (24.1% of the total), Japan (14%), and Western Germany (8.5%), followed by China (7%). Within the developing world, just six economies account for two-thirds of all MVA in 2000: China (29.4%), South Korea (10.8%), Brazil (7.9%), India (6.1%), Taiwan (5.9%), and Mexico (5.2%) (see Table 1). Thus, most job creation and job shifts in manufacturing are occurring among a relative handful of dynamic developed and developing economies.

Tables 1 and 2 about here

While the increase in the manufacturing GDP in developing economies is an aggregate indicator of development, it doesn't tell us anything about the *types* of jobs that exist in these industries. If we look at the leading exporters of high-technology products in 2000, we find six developing economies – Singapore, Taiwan, South Korea, China, Malaysia, and Mexico – among the top twelve countries worldwide (see Table 2). What we do not know from these statistics, however, are the kinds of specific jobs within high-technology industries that are located in each country,

as well as the kinds of companies that are providing these jobs. The same country could be exporting clothes, cars, and computers, but the trade data alone do not tell us whether the economy is carrying out labor-intensive assembly activities, advanced manufacturing of components and finished products, or product development, design, and engineering services. Nor do we know whether the main suppliers of these products are state companies, foreign-invested enterprises, or domestic firms. Yet it is precisely these details about types of jobs that are essential for to evaluate development trajectories.

Global value chain theory would lead us to expect that relatively labor-intensive and low-technology tasks, such as assembly or other routine production activities, would be performed in low-wage locations, while the higher-value design, product development, and sophisticated manufacturing stages would be retained in the relatively advanced economies. This is why optimists believe that developed countries can carry on upgrading and maintain high-wage jobs within the global division of labor. But for how long? How many people are involved? What determines good versus bad job outcomes? To explore these questions more carefully, we need to take a closer look at the kinds of jobs that are being created in global value chains.

#### **4. The Contemporary Global Labor Market: A Changing Landscape**

Usually when we think of jobs, we envision them as tied to particular individuals, places and industries. However, global value chains have created a new kind of global labor market that is tied to the demand for jobs in production, design, marketing, logistics and finance that cut *across* industries. Relatively unskilled farm and factory work has been moving offshore for decades. Recently, there have been unprecedented increases in the supply of offshore pools of low-wage, technically skilled workers in both manufacturing and services (Roach, 2003; Polaski, 2004).

Several factors underlie these shifts in the size and composition of the global labor market. First, following the breakup of the former Soviet Union in 1989 and the end of the Cold War, about 3 billion workers from China, India, Russia, and Eastern Europe – half of the world’s labor force – joined the capitalist world economy, creating a labor supply shock on a scale unlike anything experienced before. Second, technological changes associated with the Internet allowed a dramatic expansion of outsourcing and offshoring options in services as well as manufacturing,

and this real-time connectivity has converted what were once segmented national labor markets into an integrated, global production system. Third, TNC business strategies have been unrelenting in their search for new efficiencies, especially on the labor side where substantial cost gains can be found.<sup>4</sup> As a result, offshore outsourcing is no longer considered merely an option, but “an increasingly urgent survival tactic for companies in the developed economies” (Roach, 2003: 6).

Global value chains encompass the full range of economic activities that are required to bring a good or service from conception, through the different stages of production, delivery to final consumers, and final disposal after use (Kaplinsky, 2000; Gereffi and Kaplinsky, 2001). As such, they have given rise to different kinds of jobs in the global economy.<sup>5</sup> We distinguish four main types of jobs in this analysis: (1) assembly jobs in export-oriented industries, based on imported inputs; (2) basic manufacturing jobs associated with “full package” (or OEM) production<sup>6</sup> and buyer-oriented upgrading; (3) more advanced stages of manufacturing that require design (ODM) and brand (OBM) capabilities, which tend to be linked to supplier-oriented upgrading; and (4) the shift to offshoring of services, which include traditional white-collar jobs and also more advanced activities associated with business process outsourcing.

### ***3.1 Assembly Jobs in the Global Economy***

The fragmentation of production that began in the 1960s and 1970s generated a search for labor-intensive assembly jobs in predominantly low-wage economies. Assembly jobs were usually the first stage of export-oriented industrialization in developing nations, and they tended to have a

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<sup>4</sup> In the United States, worker compensation makes up nearly 80% of total domestic corporate income, while wage rates in China and India are as low as 10% of those for comparable quality workers in the United States and other developed countries (Roach, 2003: 5).

<sup>5</sup> This classification scheme is not intended to refer to all jobs in the global economy; rather, it only applies to jobs linked to the offshore production of goods and services. Our main objective is use the position of jobs in different types of global value chains to highlight features associated with trends in the creation, mobility and loss of these jobs.

<sup>6</sup> While the precise definition of original equipment manufacturing (OEM) is subject to controversy (Sturgeon, 2001; Fuller, 2005: 290, fn. 9), the purpose of using the OEM, ODM, and OBM categories is because they denote distinct production roles within global value chains – referring to manufacturing, design, and marketing competencies, respectively. For a fuller discussion of these roles in terms of upgrading dynamics, see Gereffi (1999; 2005), Sturgeon and Lester (2004), and Sturgeon and Lee (2005).

relatively large and positive impact on job creation, especially for female workers. Small, less-developed economies often specialize in particular export products, such as apparel, sporting goods, or electronics, while larger countries (such as Mexico or China) carry out assembly jobs in a more diversified range of industries. Sri Lanka, for example, generated 350,000 assembly jobs in the export-oriented apparel industry, which was the largest source of manufacturing employment in the country (ILO, 2003: 6).

Assembly jobs are often located in export-processing zones (EPZs). These sites have been established since the 1960s to attract foreign investment, boost employment, increase exports, and generate foreign exchange by providing factories, modern infrastructure, and streamlined administrative procedures (“one-stop shopping”). Table 1 shows several notable trends regarding the expansion of EPZs between 1975 and 2002. In 1975 there were close to 80 EPZs in 25 countries; by 1995 the number of countries with EPZs had nearly tripled to 73 and the number of EPZs grew more than sixfold to 500. In 2002, there were 3,000 EPZs in 116 countries. In terms of employment, the number of workers in EPZs roughly doubled from 22.5 million in 1997 to 43 million in 2002, with China alone accounting for 70-80% of the global EPZ workforce – approximately 30-35 million workers (see Table 3).

Table 3 about here

Why has the number of EPZs grown so rapidly?<sup>7</sup> Many early exporters, like Taiwan, South Korea, and Mexico, dispensed with the EPZ model relatively quickly, and allowed generalized export incentives to all companies located in their economies. But Table 1 indicates that EPZs have grown even more rapidly after 1995 than before it. This suggests that assembly jobs continue to play a vital role in the global economy, and the large number of EPZs may actually be one of the best measures of the growth of global value chains. EPZs are useful in attracting investors, ramping up output, and meeting international standards for a variety of export products.

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<sup>7</sup> There are different varieties of EPZs, such as Free Trade Zones (Dominican Republic), China’s Special Economic Zones (SEZs), and Mexico’s maquiladora sector.

However, assembly jobs are also highly vulnerable to fluctuations in developed country demand, competition from other low-wage countries, and the purchasing preferences of lead firms in global value chains. Employment in Mexico's *maquiladora* industry, which assembles products for the U.S. market based on imported inputs, rose from 446,000 in 1990 to 1,285,000 in 2000, but then fell to 1,086,000 workers in May 2002 due to a mild recession in the U.S. economy, as well as intensified competition from China. Similarly, assembly jobs in the Dominican Republic fell from 200,000 in 2000 to 175,000 just one year later (ILO, 2003: 6). Thus, while the assembly role has created many jobs in the global economy, these tend to be low paying and footloose jobs, characterized by minimal local linkages to the host economy and poor working conditions. As a result, many developing economies are trying to move beyond assembly to more stable forms of integration with global value chains.

### **3.2 *Full-Package Production Jobs and Buyer-Oriented Upgrading***

One of the most striking new features of the contemporary global economy has been the rise of "global buyers." These agents of globalization include giant discount chains, department stores, supermarkets, and brand marketers (so-called "manufacturers without factories"), who frequently drive the organization of global value chains (see Gereffi, 1994; 2005; Dolan and Humphrey, 2000). These retailers and marketers turned supply-side economics on its head, and played a direct role in shaping international production from the demand side, specifying which firms would make what products, how, where, when, and at what cost. Global buyers became gatekeepers to developed country markets, and they also shaped upgrading dynamics in developing economies.

The penchant of global buyers for the offshore production of consumer goods precipitated a dramatic flood of imports in developed countries, which were coupled with a steep decline in domestic employment in traditional manufacturing industries. East Asian manufacturers such as Taiwan, South Korea, Hong Kong, and the Philippines focused on the OEM production of consumer goods, according to the designs and brand name specified by the buyer (Gereffi, 1999). Branded manufacturers also became "global buyers" to the extent that they outsourced production to low-cost offshore locations.

The key difference between assembly jobs and OEM jobs, the first two categories in our typology, is who supplies the inputs and coordinates the production process: in assembly production, developed country manufacturers control the inputs and the orders; in full-package or OEM production, global buyers in developed economies control the orders, but developing country suppliers coordinate the supply of inputs, make the final product, and send it to the buyers.<sup>8</sup>

A detailed study of the impact of offshore production shifts on the U.S. economy by Bronfenbrenner and Luce (2004) illustrates in considerable detail the number and kinds of jobs involved, and who gains from these production shifts. Between 1992 and 2000, the authors estimate that each year between 70,000 and 100,000 production jobs moved from the United States to China and Mexico (Bronfenbrenner and Luce, 2004: 3, 17).

More detailed calculations for the first quarters of 2001 and 2004 indicate a significant increase in annual job losses from production shifts out of the United States during this three-year period. In 2001, the annual rate of job loss to both China and Mexico, extrapolated from first-quarter results, was 85,000 jobs going to each country, and 204,000 production jobs leaving the United States overall. By 2004, total U.S. job losses due to offshore production shifts had doubled to 406,000, of which 140,000 went to Mexico, 99,000 to China, and 47,000 to India (Bronfenbrenner and Luce, 2004: 55).

Large diversified economies like China, Mexico and India have been the main destinations for offshore production shifts from the United States. Each of these countries attracts a different mix of industries. China was the preferred location for the broadest range of industries: it captured all production shifts for sporting goods and toys; 40% of production in electronics and electrical equipment, apparel and footwear; and one-third of U.S. production shifts in aerospace,

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<sup>8</sup> The goods and services that global buyers require from their offshore suppliers in global value chains has tended to become more stringent and extensive over time. For instance, Wal-Mart requires all of its suppliers to hold their own inventory and to develop sophisticated electronic data interfaces with the giant retailer so that the regular replenishment of individual stores is guaranteed. Suppliers in Hong Kong

appliances, household goods, and wood and paper products. Mexico won out in a different set of industries: auto parts (68% of U.S. shifts), plastics, glass and rubber (58%), appliances (56%), industrial equipment and machinery (53%), and wood and paper products (50%). Meanwhile, India accounted for all U.S. production shifts in finance, insurance, and real estate, and one-third of those in communications and information technology (Bronfenbrenner and Luce, 2004: 29).

### ***3.3 Advanced Production Jobs: Supplier-Oriented Upgrading and Industry Co-Evolution***

A different set of offshore activities emerged in the 1980s and 1990s as lead firms in capital- and technology-intensive value chains, such as automobiles and electronics, set up international production networks not only to assemble their finished goods, but also to develop a supply base for key intermediate products and subassemblies. At the uppermost tiers of these production networks, the suppliers tend to be very large and technologically sophisticated. Global contract manufacturers in electronics and mega-suppliers in the motor vehicles industry have established an international presence that has different implications for jobs and industrial upgrading than was characteristic of the labor-intensive, buyer-driven value chains.

The consolidation and geographic expansion of global suppliers have been dramatic. In electronics, the top five global contract manufacturers – Solectron, Flextronics, Sanmina/SCI, Celestica, and Jabil Circuit – increased their total revenues from \$6.6 billion in 1994 to \$56.4 billion in 2001 (Sturgeon and Lester, 2004: 47), largely as a result of acquisitions of outsourced manufacturing plants from the large brand-name electronics companies like IBM, Hewlett-Packard, Lucent, Cisco Systems, Alcatel, and Ericsson. These U.S. and European brand-name lead firms in electronics expect the global contract manufacturers not only to meet their full range of functional needs,<sup>9</sup> but also to provide these services all over the world. In motor vehicles, the process is similar. First-tier suppliers like Bosch, Johnson Controls, Lear, Siemens

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provide logistics, financial, and product development services that firms in other developing economies can't match. Thus, "full-package" production and buyer-oriented upgrading are often moving targets.

<sup>9</sup> In addition to excellent manufacturing performance, suppliers must be able to provide a wide range of value-enhancing services, such as product and component design, inventory management, product testing, packaging, and in bound and outbound logistics.

Automotive, Magna, TRW, Denso, and others have attained both supply-chain consolidation<sup>10</sup> and a global footprint to meet the needs of the world's leading motor vehicle companies. In other words, these transnational manufacturers have created a new global supply base, which in turn creates both opportunities and challenges for local suppliers (Sturgeon and Lester, 2004).

The opportunities for local suppliers are related to the process of supplier-oriented upgrading and "industry co-evolution" described by Sturgeon and Lee (2005), which can improve technology learning and knowledge spillovers between developed and developing economies. A good example is the co-evolution of electronics contract manufacturing in Taiwan and the United States. Lead firms in the global computer industry, such as Hewlett Packard/Compaq, Dell, Apple, and IBM, have relied heavily on Taiwanese contract manufacturers to supply their notebook and desktop personal computers, monitors, motherboards, optical disk drives, and servers. In the early 1990s, Taiwanese suppliers, known as "original design manufacturers" (ODMs), began to provide design services along with volume production, and some local companies, like Acer, created its own-brand of personal computers as well. This form of supplier-oriented industrial upgrading created both jobs and enhanced technological capabilities for Taiwanese computer hardware suppliers.<sup>11</sup>

There are also some negative implications of this model of supplier-oriented upgrading for jobs in the developing world. First, industry co-evolution drives consolidation in the global supply base. Large and technologically sophisticated suppliers tend to concentrate "good" jobs in relatively few locations. The hard disk drive industry illustrates this pattern. Jobs in the U.S. hard disk drive industry migrated to Southeast Asia over a 20-year period beginning in the late 1970s. By the mid-1990s, 80% of the jobs shifted to Singapore and other countries in Southeast Asia, such as Malaysia. Nevertheless, hard disk drive design remained rooted in the United States, and since design jobs pay much more than the production jobs, nearly 80% of the wage

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<sup>10</sup> Consolidation has occurred largely through the acquisition of second-tier suppliers. It is estimated that 75% of the value of a car can be accounted for by only 15 modules or subassemblies, such the suspension system, doors, dashboards, and drive trains (Sturgeon and Lester, 2004: 56).

<sup>11</sup> Another example of supplier-oriented upgrading and industry co-evolution involves the interplay between U.S. brand name electronics firms, Taiwan's pure-play foundries (which do volume manufacturing of integrated circuits), and Taiwan's "fabless" semiconductor design industry, which is the second largest in the world after the United States (Fuller, 2005).

bill was paid to workers in United States, despite the fact that 80% of the jobs were in Southeast Asia (McKendrick et al., 2000).

Another problem is that supplier-oriented upgrading has a built-in contradiction. The automakers and electronics lead firms are reluctant to have their suppliers learn too much, and thereby undercut the power of lead firms to set the knowledge parameters essential for product innovation. As a result, OEM and ODM suppliers are often limited by their customers to focus on detailed design and production only (Sturgeon and Lee, 2005: 53-54), and not develop more profitable production of own brands or engage in breakthrough research and development activities.

### **3.4 Knowledge-Intensive Jobs in Offshore Services**

The outsourcing debate in the United States ratcheted up its intensity level in 2003 when the specter of “white-collar outsourcing” was unveiled in a *Business Week* cover story, “Is your job next?” (Engardio et al., 2003). While low-cost offshore production had been displacing U.S. factory and farm jobs for decades, the idea that middle-class office work and many high-paying professions were now subject to international competition came as something of a shock. The news got even worse when outsourcing was reputed to endanger the two strongholds of developed country value chain supremacy: design (Rocks and Moon, 2004) and innovation (Engardio and Einhorn, 2005). In his bestseller, *The World Is Flat*, Thomas Friedman (2005) lauded the rapid progress of India and China in upgrading to relatively high value activities of service and manufacturing global value chains, and he challenged the advanced industrial economies to sustain their competitive edge through innovation and the creation of new waves of knowledge-intensive jobs.

Facts regarding the current extent of the offshoring of services don't come easily. The best known study of service sector outsourcing to date is by a business consulting firm, the McKinsey Global Institute (2005). It argues that outsourcing in the service sector is generally beneficial to the U.S. economy, and far less detrimental to jobs than outsourcing in the manufacturing sector has been. According to the report, only 11%, or 160 million, of the 1.46 billion service jobs

around the world could be performed remotely, and just a small fraction of those jobs will actually go offshore.<sup>12</sup> The jobs most amenable to remote employment are engineering (a 52% likelihood) and finance and accounting (31%).

McKinsey's study identified a series of supply-side constraints that indicate that, on average, just 13% of the 33 million university graduates in the 28 low-wage nations included in the study are suitable for jobs in multinational corporations from developed countries (Farrell et al., 2005). The 83 human-resource managers for multinationals in low-wage countries who were interviewed for the study cited a variety of reasons for this shortfall, including: a lack of language skills (especially English); an emphasis in their training on theory over practical knowledge; an inadequate appreciation of the importance of teamwork and flexible work; and locational disadvantages (many university graduates live far from major cities with international airline connections). Despite the relatively small number of people presently involved in the offshoring of services, the McKinsey study argues that this trend is permanent and it can be expected to grow significantly, especially in key locations like China, India and the Philippines.

The International Monetary Fund also takes a sanguine view of this phenomenon, claiming that "the risk of service outsourcing dramatically reducing job growth in the advanced economies has been greatly exaggerated" (Amiti and Wei, 2004: 20). Using data for 2002, the study finds that the top outsourcers of business services are the United States (US\$41 billion) and Germany (US\$39 billion), followed by Japan (US\$25 billion), the Netherlands (\$21 billion), Italy (\$20 billion), France (\$19 billion), and the United Kingdom (\$16 billion). However, many of these same countries are also the biggest recipients of business services from abroad in 2002: the United States (\$59 billion), the United Kingdom (\$37 billion), Germany (\$28 billion), France (\$21 billion), and the Netherlands (\$20 billion) (Amiti and Wei, 2004: 13-15). Therefore, the IMF study claims that the anxiety concerning service sector outsourcing is misplaced because many developed countries, such as the United States and the United Kingdom, run sizable surpluses in business services with the rest of the world.

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<sup>12</sup> McKinsey estimated that in 2003, only 1.5 million service jobs were done in low-wage countries for clients in higher-wage countries, and by 2008, this number is expected to reach 4.1 million – just 1.2% of

Neither the McKinsey Global Institute report nor the IMF study are likely to assuage the broader concerns of service sector workers in developed countries. From the perspective of multinational companies, the offshoring of business services is efficiency-enhancing and profitable. It continues the trend toward fragmentation and specialization in global value chains, and offshore suppliers can be added to the set of winners that benefit from globalization. However, the tendency toward global consolidation applies to knowledge-intensive jobs as well as those in manufacturing. Thus, the real concern is whether there are forces in the global economy that can effectively disseminate the employment gains from globalization to a broader set of countries, or whether global consolidation among a handful of countries and suppliers will be exacerbated.

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the total number of service jobs in developed countries.

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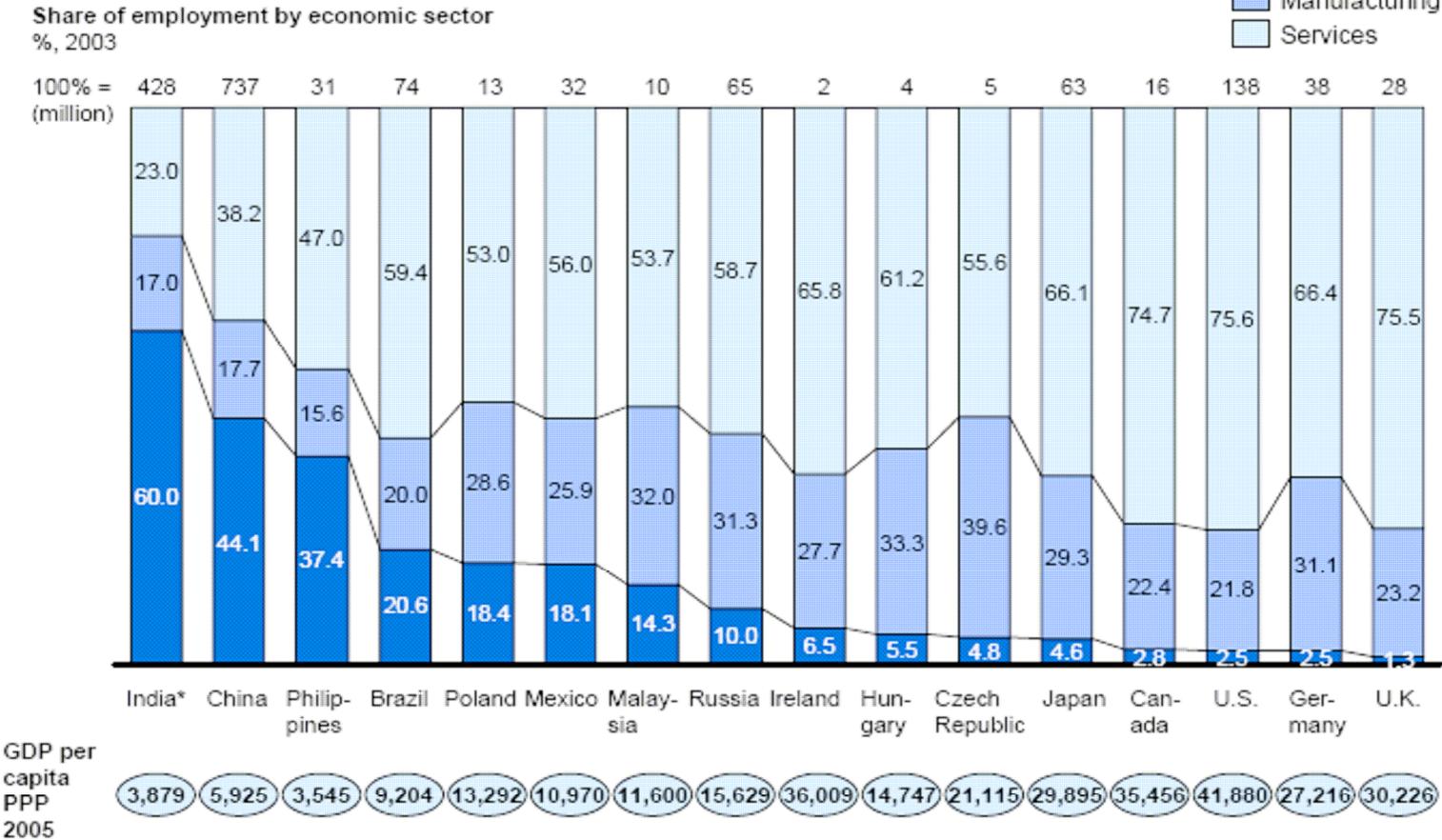
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Chart 1

**THE SERVICE SECTOR PROVIDES THE BULK OF EMPLOYMENT IN HIGH-WAGE ECONOMIES**



\* Shares as of 1999.

Source: McKinsey Global Institute, "The Emerging Global Labor Market," June 2005.

**Table 1**  
**Shares of Top Ten Economies, Global Manufacturing Value Added – 2000**

<b>Rank</b>	<b>All Economies</b>	<b>Share in World (percent)</b>	<b>Developing Economies</b>	<b>Share in Developing Economies (percent)</b>
1	United States	24.1	China	29.4
2	Japan	14.0	Korea, Republic of	10.8
3	Western Germany	8.5	Brazil	7.9
4	China	7.0	India	6.1
5	Italy	4.6	Taiwan	5.9
<b>Top 5 Ranks</b>		<b>58.2</b>	<b>Top 5 Ranks</b>	<b>60.0</b>
6	France	4.5	Mexico	5.2
7	United Kingdom	3.5	Turkey	3.3
8	Korea, Republic of	2.6	Argentina	3.3
9	Spain	2.0	Indonesia	3.1
10	Canada	2.0	Thailand	3.0
<b>Top 10 Ranks</b>		<b>72.9</b>	<b>Top 10 Ranks</b>	<b>77.9</b>

Source: UNIDO, *Industrial Development Report 2004*, p. 183.

Table 2

**Top 25 Exporters of High-Technology Products, 2000**

Rank	Country	Exports (US\$ million)	%
1	United States	225,903	16.4%
2	Japan	152,121	11.0%
3	Germany	103,213	7.5%
4	United Kingdom	86,274	6.3%
5	Singapore	81,125	5.9%
6	France	71,603	5.2%
7	Taiwan	67,103	4.9%
8	Korea, Rep. of	61,823	4.5%
9	China	56,007	4.1%
10	Malaysia	51,686	3.7%
11	Netherlands	51,201	3.7%
12	Mexico	46,928	3.4%
13	Canada	35,468	2.6%
14	Ireland	32,295	2.3%
15	Italy	27,723	2.0%
16	Philippines	25,585	1.9%
17	Belgium	21,467	1.6%
18	Thailand	21,280	1.5%
19	Sweden	21,207	1.5%
20	Switzerland	19,990	1.4%
21	Finland	13,738	1.0%
22	Spain	11,562	0.8%
23	Israel	10,230	0.7%
24	Denmark	9,197	0.7%
25	Hungary	7,914	0.6%
Top 25 share			<b>95.1</b>
<b>World Total</b>		<b>1,379,600</b>	

Source: UNIDO, *Industrial Development Report 2004*, p.191

Table 3  
The Development of Export-Processing Zones

	1975	1986	1995	1997	2002
No. of countries with EPZs	25	47	73	93	116
No. of EZPs	79	176	500	845	3,000
Employment (millions)	n.a.	n.a.	n.a.	22.5	43
-of which China	n.a.	n.a.	n.a.	18	30
-other countries for which figures available	0.8	1.9	n.a.	4.5	13
Total countries for which data were available (108)					

*Source:* International Labor Office, "Employment and social policy in respect to export processing zones," GB.286/ESP/3, March 2003.