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# THE GLOBAL APPAREL VALUE CHAIN:

## What Prospects for Upgrading by Developing Countries

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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# THE GLOBAL APPAREL VALUE CHAIN:

## What Prospects for Upgrading by Developing Countries

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## Abstract

The paper uses the global value chain framework to explain the transformations in production, trade and corporate strategies that altered the apparel industry over the past decades and changed the conditions for innovation and learning in the industry. The apparel industry is identified as a buyer-driven value chain that contains three types of lead firms: retailers, marketers and branded manufacturers. With the globalization of apparel production, competition between the leading firms in the industry has intensified as each type of lead firm has developed extensive global sourcing capabilities. While "de-verticalizing" out of production, these firms are fortifying their activities in the high value-added design and marketing segments of the apparel chain, leading to a blurring of the boundaries between them and a realignment of interests within the chain.

Innovation in the global apparel value chain is primarily associated with the shift from assembly to full-package production. Full-package production changes fundamentally the relationship between buyer and supplier giving more autonomy to the supplying firm and creating more possibilities for innovation and learning.

The paper distinguishes between three new models of competition in the North American market namely the East Asian, Mexican and Caribbean Basin model. Each model presents different perspectives and challenges for industrial innovation and learning.

# Introduction

**The purpose of this paper**

Although it is generally accepted that the clothing industry played a leading role in East Asia's early export growth, the degree to which international trade can be the basis of sustained economic growth for developing countries has been questioned. Under what conditions can trade-based growth be a vehicle for genuine industrial upgrading, given the frequent criticisms of low-wage, low-skill, assembly-oriented export activities? Do Asia's accomplishments in trade-led industrialization contain significant lessons for other regions of the world?

This report will look at these and related questions, using a global value chain framework. A value chain is the range of activities involved in the design, production and marketing of a product, although there is a critical distinction between buyer-driven and producer-driven value chains. Japan in the 1950s and 1960s, the East Asian newly industrializing economies (NIEs) in the 1970s and 1980s and China in the 1990s became world-class exporters primarily by mastering the dynamics of buyer-driven value chains.

**Box 1 International production systems**

**Assembly** is a form of industrial subcontracting, in which garment sewing plants are provided with imported inputs for assembly, most commonly in export processing zones (EPZs).

**Original equipment manufacturing (OEM**) is a form of commercial subcontracting. The supplying firm makes a product according to a design specified by the buyer; the product is sold under the buyer's brand name; the supplier and buyer are separate firms; and the buyer lacks control over distribution.

**Original brand name manufacturing (OBM)** is the upgrading by manufacturers from the production expertise of OEM to first the design and then the sale of their own brand products.

The key to East Asia's success was the move from mere assembly of imported inputs (traditionally associated with export processing zones or EPZs) to a more domestically integrated and higher value-added form of exporting known as full-package supply or OEM (original equipment manufacturing) production (see Box 1). (Throughout this report, OEM production, specification contracting and full-package supply will be used as broadly synonymous terms. In addition, assembly, production sharing and outward processing refer to similar processes, even though a specific term may be favoured in a particular region.) Japanese companies and some firms in the East Asian NIEs moved on from OEM export to original brand name manufacturing (OBM), supplementing their production expertise with the design and then the sale of their own branded merchandise at home and abroad. The OEM model at the international level is a form of commercial subcontracting in which the buyer-seller linkage between overseas buyers and

domestic manufacturers allows for a greater degree of local learning about the upstream and downstream segments of the apparel chain.

East Asia's ability to establish links with a wide range of lead firms in buyer-driven chains enabled it to make the transition from assembly to full-package supply. Lead firms are the primary sources of material inputs, technology transfer and knowledge. In the apparel value chain, different types of lead firms use different networks and source from different parts of the world. Retailers and marketers in developed countries tend to rely on full-package sourcing networks, buying ready-made apparel primarily from Asia, where manufacturers in Hong Kong (now named as Hong Kong Special Administrative Region (SAR) of China), Taiwan Province of China and the Republic of Korea historically specialized in this type of production. But as wages have risen, multilayered sourcing networks have been developed; low-wage assembly can be done in other parts of Asia, Africa or Latin America while the NIE manufacturers coordinate the full-package production process. Branded manufacturers, by contrast, tend to create production networks that focus on apparel assembly using imported inputs. Full-package sourcing networks are generally global and the production networks of branded manufacturers are predominantly regional. Manufacturers in the United States of America use Mexico and the Caribbean Basin, European Union (EU) firms look to North Africa and Eastern Europe, and Japan and the East Asian NIEs to lower-wage regions within Asia.

**The organization of the paper**

First, the global value chain framework will be outlined, with emphasis on the structure and dynamics of buyer-driven chains. Second, the role of each of the big buyers (retailers, marketers and manufacturers) in forging global sourcing networks in the apparel value chain is examined. Third, the evolution and upgrading of apparel sourcing networks in Asia are considered. Industrial upgrading in the Asian context is examined through the process of building, extending, coordinating and completing international production and trade networks. Fourth, the implications of the Asian experience for apparel sourcing in North America and Europe are assessed. Both regions are moving beyond assembly production and establishing full-package or OEM models in order to promote regionally integrated apparel value chains. The Japanese pattern of apparel sourcing, which is highly concentrated on a few suppliers, is contrasted with the American and European patterns, and the differences are traced to trade policy. The final section of the report offers conclusions regarding upgrading options within the global apparel industry.

## Global value chains

**There are two types of global value chains**

In global capitalism, economic activity is international in scope and global in organization. "Internationalization" refers to the geographic spread of economic activities across national boundaries. As such, it is not a new phenomenon. It has been a prominent feature of the world economy since at least the seventeenth century when colonial powers began to carve up the world in search of raw materials and new markets. "Globalization" is more recent, implying functional integration between internationally dispersed activities.

**—producer-driven and buyer-driven**

Industrial and commercial firms have both promoted globalization, establishing two types of international economic networks. One is "producer-driven" and the other "buyer-driven".[1] In producer-driven value chains, large, usually transnational, manufacturers play the central roles in coordinating production networks (including their backward and forward linkages). This is typical of capital- and technology-intensive industries such as automobiles, aircraft, computers, semiconductors and heavy machinery. Buyer-driven value chains are those in which large retailers, marketers and branded manufacturers play the pivotal roles in setting up decentralized production networks in a variety of exporting countries, typically located in developing countries. This pattern of trade-led industrialization has become common in labour-intensive, consumer-goods industries such as garments, footwear, toys, handicrafts and consumer electronics. Tiered networks of third-world contractors that make finished goods for foreign buyers carry out production. Large retailers or marketers that order the goods supply the specifications.

Firms that fit the buyer-driven model, including retailers like Wal-Mart, Sears and JC Penney, athletic footwear companies like Nike and Reebok, and fashion-oriented apparel companies like Liz Claiborne, Gap and The Limited Inc., generally design and/or market—but do not make—the branded products they order. They are "manufacturers without factories", with the physical production of goods separated from the design and marketing. Unlike producer-driven chains, where profits come from scale, volume and technological advances, in buyer-driven chains profits come from combinations of high-value research, design, sales, marketing and financial services that allow the retailers, designers and marketers to act as strategic brokers in linking overseas factories and traders with product niches in their main consumer markets.[2] Profitability is greatest in the concentrated parts of global value chains that have high entry barriers for new firms.

In producer-driven chains, manufacturers of advanced products like aircraft, automobiles and computers are the key economic agents both in terms of their earnings and their ability to exert control over backward linkages with raw material and component suppliers, and forward linkages into distribution and retailing. The lead firms in producer-driven chains usually belong to international oligopolies. Buyer-driven value chains, by contrast, are characterized by highly competitive and globally decentralized factory systems with low entry barriers. The companies that develop and sell brand-named products have considerable control over how, when and where manufacturing will take place, and how much profit accrues at each stage. Thus, large manufacturers control the producer-driven value chains at the point of production, while marketers and merchandisers exercise the main leverage in buyer-driven value chains at the design and retail stages.

**Apparel is a good example of a buyer-driven value chain**

Apparel is an ideal industry for examining the dynamics of buyer-driven value chains. The relative ease of setting up clothing companies, coupled with the prevalence of developed-country protectionism in this sector, has led to an unparalleled diversity of garment exporters in the third world. Furthermore, the backward and forward linkages are extensive, and help to account for the large number of jobs associated with the industry.[3] The apparel value chain is organized around five main parts: raw material supply,

[1] Gereffi (1994, 1999).
[2] Gereffi (1994).
[3] See Appelbaum et al. (1994).

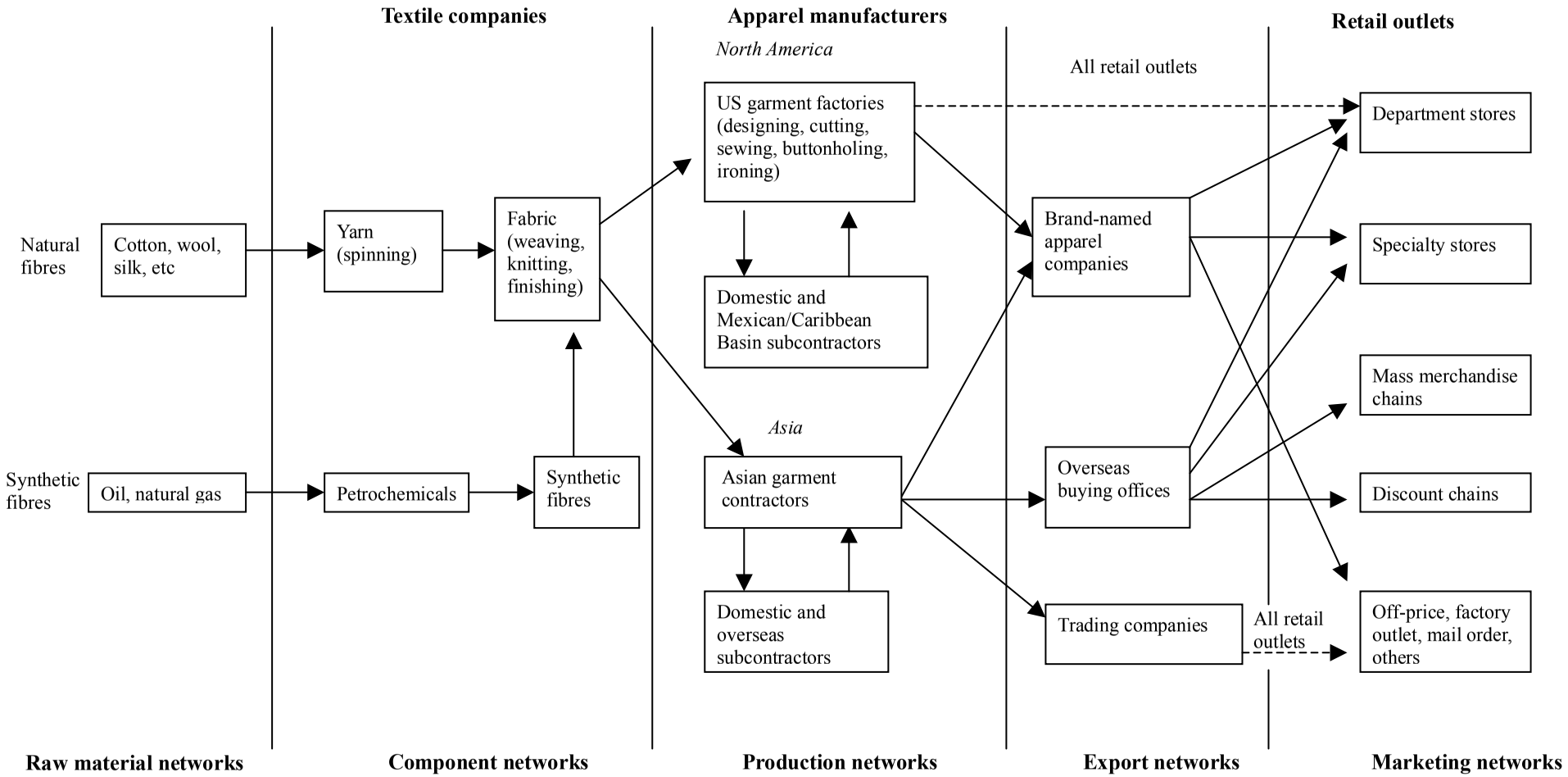
including: natural and synthetic fibres; provision of components, such as the yarns and fabrics manufactured by textile companies; production networks made up of garment factories, including their domestic and overseas subcontractors; export channels established by trade intermediaries; and marketing networks at the retail level (see Figure 1).

There are differences between these parts, such as geographical location, labour skills and conditions, technology, and the scale and type of enterprises, which also affect market power and distribution of profits among the main firms in the chain. Entry barriers are low for most garment factories, although they become progressively higher when moving upstream to textiles and fibres; brand names and stores are alternative competitive assets that firms can use to generate significant economic rents. The lavish advertising budgets and promotional campaigns needed to create and sustain global brands, and the sophisticated and costly information technology employed by mega-retailers to develop "quick response" programmes that increase revenues and lower risks by getting suppliers to manage inventories, have allowed retailers and marketers to displace traditional manufacturers as the leaders in many consumer-goods industries. In apparel, the split between manufacturing and marketing that prompted the emergence of "lean retailing" (i.e. the model of frequent shipments by suppliers to fill ongoing replenishment orders by retailers, based on real-time sales information collected at the retailer's stores on a daily basis) was caused by the development of several key information technologies. These included: bar coding and point-of-sale scanning used to provide immediate and accurate information on product sales; electronic data interchange (EDI) used by the retailer to restock; and automated distribution centres to handle small restocking orders, rather than the traditional warehouse system used for large bulk shipments.[4]

A major hypothesis of the global value chains approach is that national development requires linking up with the most significant lead firms in an industry. These lead firms are not necessarily the traditional vertically integrated manufacturers, nor are they necessarily involved in making finished products. Lead firms, such as fashion designers or private label retailers, can be located upstream or downstream from manufacturing, or they can be involved in the supply of critical components (e.g. microprocessor companies like Intel or software firms like Microsoft in the computer industry). What distinguishes lead firms from non-lead firms is that they control access to major resources (such as product design, new technologies, brand names or consumer demand) that generate the most profitable returns.

[4] Abernathy et al. (1999).

**Figure 1. The apparel value chain**




*Source*: Appelbaum and Gereffi (1994), p. 46.

## Big buyers and global sourcing

**Apparel retailers are changing**

The retail sector in the United States and other developed economies is undergoing a major restructuring. Global retailing is dominated by large organizations that are developing greater specialization by product (the rise of specialized stores selling only one item, such as clothes, shoes or office supplies) and price (the growth of high-volume, low-cost discount chains). Furthermore, keeping the distribution pipeline filled means these retailers are developing strong ties with global suppliers, particularly in low-cost countries.[5] Nowhere are these changes more visible than in apparel. Between 1987 and 1991, the five largest soft goods chains in the United States increased their share of the national apparel market from 35 to 45 per cent.[6] By 1995, the five largest retailers–Wal-Mart, Sears, Kmart, Dayton Hudson Corporation and JC Penney–accounted for 68 per cent of all apparel sales. The next top 24 retailers, all billion-dollar corporations, represented an additional 30 per cent of these sales.[7] Thus, the 29 biggest retailers made up 98 per cent of all United States' apparel sales. The two top discount giants, Wal-Mart and Kmart, control one quarter of all apparel (by unit volume, not value) sold in the United States.

Although the degree of market power that is concentrated in large United States' retailers may be extreme, a similar shift from manufacturers to retailers and marketers appears to be under way in other developed countries. Retailing across the EU has been marked by substantial concentration in the 1990s. In Germany, the five largest clothing retailers (C&A, Quelle, Metro/Kaufhof, Kardstadt and Otto) in 1992 accounted for 28 per cent of its economy, and the United Kingdom's two top clothing retailers (Marks & Spencer and the Burton Group) controlled over 25 per cent of the market in 1994.[8] Marks & Spencer, the United Kingdom's largest and most successful retailing firm, with 134 franchise stores in 25 countries in 2001, has adopted a new sourcing strategy that significantly shifts buying from the United Kingdom to low-labour-cost regions. While the company traditionally prided itself on the fact that at least 90 per cent of the goods sold in its United Kingdom stores were made in the United Kingdom, this "Buy British" focus began to erode in the 1990s. Marks & Spencer, which had an 11 per cent share of the United Kingdom clothing market in 2001, planned to source more than 70 per cent of its apparel from lower-cost countries by 2002.[9] In both France and Italy, the role of independent retailers has declined since the mid-1980s, while the share of specialized chains, franchise networks and hypermarkets is rising rapidly. In Japan, cost-conscious consumers have contributed to a decline in the leading role played by high-fashion department stores such as Seibu and Isetan. New specialty apparel retailers

[5] Management Horizons (1993).
[6] Dickerson (1995), p. 452.
[7] Finnie (1996), p. 22. These figures refer to the retail market comprised of companies with publicly held stock.
[8] OETH (1995), pp. 11-13.
[9] Tait (2000); Davies (2002).

offering lower prices have proliferated, and many now offer Chinese apparel, which accounted for over 75 per cent of apparel imports into Japan in 2000.[10]

For buyer-driven value chains, the major significance of growing retailer concentration is the resulting expansion of global sourcing. Whereas in 1992 about 49 per cent of all retail apparel sold in the United States was made in the country, by 1999 the proportion of domestically made United States' retail apparel dropped to just 12 per cent.[11] As each type of buyer in the apparel value chain has become more involved in offshore sourcing, the competition between retailers, marketers and manufacturers has intensified, leading to a blurring of traditional boundaries and a realignment of interests.

**Retailers are competing with manufacturers**

Retailers used to be garment manufacturers' main customers, but they have now become their competitors. With consumers demanding better value, retailers have turned to imports. In 1975, only 12 per cent of apparel sold by United States' retailers was imported; by 1984, this had doubled.[12] By the mid-1990s, retailers accounted for approximately one-half of all apparel imported into the United States and Europe.[13] These trends mark the rise in what is known as vertical retailing, whereby a diverse array of national department stores (e.g. JC Penney and Sears), discount chains (e.g. Wal-Mart and Kmart), and specialty retailers (e.g. Gap; The Limited Inc.; and Benetton) have taken on manufacturing responsibilities to produce private-label or store-brand lines. Today, retailers' overseas offices go well beyond their original buying functions, and they are actively engaged in product design, fabric selection and procurement, and monitoring contracted sewing as well as other production functions handled by offshore manufacturers.[14] Private-label goods, which are estimated to cover 15-25 per cent of the United States' apparel market during the 1990s, can disrupt the business of both manufacturers and well-known designer lines. [15]

**Branded marketers are adapting**

A notable feature of buyer-driven chains has been the creation since the mid--1970s of prominent marketers with well-known brands but which carry out no production. They include companies like Liz Claiborne, Nike and Reebok, which were "born global" since their sourcing has always been overseas. As pioneers in global sourcing, branded marketers were instrumental in providing overseas suppliers with knowledge that subsequently allowed them to upgrade their position in the apparel chain.

In order to deal with this competition, branded marketers have adopted several new strategies which will alter the content and scope of their global sourcing networks: reassigning certain support functions (such as pattern grading, marker making and sample making) to contractors; reducing their purchase and redistribution activities, by handing them over to contractors, as well as their supply chains; using fewer but more capable manufacturers; adopting more stringent vendor certification systems to improve performance; and shifting their sourcing from Asia to the western hemisphere. In essence, marketers have recognized that overseas contractors

[10] Onozuka (2001).
[11] Rabon (2001), p. 55.
[12] AAMA (1984).
[13] Jones (1995), pp. 25-26; Scheffer (1994), pp. 11-12.
[14] Dickerson (1999), pp. 464-466; Speer (2001).
[15] Dickerson (1995), p. 460; Abend (2000), p. 36.

can manage the whole production process, restricting their competitive edge to design and brands.

**Branded manufacturers are learning to adjust**

With foreign producers providing similar quantity, quality and service as domestic producers, but at lower prices, apparel manufacturers in developed countries have been caught in a squeeze. They are responding in different ways. In the United States and Europe, an "if you can't beat them, join them" attitude has evolved among many smaller and middle-sized firms. They feel they cannot compete with the low cost of foreign goods and are defecting to the ranks of importers.

For many larger manufacturers the decision is no longer whether to engage in foreign production, but how to organize and manage it. These firms supply intermediate inputs (cut fabric, thread, buttons and other trim) to extensive networks of offshore suppliers, typically located in neighbouring low-cost countries with reciprocal trade agreements that allow goods assembled offshore to be re-imported with a tariff charged only on the value added by foreign labour. This international subcontracting system exists worldwide. In the United States it is called the 807/9802 programme or "production sharing", with sourcing networks predominantly located in Mexico, Central America and the Caribbean.[16] In Europe it is known as outward-processing trade (OPT), and the principal suppliers are in North Africa and Eastern Europe; and in Asia, manufacturers from relatively high-wage economies like Hong Kong SAR have outward processing arrangements (OPAs) with China and other low-wage countries.[17] [18]

A significant countertrend is emerging among established apparel manufacturers, however. They are reducing their production activities and building up the marketing side of their operations by capitalizing on both brand names and retail outlets. Sara Lee Corporation, one of the largest apparel producers in the United States–whose stable of famous brand names includes L'eggs hosiery, Hanes, Playtex, Wonderbras, Bali and Coach leather products–has "de-verticalized" its consumer-products divisions, a fundamental reshaping that moved it out of making the brand-name goods it sells.[19] Other well-known manufacturers such Phillips-Van Heusen and Levi Strauss & Co are also building global brands, frequently through acquisitions of related product lines, while many of their production facilities are being closed or sold to offshore contractors.

## Global sourcing in apparel

**The Asian connection**

The world textile and apparel industry has undergone several production migrations since the 1950s, all involving Asia. The first was from North America and Western Europe to Japan in the 1950s and early 1960s, when western textile and clothing production was displaced by a sharp rise in imports from Japan. The second shift was from Japan to Hong Kong, Taiwan Province of China and the Republic of Korea, which dominated global textile

[16] USITC (1997).
[17] OETH (1995).
[18] Birnbaum (1993).
[19] Miller (1997).

and clothing exports in the 1970s and early 1980s. In the late 1980s and the 1990s there was a third migration, from the Asian "Big Three" (Hong Kong SAR, Taiwan Province of China and the Republic of Korea) to other developing economies. In the 1980s, production moved principally to mainland China, but also to several Southeast Asian countries (Indonesia, Thailand, Malaysia and the Philippines) and Sri Lanka. In the 1990s, new suppliers included South Asian and Latin American apparel exporters.[20]

This most recent shift is seen in sharp relief in Table 1, which looks at apparel imports in the United States, the world's largest market, from 1983 to 2001. In 1983, the Asian Big Three, plus China, were responsible for two-thirds; by 2001 this share had dropped to 27 per cent. The table highlights two main trends: first, a shift within Asia with the Big Three's share being reduced, first by China, then by Southeast Asia and South Asia; and second, a growth in non-Asian imports, particularly from Central America and the Caribbean, which nearly doubled its contribution from 8 per cent in 1990 to 15 per cent in 2001, and, most notably, Mexico, which multiplied its share nearly fivefold from 3 per cent to 15 per cent. Why did these shifts occur? Neoclassical economics has the simplest explanation, which is that the most labour-intensive segments of the apparel value chain will be based in countries with the lowest wages. This view is supported by the sequential relocation of textile and apparel production from the United States and Western Europe to Japan, the Asian Big Three and China, when each new tier of entrants had significantly lower wage rates than its predecessor. The cheap-labour argument does not hold up as well, however, in the case of new Asian and Caribbean suppliers, whose market share expanded even though their wage rates are often considerably higher than China's. Furthermore, although the share of imports represented by Hong Kong SAR, the Republic of Korea and Taiwan Province of China declined in the 1990s**,** these NIEs still ranked among Asia's top apparel exporters to the United States in 2001, despite having the highest apparel labour costs in the region, excluding Japan.[21]

[20] Khanna (1993); Gereffi (1998).
[21] ILO (1995), pp. 35-36.

**Table 1 Trends in United States' apparel imports by region and country, 1983-2001**

| *Region / country source* | *1983* | *1986* | *1990* | *1994* | *1998* | *2001* | *1990-1994* | *1994-2001* |
|---|---|---|---|---|---|---|---|---|
| | *US$ millions* | | | | | | *% change* | |
| Northeast Asia | | | | | | | | |
| Hong Kong SAR of China | 2,249 | 3,392 | 3,977 | 4,393 | 4,494 | 4,282 | 10.5 | -2.5 |
| Republic of Korea | 1,685 | 2,581 | 3,342 | 2,245 | 2,047 | 2,355 | -32.8 | 4.9 |
| Taiwan Province of China | 1,800 | 2,621 | 2,489 | 2,269 | 2,224 | 1,907 | -8.8 | -16.0 |
| Macao SAR of China | 132 | 229 | 417 | 605 | 1,019 | 1,126 | 44.9 | 86.3 |
| Total | 5,866 | 8,822 | 10,224 | 9,512 | 9,783 | 9,670 | -7.0 | 1.7 |
| Share of total (%) | 68 | 60 | 54 | 43 | 31 | 29 | | |
| China | 759 | 1,661 | 3,439 | 6,338 | 7,180 | 8,853 | 84.3 | 39.7 |
| Share of total (%) | 8 | 10 | 13 | 17 | 13 | 14 | | |
| Southeast Asia | | | | | | | | |
| Indonesia | 75 | 269 | 645 | 1,182 | 1,857 | 2,344 | 83.3 | 98.3 |
| Thailand | 125 | 213 | 483 | 1,006 | 1,733 | 2,151 | 108.2 | 113.8 |
| Philippines | 319 | 473 | 1,083 | 1,457 | 1,797 | 1,919 | 34.6 | 31.7 |
| Malaysia | 93 | 257 | 604 | 1,051 | 1,360 | 1,256 | 74.0 | 19.5 |
| Singapore | 193 | 386 | 621 | 472 | 307 | 299 | -23.9 | -36.7 |
| Total | 806 | 1,598 | 3,436 | 5,168 | 7,054 | 7,968 | 50.4 | 54.2 |
| Share of total (%) | 8 | 9 | 13 | 14 | 13 | 12 | | |
| South Asia | | | | | | | | |
| Bangladesh | 7 | 154 | 422 | 885 | 1,628 | 2,101 | 109.9 | 137.5 |
| India | 220 | 344 | 636 | 1,309 | 1,636 | 1,927 | 105.9 | 47.2 |
| Sri Lanka | 126 | 257 | 426 | 871 | 1,342 | 1,534 | 104.2 | 76.2 |
| Pakistan | 32 | 92 | 232 | 508 | 771 | 1,017 | 118.9 | 100.1 |
| Total | 385 | 847 | 1,716 | 3,573 | 5,377 | 6,580 | 108.2 | 84.2 |
| Share of total (%) | 4 | 5 | 7 | 10 | 10 | 10 | | |
| Central America and the Caribbean | | | | | | | | |
| Honduras | 20 | 32 | 113 | 650 | 1,905 | 2,438 | 476.9 | 275.2 |
| Dominican Republic | 139 | 287 | 723 | 1,600 | 2,358 | 2,286 | 121.2 | 42.9 |
| El Salvador | 7 | 11 | 54 | 398 | 1,170 | 1,634 | 635.1 | 310.9 |
| Guatemala | 4 | 20 | 192 | 600 | 1,150 | 1,634 | 212.1 | 172.2 |
| Costa Rica | 64 | 142 | 384 | 686 | 827 | 774 | 78.7 | 13.0 |
| Jamaica | 13 | 99 | 235 | 454 | 422 | 188 | 93.4 | -58.6 |
| Other | 142 | 207 | 284 | 151 | 516 | 648 | -46.9 | 329.0 |
| Total | 389 | 797 | 1,985 | 4,538 | 8,349 | 9,602 | 128.6 | 111.6 |
| Share of total (%) | 4 | 5 | 8 | 12 | 15 | 15 | | |
| Mexico | 199 | 331 | 709 | 1,889 | 6,812 | 8,128 | 166.3 | 330.3 |
| Share of total (%) | 2 | 2 | 3 | 5 | 13 | 13 | | |
| All other countries | 1,328 | 3,283 | 4,009 | 5,859 | 9,318 | 12,989 | 46.2 | 121.7 |
| Share of total (%) | 14 | 19 | 16 | 16 | 17 | 20 | | |
| Total apparel [a] | 9,731 | 17,341 | 25,518 | 36,878 | 53,874 | 63,789 | 44.5 | 73.0 |

*Source*: Compiled from official statistics of the US Department of Commerce, International Trade Administration, Office of Textiles and Apparel. US imports for consumption, customs value; [a] Percentages may not sum to 100 due to rounding.

The perspective of comparative advantage, which argues that government policies will play a major role in shaping the location of apparel export activities, helps to explain these discrepancies. A critical factor in the sharp decline of Taiwan Province of China's and the Republic of Korea's apparel exports in the late 1980s was not only their rising wage rates, but the sharp appreciation of their currencies vis-à-vis the dollar after the Plaza Agreement was signed in 1985. Between 1985 and 1987, the Japanese yen was revalued by nearly 40 per cent and the New Taiwan dollar by 28 per cent; from 1986 to 1988 the Korean won appreciated by 17 per cent.

**The effect of quotas**

What really shape United States' apparel imports, however, are quotas and preferential tariffs. Quotas on apparel and textiles items were regulated by the Multi-Fiber Arrangement (MFA) of the early 1970s, and since 1995 by the WTO Agreement on Textiles and Clothing (ATC) (see Box 2). It has been used by the United States, Canada and some European countries to impose quantitative limits on imports in a wide variety of products. Although these were designed to protect firms in developed countries from a flood of low-cost imports that threatened to disrupt major domestic industries, the result was the opposite: protectionism increased the competitive capabilities of developing countries' manufacturers, who learned to make more sophisticated and therefore more profitable products. Protectionism also increased the competition from overseas suppliers to the United States and Europe, as an ever-widening circle of exporters was needed to meet booming North American and European demand. The creation of the EU and the North American Free Trade Agreement (NAFTA) has led to the imposition of preferential tariffs within regional markets, which has generated a major shift in global sourcing dynamics.

The ability of the East Asian NIEs to sustain their export success over several decades and to develop a multilayered sourcing hierarchy within Asia is only partially related to wage rates and national policies. From a value chain perspective, East Asia must be seen as part of an interrelated regional economy.[22] The apparel export boom in the less developed southern tier of Asia has been driven to a significant extent by the industrial restructuring of the northern-tier East Asian NIEs. As Northeast Asian firms began moving their production offshore, they found ways to coordinate and control their sourcing networks, ultimately focusing on the more profitable design and marketing areas to sustain their competitive edge. This transformation can be conceptualized as a process of industrial upgrading, based in large measure on building economic and social networks between buyers and sellers.

[22] Gereffi (1998).

**Box 2 WTO Agreement on Textiles and Clothing**

The completion of the Uruguay Round of negotiations resulted in an agreement to integrate trade in textiles and clothing into the GATT/WTO. In 1995, the Multi Fibre Agreement (MFA) was replaced by the WTO Agreement on Textiles and Clothing (ATC). The ATC is based on a 10-year transitional programme for the removal of all quotas by 1 January 2005. Liberalization is to proceed along two paths. One concerns integrating textile and clothing trade into the WTO framework and the other is related to the application of accelerating growth factors for MFA quotas. The ATC is binding only for WTO Members and is subject to the same set of rules and a single system of resolving disputes, which is applicable to all WTO Agreements.

The Agreement requires a gradual phase out of the quota restrictions carried over from the MFA regime. Products covered by the Agreement are to be integrated in three stages. The Agreement states the percentage of products that must be brought under GATT rules at each step. If any of these products come under quotas, then the quotas must be removed at the same time. In these three stages the quota growth rates increase progressively from their base levels by increasing annual growth rates at each stage (Article 2.1). The former MFA growth rates will increase by 16, 25 and 27 percent respectively from their levels and will apply annually as described below. The percentages are applied to the importing country's textiles and clothing trade levels in 1990. Products brought under GATT rules at each of the first three stages must cover the four main types of textiles and clothing: tops and yarns; fabrics; made-up textile products; and clothing.

**Percentage of products to be brought under ATC (including removal of any quotas):**

| | |
|---|---|
| **In 1994, under MFA** | Growth rate was 6 per cent. |
| **Step 1**<br>**1 Jan 1995 to 31 Dec 1997** | 16 per cent of the total volume of each member's 1990 imports of textile and clothing products (minimum, taking 1990 imports as base) is freed from quota restrictions and integrated into WTO trade regime;<br>6.96 per cent per year [6 + (0.16 X 6)] |
| **Step 2**<br>**1 Jan 1998 to 31 Dec 2001** | Further 17 per cent of products was integrated in the WTO regime; 8.7 per cent per year [6.96 + (0.25 X 6.96)] |
| **Step 3**<br>**1 Jan 2002 to 31 Dec 2004** | Additional 18 per cent to be integrated; 11.05 per cent per year [8.7 + (0.27 X 8.7)] |
| **Step 4**<br>**1 Jan 2005** | Full integration into WTO ATC (and final elimination of quotas) terminates the remaining 49 per cent (maximum) |

*Sources*: See more in O. Memedovic et al (1999), pp. 255-258; 280-285; 279-307; and in WTO, "Trading into the Future: The Introduction to the WTO", www.wto.org.

**Industrial upgrading in East Asia**

The East Asian NIEs are generally taken as the archetype for industrial upgrading in developing countries. They made a rapid transition from the initial assembly phase of export growth (typically utilizing EPZs located near major ports) to a more generalized system of incentives that applied to all export-oriented factories in their economies. The next stage for Taiwan Province of China, the Republic of Korea, Hong Kong SAR and Singapore was OEM production. East Asian firms soon became full-range package suppliers for foreign buyers, and developed an innovative entrepreneurial capability that involved the coordination of complex production, trade and financial networks.[23]

The OEM export role has many advantages. It helps local entrepreneurs to learn foreign buyers' preferences, including international standards for price, quality and delivery. It also generates substantial backward linkages in the domestic economy, as OEM contractors are expected to develop reliable sources of supply. Moreover, OEM production expertise increases over time and spreads across different activities. Suppliers learn about the downstream and upstream segments of the apparel value chain from the buyer and this can become a powerful competitive weapon.

**The move to OBM production**

Countries such as the East Asian NIEs thus retain an enduring competitive edge in export-oriented development. However, East Asian producers face intense competition from lower-cost exporters in other parts of the third world, and the price of their exports to western countries has been increased by sharp currency appreciations since the Plaza Agreement. They therefore need to establish forward linkages to developed-country markets, where the biggest profits are made in buyer-driven value chains. Some firms in the East Asian NIEs are pushing beyond OEM to the OBM role by integrating their manufacturing expertise with the design and sale of their own branded goods.

The Republic of Korea is the most advanced of the East Asian NIEs in OBM production, with its own brands, including automobiles (Hyundai), electronic products (Samsung) and household appliances (Samsung and Goldstar) being sold in North America, Europe and Japan. Taiwanese companies have pursued OBM in computers, bicycles, sporting equipment and shoes, but not apparel. In Hong Kong SAR, clothing companies have been the most successful in making the shift from OEM to OBM. Well-known local retailers include the women's clothing chain Episode, which is controlled by Hong Kong SAR's Fang Brothers Group, one of the foremost OEM suppliers for Liz Claiborne since the 1970s, Giordano, Hong Kong's most famous clothing brand, and Hang Ten, a less expensive line that in the late 1990s was the largest foreign-clothing franchise in Taiwan Province of China.[24]

An important mechanism facilitating the move to higher-value-added activities for mature export industries like apparel in East Asia is triangle manufacturing.[25] The essence of triangle manufacturing, which was initiated by the East Asian NIEs in the 1970s and 1980s, is that United States' (or other overseas) buyers place their orders with the NIE manufacturers they have previously sourced from, who in turn shift some or all of the requested production to affiliated offshore factories in low-wage countries (e.g. China,

[23] Gereffi (1995).
[24] Granitsas (1998).
[25] Gereffi (1999).

Indonesia or Guatemala). These factories can be wholly owned subsidiaries of the NIE manufacturers, joint-venture partners or simply independent overseas contractors. The triangle is completed when the finished goods are shipped directly to the overseas buyer under the United States' or European import quotas issued to the exporting country. Triangle manufacturing thus changes the status of NIE manufacturers from being established suppliers for United States' retailers and designers to being middlemen in buyer-driven value chains that can include as many as 50-60 exporting countries.

**The internationalization of East Asian production networks**

In each of the East Asian NIEs, a combination of domestic supply-side constraints (labour shortages, high wages and land prices) and external pressures (currency revaluation, tariffs and quotas) led to the internationalization of the textile and apparel network by the late 1980s and early 1990s. Typically, the internationalization of production was sparked by quotas, but the process was accelerated as supply-side factors became unfavourable. Quotas determined *when* the outward shift of production began, while preferential access to overseas markets and social networks determined *where* firms went. In this division of labour, skill-intensive activities, which provided relatively high gross margins, such as product design, sample making, quality control, packing, warehousing, transport, quota transactions and local financing in the apparel industry, stayed in East Asia and labour-intensive activities were relocated.

In Hong Kong SAR internationalization was triggered by textile import restrictions imposed by the United Kingdom in 1964, which led manufacturers to shift production to Singapore, Taiwan Province of China and Macao Special Administrative Region (SAR) of China, where the Chinese population had cultural and linguistic affinities with Hong Kong SAR investors. Macao SAR also benefited from its proximity to Hong Kong SAR, and Singapore qualified for Commonwealth preferences for imports into the United Kingdom. In the early 1970s, Hong Kong apparel firms targeted Malaysia, the Philippines and Mauritius. This second round of outward investment again was prompted by quota restrictions, coupled with specific host-country inducements. For example, Mauritius established an export-processing zone in an effort to lure in Hong Kong SAR investors, particularly knitwear manufacturers who directed their exports to European markets that offered preferential access in terms of low tariffs.

The greatest spur to the internationalization of Hong Kong's textile and apparel companies was the opening up of the Chinese economy in 1978. At first, production was subcontracted to state-owned factories, but eventually an elaborate outward-processing arrangement was set up that relied on an assortment of manufacturing, financial and commercial joint ventures. The relocation of industry to the Chinese mainland led to the dismantling and relocation of Hong Kong's manufacturing sector during the late 1980s and early 1990s. In 1991, 47,000 factories employed 680,000 workers, 25 per cent less than the peak of 907,000 recorded in 1980.[26] The decline was particularly severe in textiles and apparel. Employment in the textile industry fell from 67,000 in 1984 to 36,000 in 1994, a drop of 46 per cent. Meanwhile, clothing jobs plummeted by 54 per cent in a single decade, from 300,000 in 1984 to 137,000 in 1994.[27] In 1995, Hong Kong entrepreneurs operated more than 20,000 factories employing an estimated 4.5-5 million

[26] Khanna (1993), p. 19.
[27] De Coster (1996a), p. 65.

workers in the Pearl River Delta alone in the neighbouring Chinese province of Guangdong.[28] Considering that total employment in Hong Kong industry had shrunk to 386,000 in 1995, or just over 15 per cent of the workforce, Hong Kong manufacturers in effect increased their domestic labour force well over 10-fold through their outward processing arrangement with China.[29]

This extreme reliance of Hong Kong SAR apparel manufacturers on low-cost Chinese labour could make them vulnerable.[30] First, although Guangdong province has low wages and an abundant workforce, both wages and land costs have risen rapidly. As costs in Guangdong go up, Hong Kong SAR manufacturers who wish to retain a Chinese-based production system will have to move their facilities further into China, where they will once again encounter bad roads, inadequate water and power systems, and lack of a commercial infrastructure. Second, as production moves inland, it will be increasingly difficult to attract enough Hong Kong SAR managers. Rather than trying to replicate the Pearl River Delta pattern on a large scale further inland, it might be better to try to upgrade operations at the Guangdong plants. Third, new low-cost apparel-exporting Asian countries are emerging—India, Indonesia, Myanmar, Sri Lanka, Viet Nam and others—while Mexico and the Caribbean Basin countries loom as cheap production sites closer to the United States' market. Hong Kong SAR has no special advantages in many of these places, which suggests that it should avoid being locked into low-wage offshore manufacturing networks and instead take fuller advantage of the global trend towards service-enhanced manufacturing, where it retains a strong competitive edge.

**Quota restrictions led to internationalization**

The internationalization of Korean and Taiwanese apparel producers also began as a response to quota restrictions. Korean garment firms lacking sufficient export quotas set up offshore production in quota-free locations like Saipan, a United States' territory in the Mariana Islands. More recent waves of internationalization were the result of rising wages and worker shortages at home. Latin America and Southeast and South Asia have attracted the largest numbers of Korean companies. The Caribbean Basin (the Dominican Republic, Guatemala, Honduras, etc) is attractive because of its proximity to the United States and easy quota access, while the pull of Asian countries such as Indonesia, Sri Lanka, and Bangladesh is their wage rates, which are among the lowest in the world.

When Taiwanese firms moved offshore in the early 1980s, they also confronted binding quotas. Although wages in the late 1970s and early 1980s were still relatively low, quota rents were high. Firms had to buy quotas (whose value in secondary markets fluctuated widely) in order to expand their exports, thereby causing a fall in profitability for firms without sufficient quota.[31] This led to a growing emphasis on non-quota markets by textile and apparel exporters. Quota markets (the United States, the European Community and Canada) accounted for over 50 per cent of Taiwan Province of China's textile and apparel exports in the mid-1980s, but this declined to 43 per cent in 1988 and to 35 per cent in 1991. By 2000, Taiwan Province of China's textile and apparel exports to the United States, Europe and Canada

[28] De Coster (1996b), p. 96.
[29] Berger and Lester (1997), p. 9.
[30] Berger and Lester (1997), pp. 158-162.
[31] Appelbaum and Gereffi (1994).

remained at about one-third of the total of US$13.8 billion. However, China and Hong Kong SAR alone accounted for 53 per cent of textile exports of US$10.4 billion, and several Southeast Asian nations (Thailand, the Philippines, Indonesia, and Malaysia) received another 12.8 per cent, while the United States had 68 per cent of Taiwan Province of China's US$3.4 billion in apparel exports.[32] The fact that textiles represented three-quarters of Taiwan Province of China's total textile and apparel trade, and that most of these textile exports were going to low-wage countries in Asia, reinforces the importance of triangular manufacturing in the region, with Taiwan Province of China providing a growing proportion of textile inputs for many of Asia's leading apparel exporters.

The Asian financial crisis of 1997/1998 did not have a major effect on the region's textile and apparel exports because the latter were concentrated in industries that relied heavily on labour-intensive technologies, with relatively little reliance on costly foreign inputs or high levels of external debt. Most of the region's apparel exports are financed by letters of credit from United States' and European buyers, rather than local financial resources. In some respects, textile and apparel exports in Asia may have received a short-term boost from the region's financial crisis because these exports generated vital sources of foreign exchange, leading textile and apparel firms to expand overseas sales while more capital- and technology-intensive export industries were struggling to regain their financial stability.

## Apparel sourcing in North America

**The Asian experience has implications for North America**

The analysis of the apparel value chain in Asia suggests two main hypotheses for the future of the textile and apparel sector in North America. First, the relative decline of finished exports from the East Asian NIEs is producing a supply gap in the North American apparel value chain. This is partly due to the greater geographical distances and logistical complexity involved in managing Asia's triangle manufacturing networks, as well as the tendency towards more direct marketing in Asia as local manufacturers shift from OEM to OBM. In addition, since Asian supply to the United States has primarily been directed to filling the OEM orders of retailers and branded marketers, apparel manufacturers in North America will need to develop the capability to carry out full-package supply. Previously this has only been done by the East Asia NIEs for the United States' mass market, or by the fashion centres of Europe for high couture.

Between 1990 and 2000, United States' apparel imports rose from US$25.0 billion to US$64.4 billion. Figure 2 helps to identify trade shifts among the main suppliers. Those countries in the innermost circle each account for 10 per cent or more of the total value of clothing imports in 2000, while each of those in the outer ring makes up only 1.0-1.9 per cent of total imports. In other words, the relative importance of national apparel exporters decreases between the inner rings and the outer ones.

[32] These statistics are derived from World Trade Analyzer, a database developed by Statistics Canada using UN trade statistics.

Several key aspects of the direction and magnitude of change in the United States' apparel trade are revealed in Figure 2. First, there are striking regional differences in the pattern of imports. The NIEs in Northeast Asia are becoming less important, South and Southeast Asia are growing slowly or not at all, and imports from China, Mexico and to a lesser degree the Caribbean Basin are booming. Second, despite considerable mobility during the 1990s, there is a strong core–periphery pattern that dominates the geography of export activity. Only four economies (Hong Kong SAR, the Republic of Korea, China and Mexico) were core suppliers in the past decade, and only China and Mexico held that distinction in 2000. There are 20 suppliers in the outer two rings (indicating 1-4 per cent shares of the market), none in the middle ring and just three countries in the inner two rings (6 per cent or more of United States' apparel imports). Third, for most countries the degree of change from 1990 to 2000 was relatively modest (changing their position by one ring or not at all) but Mexico improved its position substantially, moving from outside the circle (less than 1 per cent of US apparel imports) in 1990 to the core (over 10 per cent) in a decade. Nonetheless, inward shifts of even one ring may be significant for smaller economies, given the substantial overall growth of United States' apparel imports in the 1990s.

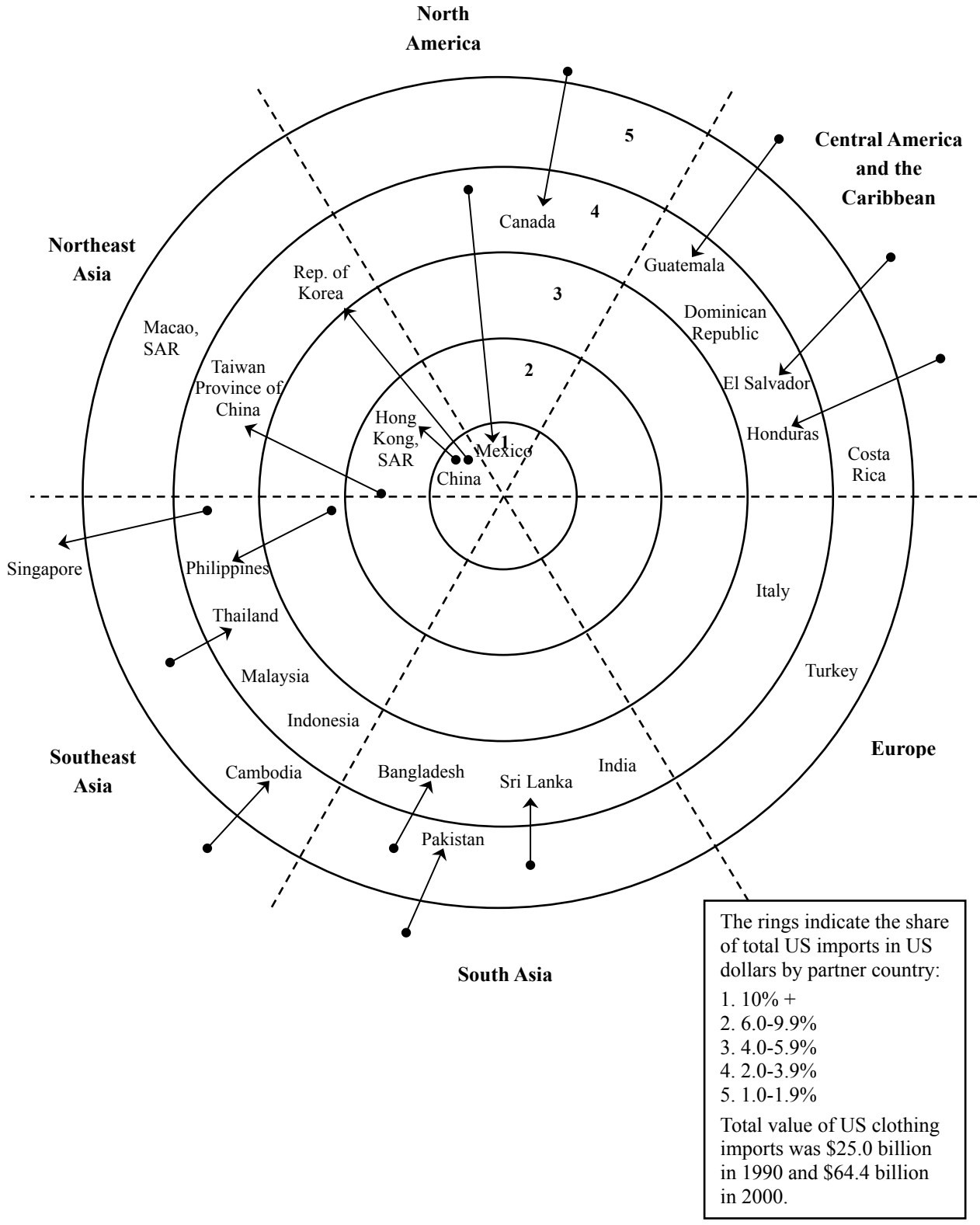
However, two important features of United States' apparel sourcing are not revealed. First, there are two contending production systems: export-processing assembly (production sharing) and full-package supply (OEM production). The countries that have penetrated the United States' market most deeply either have been experts at OEM supply (Hong Kong SAR, Taiwan Province of China and the Republic of Korea) or they are trying to develop full-package capabilities (China and Mexico). The other countries shown in the figure carry out simple assembly only. Second, different kinds of networks are involved and these networks link the countries in the figure in different ways. Triangle manufacturing in East Asia has already been discussed, but the networks relevant to the North American sourcing mix still need to be considered.

**Production sharing in Mexico and the Caribbean Basin**

If the complete apparel value chain is seen as including raw materials, natural and synthetic fibres, textiles, apparel and the distribution of apparel to retailers, the Mexican and United States' value chains are quite distinct. Mexico has several large, reasonably successful synthetic-fibre companies, a multitude of export-oriented assembly firms that send products to the United States using United States' inputs and an emergent retail sector that is fashioning a number of strategic alliances with its larger counterpart. The weakest link in the Mexican production chain has been textiles. Most of its textile companies are undercapitalized, technologically backward and inefficient, and produce poor-quality goods. By contrast, the United States is strong in synthetic fibres, textiles and retailing, but its garment production capability is limited, especially for women's and children's clothing. The Mexican chain thus appears to be strongest where the United States' chain is weak: garment production.[33]

[33] Empirical support for this argument is provided in OTA (1992, Chapter 9) and Gereffi (1997).

**Figure 2 Shifts in the regional structure of United States' apparel imports, 1990-2000[a]**




*Source*: Compiled from official statistics of the US Department of Commerce, US imports for consumption, customs value.

*Notes:* [a] The 2000 position corresponds to the ring where the country's name is located; the 1990 position, if different, is indicated by a small circle. The arrows represent the magnitude and direction of change over time.

The picture is more complex if North America is expanded to include Central America and the Caribbean. Production sharing in Latin America is centred on Mexico and the Caribbean Basin because of the region's low wages and proximity to the United States' market, where over 90 per cent of its exports go. Virtually all the production is low value-added, which is a direct result of United States' policy. Under the tariff schedule provision HTS 9802.00.80 (formerly clause 807), companies engaged in production sharing have an incentive to minimize locally purchased inputs as only components made in the United States are exempt from import duties when the finished product is shipped back there. This is a major impediment to increasing integration between export activity and the local economy, and it limits the usefulness of production sharing as a stepping-stone to higher stages of industrialization.

**Mexico and the Caribbean countries are in competition**

From a regional perspective, Mexico competes most directly with the Caribbean Basin Initiative (CBI) countries for the United States' market. By the early 1990s, EPZs had become a leading source of exports and manufacturing employment in a number of Caribbean countries, of which the Dominican Republic is a prime example. In the mid-1990s, there were 430 companies employing 164,000 workers in 30 free-trade zones; three-quarters of the firms were involved in textiles and apparel.[34] By 2000, apparel exports were still a primary source of employment for many countries in the Caribbean Basin, with 145,000 apparel employees in the Dominican Republic, 110,000 in Honduras, 77,000 in Guatemala, 60,000 in El Salvador, nearly 40,000 in Costa Rica and 20,000 in Nicaragua. Although Mexico had almost 560,000 apparel workers, they tended to be in much smaller plants than the large export factories established in Central America and the Caribbean.[35]

The rivalry among neighbouring EPZs to offer transnational companies the lowest wages fosters a perverse strategy of competitive devaluation, whereby currency depreciations are viewed as a means to increase international competitiveness.[36] Export growth in the Dominican Republic's EPZs skyrocketed after a sharp depreciation of its currency against the dollar in 1985; similarly, Mexico's export expansion was facilitated by recurrent devaluations of the Mexican peso, most notably in 1994-1995. Devaluations heightened already substantial wage differences in the region. Hourly compensation rates for apparel workers in the early 1990s were US$1.08 in Mexico, US$0.88 in Costa Rica, US$0.64 in the Dominican Republic and US$0.48 in Honduras, compared with US$8.13 in the United States.[37] Although devaluations may attract users of unskilled labour to production sites, the advantages evaporate when other countries simultaneously engage in wage-depressing devaluations, which lower local standards of living while doing nothing to improve productivity.

**Three models of competition in the North American apparel industry**

Three models of competition stand out when examining the North American apparel sector and its prospects for change: the East Asian, the Mexican and the Caribbean Basin. It would be misleading, however, to think of these as inherently national or regional patterns. Rather, the success and limitations of East Asian, Mexican and Caribbean Basin apparel producers are determined by two factors: their location (not nationality) and the transnational networks

[34] Burns (1995), p. 39.
[35] Bair and Gereffi (2002), p. 33; see also Mortimore (2002), Mathews (2002).
[36] Kaplinsky (1993).
[37] ILO (1995), pp. 35-36.

of which they are part. Ultimately, to be successful in the global economy requires an understanding of how to use organizational networks to penetrate international markets. The three models of competition identified here use networks and markets quite differently.

**The East Asian model**

The East Asian model is based on highly successful textile and apparel exporters from Hong Kong SAR, Taiwan Province of China and the Republic of Korea, which have moved through a sequence of roles from assembly to OEM to OBM. The East Asian NIEs developed and refined their OEM capabilities in the 1960s and 1970s by establishing close ties with United States' retailers and marketers, and then learning by watching in order to build their export competence.[38] The performance trust built up through successful business transactions with United States' buyers enabled suppliers in East Asian NIEs to use their OEM expertise internationally via triangle manufacturing, that is, the East Asian manufacturers became intermediaries between United States' buyers and apparel factories in Asia and other developing regions in order to take advantage of lower labour costs and favourable quotas. The creation of these global sourcing networks helped East Asian NIEs to sustain their international competitiveness when domestic economic conditions and quota constraints threatened the original, bilateral OEM relationships. The East Asian NIEs have gone beyond OEM by shifting to higher-value upstream products (e.g. exports of textiles and fibres rather than apparel), moving downstream from OEM to OBM in apparel and switching to new value chains where the export success in apparel can be replicated.

When the phase-out of MFA tariffs is implemented in 2005, in accordance with the WTO Agreement on Textiles and Clothing, a considerable consolidation of apparel exports from the largest low-wage suppliers can be expected. China (including Hong Kong SAR) is likely to become even more dominant as the world's export leader after 2005, with Indonesia, Viet Nam, India, Mexico and Turkey moving into the second tier at the global level, although Mexico and Turkey are primarily regional suppliers for the United States' and EU markets, respectively. Republic of Korea and Taiwan Province of China will continue to exploit their niche as suppliers of textile inputs to the major Asian apparel exporters, and they are likely to retain smaller but still significant exports of relatively high-value apparel items in which quality, product development, timely delivery and related services are at a premium.

**The Mexican model**

The emerging Mexican model involves a transition from assembly to OEM (or full-package) production. The key factor here has been NAFTA. The passage of NAFTA in 1994 began to remove the trade restrictions that had locked Mexico into an assembly role. The *maquiladora* system required suppliers in Mexico to use United States' inputs in order to gain duty-free access to the United States' market. The progressive 10-year phase-in period for NAFTA shows, step by step, how more and more of the apparel supply chain (such as cutting, washing and textile production) is relocating to Mexico as specific tariff restrictions on each of these stages is eliminated. The East Asian NIEs did not employ the production-sharing provisions established by the 807/9802 United States' trade regime because the distances involved made United States' textile inputs impractical. In addition, United States' textile mills had neither the production capability nor the

[38] Gereffi (1997).

desire because of their mass-production orientation to supply the wide range of fabrics required for women's clothing and fashion-oriented apparel, which became the specialty of East Asian exporters. This created an OEM niche that East Asian apparel companies were quick to exploit.

However, NAFTA alone does not guarantee Mexico's success. While the massive peso devaluations of 1994-1995 made it attractive to United States' apparel manufacturers with international subcontracting operations, Mexico has traditionally lacked the necessary infrastructure for full-package production of garments. From a value-chain perspective, the solution to how to complete the transition to full-package supply and develop new production and marketing niches is to forge linkages to lead firms that can supply the needed resources and tutelage. In other words, Mexico needs to develop new and better networks in order to compete with East Asian suppliers for the United States full-package market.

United States' firms have shown a strong interest in transferring missing pieces of the North American apparel supply chain to Mexico, but there is still a problem with who controls critical nodes of the chain and how to manage the dependency relationships this implies. Thus far, United States' firms are in control of the design and marketing segments, while Mexican companies are in a good position to maintain and coordinate the production networks. However, textile manufacturers in the United States, and to a lesser degree in Mexico, are making strong bids to integrate a broad package of apparel services that would increase their leverage vis-à-vis smaller garment contractors. For the foreseeable future, Mexico is likely to retain a mix of assembly plants linked to United States' branded manufacturers and a new set of full-package producers linked to private-label retailers and marketers. As more of the critical apparel inputs become available in Mexico, United States' inputs will decline and traditional Mexican assembly plants will be replaced by vertically integrated manufacturers or by clusters of related firms that compete through localized networks, such as the jeans producers in Torreón.[39]

**The Caribbean Basin model**

The Caribbean Basin model is almost exclusively limited to EPZ assembly using the 807/9802-trade regime. The CBI countries did not receive NAFTA parity until October 2000 and therefore they encountered quota restrictions, higher tariffs and more limited possibilities for vertical integration than Mexico. Nonetheless, they have had considerable success with export assembly. They are expanding their position in the United States' market, primarily through large assembly plants linked to the production-sharing operations of United States' transnationals.[40] However, CBI exporters are losing ground to Mexican firms that can export similar goods to the United States more cheaply and quickly. They need to develop new networks with United States' retailers and marketers if they are to acquire the skills and resources needed to move into the more diversified activities associated with full-package production.

Sustained competitiveness in the international apparel industry involves continual changes in economic roles and capabilities. New exporters constantly enter the global supply chain, which is pushing existing firms to cut costs, upgrade or exit the market. There is a need to run faster to stay in

[39] Bair and Gereffi (2001).
[40] Gereffi (2000), Table 7.3; Mortimore (2002).

the same place. To facilitate both adjustment and survival in a volatile, export-oriented sector such as apparel, industrial upgrading typically requires organizational linkages to buyers and suppliers in developed countries' markets. Mexico is using networks with United States' firms to try to occupy niches that have been the stronghold of East Asian suppliers, and the CBI countries are trying to keep up with Mexico. If Mexico is to take over the North American apparel market it must learn from United States' lead firms in the chain, and also seize control of those opportunities that would allow it to expand its domestic and regional capabilities and options**.**

## European and Japanese variations in apparel sourcing networks

**In Europe OPT reduces labour costs**

Outward-processing trade (OPT) in the European clothing sector is the practice where companies export fabrics, or parts of garments, to be further processed in a third country and then re-import them as finished garments in an EU country. If foreign production or sourcing does not involve the temporary export of fabrics, then importation occurs under a regime of direct imports. OPT is analogous to the United States' production-sharing system and similar outward-processing arrangements that cover Hong Kong SAR trade in apparel with mainland China. OPT, which has been regulated within the EU since 1982, is recognized as accelerating the process of delocalization, or the shift of apparel production to low-wage countries. However, this is discouraged by trade policies. If non-EU fabrics are used in OPT, a 14 per cent tariff is levied on their re-imports, which offsets the advantage of lower production costs.

The main attraction of OPT is reduced labour costs, which account for up to 60 per cent of clothing production costs. In 1995, OPT accounted for 14 per cent of total EU clothing imports, considerably less than the 80-90 per cent of United States' imports from Mexico and the Caribbean Basin countries that qualify as production sharing or 9802 trade. However, the extent of OPT trade is more significant than this overall figure of 14 per cent implies. More than 80 per cent of OPT clothing imports goes to only four EU member states: Germany, Italy, France and the United Kingdom. The share of OPT in total clothing imports is highest in Germany (21 per cent), followed by Italy (17 per cent), France (7 per cent) and the United Kingdom (5 per cent).[41]

In France, it is estimated that 80 per cent of direct imports from North Africa, Southern and Eastern Europe qualify as forms of international subcontracting, even if locally-produced fabric or fabric made in other non-EU countries is used. In Germany, more than 90 per cent of textile and clothing trade with Central and Eastern Europe falls in the subcontracting category.[42] The system of triangular trade is often used in subcontracting. Thus, a German client may supply fabrics sourced in India for garments to be made up in Bangladesh, or Malaysian fabrics may be made up in Indonesia. As in the case of United States' production sharing, European manufacturers are moving production offshore to neighbouring countries in North Africa,

[41] OETH (1996), pp. 51-52.
[42] Scheffer, 1994, p. 17.

Eastern and Central Europe, or countries in the former Soviet Union. This adds to the flexibility of European retailers and manufacturers, but also contributes to an integrated form of domestic production in the supplying countries. Since integrated apparel manufacturers are stronger in Europe than in the United States, OPT is of greater importance for the EU than direct imports from Asian producers.

**The import maps of United States and Europe are similar—**

The regional pattern of Europe's apparel imports in the 1990s was similar in size and structure to that of the United States. The total value of European clothing imports (see Figure 3) was US$24.6 billion in 1990 and US$53.6 billion in 2000, which makes the European apparel import market about one-sixth smaller than that of the United States in 2000. Among the Asian suppliers, only Hong Kong SAR and China played central roles in 2000, with most of the Northeast and Southeast Asian countries losing European market share after 1990. However, three new groups of countries have become prominent exporters to Europe: Turkey; Tunisia and Morocco; several East European economies (especially Romania, Poland and Hungary) and the former Soviet Union.

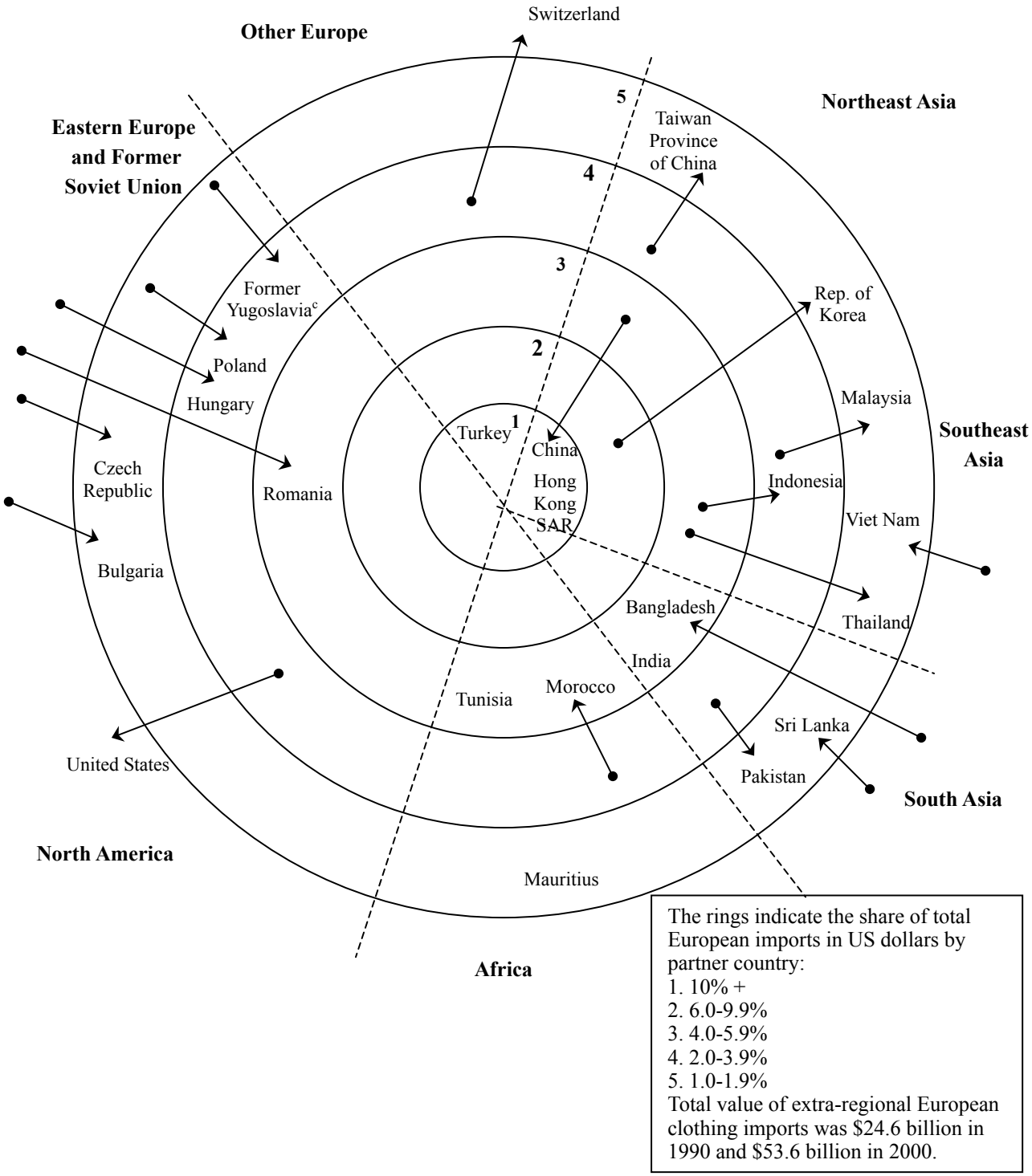
All of these countries are geographically close to the EU, but they have different capabilities. Turkey is a full-package supplier with a strong set of vertically integrated textile and apparel firms, whose closest ties are with Germany. Tunisia and Morocco are outward-processing sites that mainly assemble apparel for firms in France and Italy. Eastern Europe and the former Soviet Union countries also do outward processing, but as relatively mature industrialized economies, they are reliable full-package suppliers for different types of garments. In addition, some of the more advanced East European apparel firms are anxious to move from OEM to OBM production.

**—but that of Japan is very different**

The import maps for the United States and Europe contrast sharply, however, with that of Japan (see Figure 4). Unlike the dense networks of 20-25 major apparel suppliers seen in Figures 2 and 3, only 12 countries had a one per cent share or more of the Japanese market in either 1990 or 2000. However, even this is misleading because only two countries have played major roles as apparel suppliers. In 1990, the Republic of Korea had 26 per cent of Japan's apparel imports, but by 2000 this had fallen to around 4 per cent. The big winner was China, whose share soared from 31 in 1990 to 76 per cent in 2000. Why is the Japanese apparel sourcing structure so different from that in the United States and Europe? The answer lies with the MFA system that prevailed from the early 1970s through the mid-1990s in the multilateral trade regime. Although Japan was a member of the MFA, it chose not to use the bilateral textile and apparel quotas that the MFA permits.[43] However, when the WTO was established in 1995, it was agreed that the MFA preference scheme would be eliminated by 2005. Thus, China's dominance in Japan's apparel imports may be showing the rest of the world what the future will look like when the MFA is phased out.

[43] Dickerson (1999), p. 363.

**Figure 3. Shifts in the regional structure of European[a] apparel imports, 1990-2000[b]**



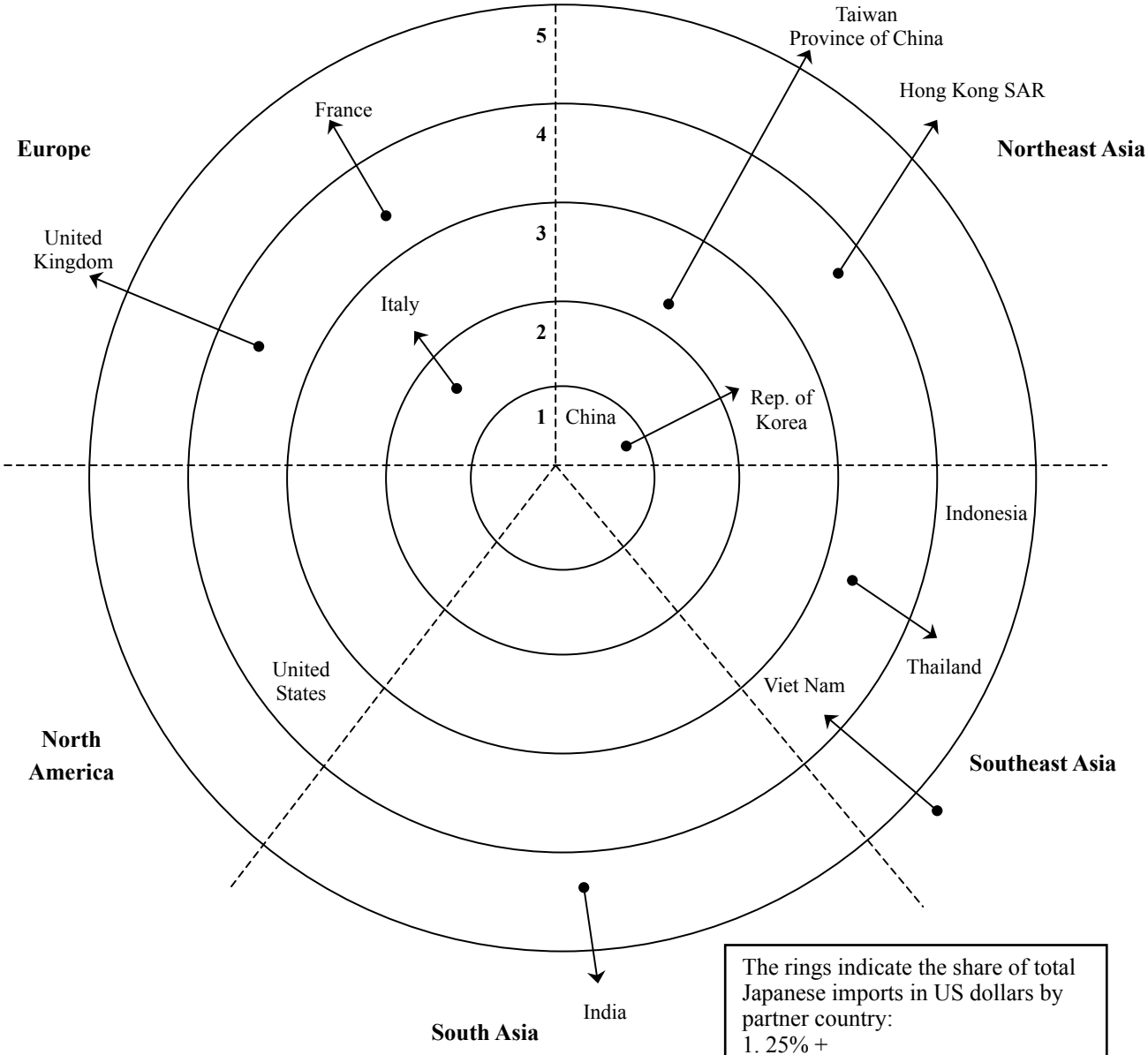

*Source*: World Trade Analyzer, based on United Nations data for Standard International Trade Classification SITC84 ("Articles of apparel and clothing accessories").

*Notes:* [a] This chart excludes intra-European trade among the 15 member states of the EU (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom). Total apparel imports are for the entire European region, but exclude the former Soviet Union.

[b] The 2000 position corresponds to the ring where the country's name is located; the 1990 position, if different, is indicated by a small circle. The arrows represent the magnitude and direction of change over time.

[c] Former Yugoslavia refers to the combined output of Bosnia-Herzegovina, Croatia, Slovenia, Former Yugoslav Republic of Macedonia, and Serbia and Montenegro.

**Figure 4 Shifts in the regional structure of Japanese apparel imports, 1990-2000**[a]




*Source*: World Trade Analyzer, based on United Nations data for SITC84 ("Articles of apparel and clothing accessories"). OECD International trade Commodity Statistics for HS 61 and 62 ( "Articles of apparel and clothing accessories, knitted and not knitted").

*Notes:* [a] The 2000 position corresponds to the ring where the country's name is located; the 1990 position, if different, is indicated by a small circle. The arrows represent the magnitude and direction of change over time. From 1990 to 2000, the Republic of Korea's share of Japan's apparel imports fell from 26 per cent to 4.3 per cent, while China's import share of the Japanese apparel market grew from 31.2 per cent to 76.3 per cent.

## World market trends

**The major players are changing**

A closer look at leading apparel exporters in the 1980s and 1990s reveals both a broadening and deepening of global sourcing networks. If apparel exports worth US$1 billion are taken as a threshold for major players in the global industry, Table 2 shows a striking stair-step pattern of market entry. [44] In 1980, only Hong Kong SAR, the Republic of Korea, Taiwan Province of China, China and the United States were major exporters. By 1990, Indonesia, Thailand and Malaysia in Southeast Asia had joined them, as had India and Pakistan in South Asia and Tunisia in North Africa. The largest newcomer in 1990 was Turkey, whose total of US$3.4 billion in clothing exports placed it fifth in world rankings, behind the four Northeast Asian powerhouses. In 2000, new members of the billion-dollar club included the Philippines and Viet Nam in Southeast Asia, Bangladesh and Sri Lanka in South Asia, Morocco and Mauritius in Africa, and four East European countries. Mexico had a meteoric rise, with clothing exports soaring from US$0.1 billion in 1990 to US$9.3 billion a decade later. The top five apparel exporters in 2000 were China (US$39.2 billion), Hong Kong SAR (US$24.7 billion), the United States and Mexico (US$9.3 billion each), Mexico (US$9.3 billion) and Turkey (US$7.0 billion).

Notwithstanding these high absolute levels of apparel shipments, the world's 25 leading suppliers vary widely in the importance of apparel as an export item. The countries most reliant on apparel exports are Bangladesh (78 per cent), Mauritius (63 per cent), the Dominican Republic (48 per cent) and Sri Lanka (46 per cent), while in Tunisia and Morocco apparel represents more than 30 per cent of total exports, and in Pakistan, Turkey and Romania 20-25 per cent (see Table 2).

Table 3 provides information on whether apparel has risen or fallen in rank among the leading export items (measured at the two-digit SITC level) of the world's 25 biggest apparel exporters. In Northeast and Southeast Asia, it has declined in importance, except in China where it remains the top export item, and in Indonesia and Viet Nam where apparel has climbed to third place. However, in South Asia, Africa, the Caribbean Basin and Central and Eastern Europe, apparel is the leading export, and frequently has been for a decade or more. Sub-Saharan Africa lags behind the other developing regions in apparel sourcing, largely because of poor transportation and communication infrastructure in many countries, its shortage of concentrated pools of low-wage labour, and a difficult political and cultural environment for foreign investors.

[44] Intra-EU apparel exports are excluded from the total for European countries in this table.

**Table 2 World's 25 leading apparel exporters, 1980, 1990 and 2000**

| Region/country | Population (millions) 2000[a] | GNP (US$ billions) 2000[a] | GNP per head (US$) 2000[a] | Total national exports (US$ billions) 1980[b] | 1990[b] | 2000[b] | Total apparel exports (US$ billions) 1980[b] | 1990[b] | 2000[b] | Apparel as % total exports 1980[b] | 1990[b] | 2000[b] | Labour costs (wage, fringe benefits) (US$/hour) 1998[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Northeast Asia | | | | | | | | | | | | | |
| China | 1,262 | 1,063 | 840 | 19.3 | 64.9 | 270.6 | 1.7 | 10.2 | 39.2 | 8.6 | 15.7 | 14.5 | 0.43 |
| Hong Kong SAR | 7[d] | 162[d] | 23,520[d] | 20.8 | 83.8 | 206.3 | 5.3 | 15.7 | 24.7 | 25.4 | 18.7 | 12.0 | 5.20 |
| Rep. of Korea | 47 | 421 | 8,910 | 18.5 | 66.5 | 181.7 | 3.1 | 8.3 | 5.3 | 17.0 | 12.4 | 2.9 | 2.69 |
| Taiwan Province of China | 22[e] | 314[e] | 14,216[e] | 21.1 | 71.3 | 167.2 | 2.6 | 4.2 | 3.4 | 12.3 | 5.8 | 2.0 | 4.68 |
| Southeast Asia | | | | | | | | | | | | | |
| Indonesia | 210 | 120 | 570 | 23.6 | 28.1 | 65.5 | 0.6 | 2.9 | 5.1 | 2.4 | 10.3 | 7.8 | 0.16 |
| Thailand | 61 | 122 | 2,000 | 6.9 | 23.8 | 72.8 | 0.3 | 2.9 | 4.0 | 4.2 | 12.2 | 5.5 | 0.78 |
| Philippines | 76 | 79 | 1,040 | 6.1 | 8.4 | 40.5 | 0.3 | 0.7 | 2.8 | 4.9 | 8.4 | 6.9 | 0.76 |
| Malaysia | 23 | 79 | 3,380 | 13.8 | 30.5 | 104.4 | 0.2 | 1.4 | 2.4 | 1.2 | 4.5 | 2.3 | 1.30 |
| Viet Nam | 79 | 30 | 390 | 0.2 | 1.4 | 13.9 | 0.01 | 0.1 | 1.7 | 7.3 | 5.0 | 12.2 | 0.22 |
| South Asia | | | | | | | | | | | | | |
| India | 1,016 | 455 | 450 | 8.1 | 18.5 | 47.8 | 0.6 | 2.6 | 5.6 | 7.9 | 14.2 | 11.7 | 0.39 |
| Bangladesh | 131 | 48 | 370 | 0.8 | 1.5 | 6.4 | 0.0 | 0.6 | 5.0 | 0.2 | 42.0 | 78.1 | 0.30 |
| Sri Lanka | 19 | 16 | 850 | 1.1 | 2.0 | 5.7 | 0.1 | 0.7 | 2.6 | 10.5 | 33.9 | 45.6 | 0.44 |
| Pakistan | 138 | 61 | 440 | 2.6 | 5.7 | 9.7 | 0.1 | 1.1 | 2.3 | 4.2 | 18.5 | 23.7 | 0.24 |
| Central and Eastern Europe | | | | | | | | | | | | | |
| Czech Republic | 10[d] | 52[d] | 5,060[d] | 11.6 | 7.4 | 39.0[d] | 0.4 | 0.3 | 1.3[d] | 3.5 | 4.1 | 3.3[d] | 1.85 |
| Romania | 22 | 37 | 1,670 | 11.9 | 5.7 | 11.0 | 0.4 | 0.4 | 2.5 | 3.1 | 7.6 | 22.7 | 1.04 |
| Poland | 39 | 162 | 4,200 | 15.0 | 12.4 | 33.4 | 0.6 | 0.4 | 2.0 | 4.2 | 3.0 | 6.0 | 2.77 |
| Hungary | 10 | 47 | 4,710 | 8.6 | 9.7 | 29.9 | 0.3 | 0.4 | 1.3 | 4.0 | 3.8 | 4.3 | 2.12 |
| Turkey | 65 | 202 | 3,100 | 2.8 | 13.0 | 29.1 | 0.1 | 3.4 | 7.0 | 4.6 | 25.9 | 24.1 | 1.84 |
| Africa | | | | | | | | | | | | | |
| Morocco | 29 | 34 | 1,180 | 2.4 | 4.3 | 7.8 | 0.1 | 0.7 | 2.6 | 4.6 | 17.2 | 33.3 | 1.36 |
| Tunisia | 10 | 20 | 2,100 | 2.1 | 3.5 | 6.2 | 0.3 | 1.1 | 2.4 | 15.7 | 32.9 | 38.7 | 0.98[f] |
| Mauritius | 1 | 4 | 3,750 | 0.5 | 1.3 | 1.6 | 0.1 | 0.6 | 1.0 | 17.2 | 50.9 | 62.5 | 1.03 |
| Caribbean Basin | | | | | | | | | | | | | |
| Dominican Rep | 8 | 18 | 2,130 | 0.8 | 2.1 | 5.2 | 0.0 | 0.8 | 2.5 | 0.0 | 35.7 | 48.1 | 1.48 |
| Costa Rica | 4 | 15 | 3,810 | 1.1 | 1.6 | 6.0 | 0.02 | 0.1 | 0.4 | 1.9 | 3.7 | 6.7 | 2.52 |
| North America | | | | | | | | | | | | | |
| United States | 282 | 9,602 | 34,100 | 239.9 | 418.1 | 808.5 | 1.3 | 2.7 | 9.3 | 0.1 | 0.6 | 1.2 | 10.12 |
| Mexico | 98 | 497 | 5,070 | 16.4 | 29.2 | 179.1 | 0.1 | 0.1 | 9.3 | 0.3 | 0.4 | 5.2 | 1.51 |
| World totals | 6,057 | 31,315 | 5,170 | 2,014 | 3,471 | 6,666 | 39.6 | 110.6 | 216.5 | 2.0 | 3.2 | 3.2 | na |

*Notes:* [a] World Bank (1999), pp. 190-191. [b] World Trade Analyzer, based on United Nations trade data. Apparel is defined as SITC 84. [c] Werner International, Inc. [d] 1997 data from *Taiwan Statistical Data Book 1999*, Council for Economic Planning and Development, Republic of China. [e] 1996.

**Mauritian exports to Europe and the United States**

Nonetheless, there are a few successful African apparel exporters that have flourished due to special external conditions. One of these is Mauritius, where the textile and clothing sector was the focal point of the country's development strategy in the 1980s and 1990s. Between 1982 and 1990, the number of firms in its export-processing zones (which are dominated by textiles and apparel) increased from 120 to 570, and employment in these companies quadrupled from 20,000 to 80,000. About 70 per cent of apparel exports, which totalled over US$770 million in 1990, went to the European Community where Mauritius has privileged access. The disadvantages of Mauritius's location in cost terms have been offset by a concentration on high-unit-value products, such as "Scottish" knitwear (mainly jerseys and pullovers). Labour productivity in Mauritius, where most workers are immigrants from India, is regarded as significantly higher than in the Caribbean. The largest source of foreign capital in the Mauritian EPZs is Hong Kong entrepreneurs, who left Hong Kong SAR because of political uncertainties about its future, but the political stability and favourable tax treatment offered by Mauritius also make it attractive to Indian and now South African investors.[45]

By the late 1990s, Mauritius had developed relatively segmented value chain channels for its two main export markets: the EU (mainly the United Kingdom and France) and the United States. Apparel exports to the United States' market were governed by the MFA quota system, which required that both assembly and finishing take place in Mauritius. Under the terms of the Lomé Convention, however, which regulates quota- and duty-free entry to the EU market, apparel items must undergo a double transformation, that is, assembly plus at least one pre-assembly operation (spinning and/or weaving/knitting) in the exporting country. For this reason, almost all Mauritian-based apparel exporters producing for the EU market were backward integrated into knitting and in a few cases dyeing and (wool) spinning.[46] The distinct regulatory environments of the chains destined for the United States and the EU were associated with different kinds of learning environments: the Mauritian-based apparel exporters supplying the United States' market had highly structured learning experiences centred on process-related competences, while the experience of working in the EU-destined chain allowed for more diffuse learning experiences related to functional versatility.

In the mid-1990s, the upgrading strategies of most Mauritian apparel exporters to the EU had centred on diversifying their portfolio of customers, rather than the riskier one of moving from OEM to OBM production adopted by a number of East Asian firms. But from 1997 onwards, the large-scale delocalization of production to Madagascar, the nearest available low-cost location, led all EU-oriented apparel suppliers in Mauritius to increase the proportion of their output accounted for by long runs of apparel basics.[47]

A recurrent tension in the analysis of the development implications of global value chains is the contrast between standardized and differentiated (or fashion-oriented) goods. In the clothing industry, this is reflected in product segments. Menswear tends to be standardized and women's wear more fashion-oriented. The production patterns and trade networks for these two

[45] See Fowdar (1991); Werberloff (1987).
[46] Gibbon (2001).
[47] Gibbon (2001).

types of products are very different. United States' companies such as Levi Strauss, Phillips-Van Heusen, Fruit of the Loom or Sara Lee that make standardized products like men's dress shirts or pants, underwear, blue jeans and jogging suits generally use larger, vertically integrated factories, and much of their production is carried out in the United States or in production-sharing arrangements with Mexico and Central American and Caribbean countries. Fashion-oriented companies that emphasize women's wear, like Liz Claiborne, The Limited Inc. or most big retailers, buy from a large number of small contractors, with most of these factories located in Asia. The distinction between standardized and differentiated products has consequences for the development of local linkages. These could be summarized in these two propositions: standardization leads to mass production within vertically integrated plants, and to the increasing use of low-cost suppliers in value chains; differentiated or fashion-oriented goods are made in shorter product cycles, by smaller firms, with a more extensive use of specialized networks for material or service inputs.

The case of Mauritius illustrates that the shift to lower-cost production in Madagascar is associated with a focus on making basic apparel items. Central America and the Caribbean Basin countries also tend to make more standardized apparel, and Mexico is developing a broader range of OEM capabilities. Thus, standardized production is the easiest entry point for developing countries in apparel value chains, especially in an assembly-oriented production system. Upgrading can be pursued along different paths, including the development of full-package capabilities, vertical integration, diversification of export networks and moving into marketing and design, but none of these by itself guarantees success. Flexibility and adaptability in changing economic and political conditions are essential for sustained competitiveness.

**Table 3 Position of apparel among leading export items, 1980-2000**

| | *Top export item, 2000* | | | | *Apparel rank*[b] | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Exporting country* | *SITC*[a] | *Description* | *US$ billions* | *% of total exports* | *1980* | *1990* | *2000* | *1980-1990* | *1990-2000* |
| Northeast Asia | | | | | | | | | |
| China | 84 | Apparel | 39.2 | 14.5 | 4 | 1 | 1 | Up | Same |
| Hong Kong SAR | 77 | Electrical machinery | 32.9 | 15.9 | 1 | 1 | 3 | Same | Down |
| Rep. of Korea | 77 | Electrical machinery | 33.2 | 18.3 | 1 | 1 | 10 | Same | Down |
| Taiwan Province of China | 77 | Electrical machinery | 40.7 | 24.3 | 1 | 5 | 12 | Down | Down |
| Southeast Asia | | | | | | | | | |
| Indonesia | 33 | Petroleum | 8.2 | 12.5 | 6 | 4 | 3 | Up | Up |
| Thailand | 77 | Electrical machinery | 11.5 | 72.8 | 8 | 1 | 5 | Up | Down |
| Philippines | 77 | Electrical machinery | 20.5 | 50.6 | 6 | 1 | 3 | Up | Down |
| Malaysia | 77 | Electrical machinery | 25.7 | 24.6 | 9 | 6 | 7 | Up | Down |
| Viet Nam | 33 | Petroleum | 3.5 | 25.2 | 4 | 5 | 3 | Down | Up |
| South Asia | | | | | | | | | |
| India | 66 | Non-metallic mineral manufacturing | 7.5 | 15.7 | 4 | 2 | 3 | Up | Down |
| Bangladesh | 84 | Apparel | 5.0 | 78.1 | 13 | 1 | 1 | Up | Same |
| Sri Lanka | 84 | Apparel | 2.6 | 45.6 | 4 | 1 | 1 | Up | Same |
| Pakistan | 65 | Textile yarn & fabrics | 4.8 | 49.5 | 4 | 2 | 2 | Up | Same |
| Central and Eastern Europe | | | | | | | | | |
| Czech Republic | 78 | Road vehicles | 6.2 | 16 | 10 | 7 | 9 | Up | Down |
| Romania | 84 | Apparel | 2.5 | 22.7 | 3 | 4 | 1 | Down | Up |
| Poland | 78 | Road vehicles | 3.3 | 9.9 | 6 | 10 | 4 | Down | Up |
| Hungary | 75 | Office machines | 4.2 | 14.0 | 8 | 9 | 6 | Down | Up |
| Turkey | 84 | Apparel | 7.0 | 24.1 | 6 | 1 | 1 | Up | Same |
| Africa | | | | | | | | | |
| Morocco | 84 | Apparel | 2.6 | 33.3 | 7 | 1 | 1 | Up | Same |
| Tunisia | 84 | Apparel | 2.4 | 38.7 | 2 | 1 | 1 | Up | Same |
| Mauritius | 84 | Apparel | 1.0 | 62.5 | 2 | 1 | 1 | Up | Same |
| Caribbean Basin | | | | | | | | | |
| Dominican Republic | 84 | Apparel | 2.5 | 48.1 | 34 | 1 | 1 | Up | Same |
| Costa Rica | 75 | Office machines | 1.7 | 28.8 | 9 | 7 | 4 | Up | Up |
| North America | | | | | | | | | |
| United States | 77 | Electrical machinery | 95.4 | 11.8 | 38 | 37 | 22 | Up | Up |
| Mexico | 78 | Road vehicles | 30.1 | 16.8 | 27 | 35 | 6 | Down | Up |
| World totals | 77 | Electrical machinery | 656.8 | 9.9 | 15 | 9 | 8 | Up | Up |

*Source*: World Trade Analyzer, based on United Nations trade data.

*Notes:* [a] SITC refers to Standard International Trade Classification categories. [b] Rankings are based on the position of apparel in each economy's total world exports, using two-digit SITC categories.

## Conclusion

This report uses the global value chains framework to explain the transformations in production, trade and corporate strategies that have altered the global apparel industry and changed the prospects for developing countries in entering and moving up these chains. The apparel industry is identified as a buyer-driven value chain that contains three types of lead firms: retailers, marketers and branded manufacturers. As apparel production has become global and competition has intensified, each type of lead firm has developed extensive global sourcing capabilities. While de-verticalizing out of production, they are building up their activities in the high-value-added design and marketing segments of the apparel chain, leading to a blurring of boundaries and a realignment of interests and opportunities within the chain.

Industrial upgrading in apparel is primarily associated with the shift from assembly to full-package production. Compared with the mere assembly of imported inputs, full-package production fundamentally changes the relationship between buyer and supplier in a direction that gives far greater autonomy and learning potential for industrial upgrading to the supplying firm. Full-package production is needed because the retailers and marketers that order the garments do not know how to make them. The East Asian NIEs of Hong Kong SAR, Taiwan Province of China, the Republic of Korea and China have used the full-package role to create an enduring edge in export-oriented development. However, NAFTA and a decline in the importance of East Asian apparel exports to the United States have created favourable conditions for the extension of full-package production to North America. Prominent apparel suppliers to Europe such as Turkey and several East European countries (such as Romania, Poland and Hungary) also appear to be adopting the full-package model.

Three models of competition are evident in the North American market: the East Asian, Mexican and Caribbean Basin. Each model presents different perspectives and challenges for industrial upgrading. The United States continues to define the terms of change, and United States' firms lead the process towards mass customization and agile manufacturing. Mexico needs to develop new and better networks in order to compete with East Asian suppliers for the United States' full-package market. The Caribbean Basin model, almost exclusively limited to assembly, would have to develop networks with United States' retailers and marketers if companies are to acquire the skills and resources needed to move into the more diversified activities associated with full-package production. The Mexican and Caribbean experiences can be generalized as full-package and assembly models applicable to other regional contexts.

There has been a dramatic consolidation of the retailer segment of buyer-driven value chains in the United States, and a growth in the strength of retailers as opposed to apparel manufacturers in the EU and Japan. While retailing and marketing is becoming more concentrated, manufacturing is splintering. To a certain degree, this trend is propelled by the information

revolution giving retailers better day-to-day market information about consumer purchasing decisions, allowing them to demand more from their suppliers in terms of inventory management, quick response, more frequent deliveries, etc. As retailers develop their own private-label collections, they also change the competitive dynamics of the textile and apparel supply chain, since they become competitors (rather than customers) of traditional apparel manufacturers and designers. Finally, retailers are pushing globalization in a direct way as importers, and by demanding lower prices from manufacturers which in turn forces them to go overseas. Because they themselves do not have production experience, however, the retailers in buyer-driven chains are dependent upon the suppliers in their global sourcing networks. In Asia, a number of these manufacturers are integrating forward from specification contracting (the OEM or full-package role) to developing and selling their own brands (the OBM role). In North America, textile companies are forming production clusters with local apparel firms in Mexico to assure themselves of a customer base. Thus a growing concentration at the retail end of the value chain is generating networks of collaborators as well as competitors in the upstream segments of the chain.

How does the control structure of value chains affect industrial upgrading in developing countries? First, the comparison of apparel imports to the United States and the EU reveals distinct regional patterns of sourcing. While both the United States and the EU source heavily out of Asia, they each have nearby sourcing bases as well: Mexico, Central America and the Caribbean for the United States, and Eastern-Central Europe and North Africa for the EU. More importantly, these different regional supply bases for apparel are organized in different kinds of networks. The Asian sourcing is done on the basis of direct imports and specification contracting, while the Caribbean and Mediterranean Basin sourcing patterns use forms of international subcontracting in which United States' and EU textiles are sent to nearby low-wage countries for assembly into garments. The controlling agents in these two networks are different: they are retailers and designers in the Asian trade, and textile and apparel manufacturers for outward processing trade.

The possibilities for integrated local industrial development are greater in the OEM model where Asian manufacturers have developed an important form of social capital in the guise of the multifaceted and dense networks utilized to offer full-package supply. In the outward-processing or production-sharing pattern, the production networks are much thinner in the supplying countries. One of the most interesting emerging responses is the effort by textile firms, apparel companies and retailers in the United States and Mexico to emulate the OEM model of the East Asian NIEs by constructing similar kinds of full-package networks in the North American context. This requires supportive policies at the macroeconomic level (participation in NAFTA) as well as capable Mexican firms that are able to anchor global production and sourcing networks within the full-package model. However, the downturn in United States' apparel sales in 2001, the profitability problems and possible bankruptcies faced by major textile firms in the United States (such as Burlington Industries, Guilford Mills and Cone Mills), and the likelihood of greatly increased import competition from China and other low-cost competitors after the phase-out of apparel quotas by the WTO in 2005, make sustained success in the global apparel industry a challenging and still very elusive goal.

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