Chapter 5
Gary Gereffi and Stacey Frederick
"The Global Apparel Value Chain,
Trade, and the Crisis"

GLOBAL VALUE CHAINS IN A POSTCRISIS WORLD A DEVELOPMENT PERSPECTIVE

Olivier Cattaneo, Gary Gereffi, and Cornelia Staritz
Editors

THE WORLD BANK
Washington, D.C.

2010

THE GLOBAL APPAREL VALUE CHAIN, TRADE, AND THE CRISIS: CHALLENGES AND OPPORTUNITIES FOR DEVELOPING COUNTRIES

Gary Gereffi and Stacey Frederick

Apparel is one of the oldest and largest export industries, as well as the most globally prevalent: most countries make some type of product for the international textile and apparel market. It is a springboard for national development and often a starter industry for countries engaged in export-oriented industrialization because of its low fixed costs and emphasis on labor-intensive manufacturing (Adhikari and Weeratunge 2006; Gereffi 1999).

Although the global apparel industry has been expanding at a rapid rate since the early 1970s, during which it has been providing employment to tens of millions of workers in some of the least-developed countries in the world, the industry has experienced two major crises in the past five years. The first crisis is regulatory. The Multi-Fibre Arrangement (MFA)—which established quotas and preferential tariffs on apparel and textile items imported by the United States, Canada, and many European nations since the early 1970s—was phased out by the World Trade Organization (WTO) and replaced with the WTO Agreement on Textiles and Clothing (in effect 1995–2005). The concern of many poor and small developing economies that had relied on apparel exports was that they would be pushed out of the global trading system by much larger, low-cost rivals, such as China, India, and Bangladesh.

The second crisis is economic. The recent global recession, which was sparked by the banking meltdown in the United States in 2008 and quickly spread to most of the major industrialized and developing economies, brought the world to the brink of the most severe economic crisis since the Great Depression of the 1930s. Plant closures and worker layoffs in the industrialized nations led to slumping consumer demand, which resulted in fewer orders and shrinking markets for export-oriented economies in the developing world. The recession hit the apparel industry especially hard, leading to factory shutdowns, sharp increases in unemployment, and growing concerns over social unrest as displaced workers sought new jobs.

This chapter examines the impact of the MFA phaseout and the 2008–09 economic crisis on the changing patterns of supply and demand in the apparel global value chain (GVC) from 1995 to 2010, and also looks at how these crises have affected global sourcing and production networks among firms. Has there been greatly increased consolidation by the most successful exporting countries and among the leading firms in the apparel value chain? Who are the winners and losers in this industry, and what are the most viable upgrading strategies in today's global economy? Finally, recommendations and strategic options are discussed for how developing countries can deal with these challenges.

Effects of Dual Economic Crises on the Apparel Global Value Chain

Historically, global expansion of the apparel industry has been driven by trade policy. Apparel is one of the most trade protected of all industries, ranging from agricultural subsidies on input materials (cotton, wool, rayon) to a long history of quotas under the General Agreement on Tariff and Trade within the MFA and its successor pact under the WTO, the Agreement on Textiles and Clothing (ATC) (Adhikari and Yamamoto 2007). The MFA/ATC restricted exports to the major consuming markets by imposing country limits (quotas) on the volume of certain imported products. The system was designed to protect the domestic industries of the United States and the European Union (EU) by limiting imports from highly competitive suppliers such as China (Thoburn 2009).

Trade restrictions have contributed to the international fragmentation of the apparel supply chain, whereby low-wage countries typically sew together imported textile components and re-export the finished product. This reconfiguration began when exports from Hong Kong, China; the Republic of Korea; Taiwan, China; and later China reached their maximum levels under the quota system. Clothing assembly processes were then subcontracted to low-wage developing countries throughout the Asian Pacific region and other countries

that had unused export quotas, such as Bangladesh, Sri Lanka, and Vietnam (Gereffi 1999; Audet 2004).

The removal of quotas on January 1, 2005 marked the end of more than 30 years of restricted access to the markets of the EU and North America. Retailers and other buyers became free to source textiles and apparel in unlimited amounts from any country, subject only to a system of tariffs and a narrow set of transitional safeguards that expired at the end of 2008. This caused a tremendous flux in the global geography of apparel production and trade, and a restructuring of firm strategies seeking to realign their production and sourcing networks to accommodate new economic and political realities (Gereffi 2004; Rasmussen 2008; Tewari 2006).

Apparel protectionism has declined in the past several years, with more garment-importing countries removing barriers to clothing trade than ever before (Frederick and Gereffi 2009a, 2009b; just-style.com 2009a). The economic recession and subsequent import slowdown in the United States, Europe, and Japan have sparked a reinvigoration of government policies to support the textile and clothing sector in leading apparel-exporting countries (see annex table 5A.1); however, overall, international restrictions on apparel trade are still relatively limited.

Changes in Global Supply and Demand

Consumption in the global apparel industry is concentrated in three main regions: the United States, the European Union, and Japan. In 2008, the European Union (EU 27, including intra-EU-27 trade) accounted for nearly half (47.3 percent) of total world apparel imports of US\$376 billion, while the United States accounted for 22 percent, Japan for 6.9 percent, and the Russian Federation for 5.7 percent (see table 5.1). Together, the United States, the EU 27, and Japan represented over three-quarters of world apparel imports in 2008, which is down from 82.4 percent in 1995. Particularly notable is the steady decline in the U.S. share of global apparel imports, which fell from a peak of 32.1 percent in 2000 to 22 percent in 2008, and Japan's drop from 11.5 percent in 1995 to 6.9 percent in 2008.

At the onset of the recent 2008–09 crisis, global apparel imports increased by nearly 7 percent (\$22.3 billion) between 2007 and 2008. U.S. imports declined during this period, but those of the EU 27, Japan, and Russia grew. Thus, the negative impact of the economic recession was not yet apparent in the annual import statistics for 2008 (see table 5.1).

A closer look at the shifting apparel imports of the United States, the EU 15, and Japan provides more detailed evidence of the impact of the economic recession on global apparel supply and demand.

Table 5.1 Changes in World's Top-15 Apparel Importers: 1995, 2000, 2005, and 2007-08

Country/region	1995			2000			2005			2007			2008		
	Value (US\$, billions)	Percent	Value (US\$, billions)	Value (US\$, billions)	Percent	Value (US\$, billions)	Value (US\$, billions)	Percent	Value (US\$, billions)	Value (US\$, billions)	Percent	Value (US\$, billions)	Value (US\$, billions)	Percent	Value (US\$, billions)
World	162.9		208.9	291.2		358.1	375.6								
European Union 27 ^a	74.2	45.5	83.2	131.5	39.8	165.0	177.7	45.2						47.3	
United States	41.4	25.4	67.1	80.1	32.1	84.9	82.5	27.5						22.0	
Japan	18.8	11.5	19.7	22.5	9.4	24.0	25.9	7.7						6.9	
Russian Federation ^b	n.a.	n.a.	2.7	7.9	1.3	14.5	21.4	2.7						5.7	
Canada ^c	2.7	1.7	3.7	6.0	1.8	7.8	8.5	2.1						2.3	
Switzerland	3.8	2.3	3.2	4.5	1.5	5.2	5.8	1.5						1.5	
United Arab Emirates ^d	1.3	0.8	1.9	3.1	n.a.	5.0	5.5	0.6						1.5	
Australia ^e	1.3	0.8	1.9	3.1	0.9	3.7	4.3	1.1						1.1	
Korea, Rep. of	1.1	0.7	1.3	2.9	0.6	4.3	4.2	1.0						1.1	
Norway	1.4	0.9	1.3	1.8	0.6	2.3	2.7	0.6						0.7	
Mexico ^{g,h}	1.9	1.2	3.6	2.5	1.7	2.5	2.5	0.9						0.7	
China ^f	1.0	0.6	1.2	1.6	0.6	2.0	2.3	0.6						0.6	
Singapore	1.6	1.0	1.9	2.1	0.9	2.4	2.2	0.7						0.6	
Turkey	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.2	n.a.						0.6	
Saudi Arabia	n.a.	n.a.	n.a.	1.5	n.a.	1.9	n.a.	0.5						n.a.	
Honduras ⁱ	n.a.	n.a.	1.3	n.a.	0.6	n.a.	n.a.	n.a.						n.a.	
Taiwan, China	0.9	0.5	1.0	n.a.	0.5	n.a.	n.a.	n.a.						n.a.	
Top-15 share and percentage of world total imports	151.3	92.9	193.0	269.9	92.4	325.5	347.8	92.7						92.6	
Hong Kong, China ^g	12.7	n.a.	16.0	18.4	n.a.	19.1	18.5	n.a.						n.a.	

Source: WTO 2010; apparel is represented by SITC Code 84.

Note: Values are in billions of U.S. dollars at current prices, and percent is the country's or region's percentage of the year's world value. n.a. = not applicable, as the country was not in at current prices; top-15 apparel suppliers that year.

a. European Union (EU) values include intra-EU trade; values represent only the EU 15 in 1995.

b. Estimated value: coverage includes intratrade.

c. Method of valuation: imports are valued free-on-board (FOB).

d. Estimated value.

e. Coverage includes processing zones.

f. First-year processing zone trade is included; there is a break in data continuity with data from earlier years.

g. The value of Hong Kong, China, is not included in world totals because a large portion was re-exported and not retained.

United States

In 2008, U.S. consumers spent \$200 billion on apparel, down 3.6 percent from 2007, and apparel spending in the first quarter of 2009 was also down 10 percent from the same period in the previous year (Driscoll and Wang 2009). Apparel sold and consumed in the United States has a very high import ratio, which has been increasing for decades. In 2006, the estimated overall apparel import penetration was 94 percent (Clothesource 2008). In 2008, the percentage of imports that were part of the apparent U.S. consumption of men's, women's, and children's apparel ranged from a low of 77.2 percent for finished socks to a high of 100 percent for men's dress and sports coats (in volume terms) (U.S. Census Bureau 2009a; 2009b).

Table 5.2 charts trends over time in the top-15 countries that supply U.S. apparel imports. Most striking is the dramatic increase in China's import share, which climbed from 13.3 percent of all U.S. apparel imports in 2000 to 26.4 percent in 2005 and 34.7 percent in 2008. The big losers during this period were Mexico, whose apparel import share fell from 13.1 percent in 2000 to just 5.2 percent in 2008, and the DR-CAFTA (Dominican Republic and the five countries in the Central American Free Trade Agreement¹), whose import share dropped from 13.9 percent in 2000 to 9.6 percent in 2008. A more graphic illustration of the shifts in the regional structure of U.S. apparel imports is found in annex figure 5A.1.

European Union 15

In 2008, Europe accounted for 41 percent of the global apparel retail sales of \$1,026 billion (Datamonitor 2009). In the EU 15, the apparel import penetration varies significantly among countries. In 2006, the estimated import shares for the main consuming countries were United Kingdom and Germany, 95 percent; France, 85 percent; Italy, 65 percent; and Spain, 55 percent (Clothesource 2008).

Table 5.3 highlights trends in the EU 15's source of apparel imports over time. China is the market leader, with 24 percent of total EU 15 apparel imports in 2009, up from 9.6 percent in 2000. The next three top importers in 2009 were Turkey (6.3 percent), Bangladesh (4.7 percent), and India (3.9 percent). The shifting regional structure of EU 15 apparel imports between 1996 and 2008 can also be seen in annex figure 5A. 2.

For the EU 15, it is important to note that all leading apparel suppliers, with the exception of China and Hong Kong, China, receive either duty-free or preferential tariff treatment. Morocco and Tunisia are part of the Euro-Mediterranean Partnership; Bulgaria, Hungary, Poland, and Romania are part of the EU 27; and Turkey has a Customs Union with the EU. To varying degrees, Bangladesh, India, Indonesia, Pakistan, Sri Lanka, Thailand, and Vietnam receive benefits from the U.S. Generalized System of Preferences (GSP) program. Whereas the United States

Table 5.2 Changes in U.S. Top-15 Apparel Importers: 1995, 2000, 2005, and 2007–09

Country/region	1995		2000		2005		2007		2008		2009	
	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent
World	41,367		67,115		80,071		84,853		82,466		72,064	
China	6,170	14.9	8,924	13.3	21,138	26.4	28,530	26.4	28,575		28,201	39.1
DR-CAFTA	4,920	11.9	9,341	13.9	9,413	11.8	8,199	11.8	7,903		6,405	8.9
Vietnam	n.a.		n.a.		2,911	3.6	4,619	3.6	5,527		5,332	7.4
Indonesia	1,376	3.3	2,333	3.5	3,163	4.0	4,306	4.0	4,358		4,154	5.8
Mexico	2,904	7.0	8,809	13.1	6,374	8.0	4,743	8.0	4,250		3,580	5.0
Bangladesh	1,142	2.8	2,279	3.4	2,537	3.2	3,286	3.2	3,657		3,580	5.0
India	1,379	3.3	2,157	3.2	3,376	4.2	3,505	4.2	3,412		3,126	4.3
Cambodia	n.a.		n.a.		1,818	2.3	2,559	2.3	2,508		1,950	2.7
Thailand	1,209	2.9	2,276	3.4	2,351	2.9	2,311	2.9	2,238		1,765	2.4
European Union 15	2,003	4.8	2,644	3.9	2,535	3.2	2,602	3.2	2,412		1,646	2.3
Pakistan	n.a.		n.a.		1,447	1.8	1,696	1.8	1,691		1,467	2.0
Sri Lanka	1,029	2.5	1,609	2.4	1,796	2.2	1,711	2.2	1,620		1,319	1.8
Malaysia	1,253	3.0	1,380	2.1	n.a.		1,422		1,505		1,300	1.8
Philippines	1,685	4.1	2,037	3.0	1,949	2.4	1,821	2.4	1,443		1,071	1.5
Jordan	n.a.		n.a.		n.a.		n.a.		n.a.		791	1.1
Hong Kong, China	4,566	11.0	4,808	7.2	3,738	4.7	2,162	4.7	1,645		n.a.	
Korea, Rep. of	1,923	4.6	2,591	3.9	1,319	1.6	n.a.		n.a.		n.a.	
Taiwan, China	2,261	5.5	2,285	3.4	n.a.		n.a.		n.a.		n.a.	
Canada	896	2.2	1,933	2.9	n.a.		n.a.		n.a.		n.a.	
Top-15 totals and percentage of world total	34,715	83.9	55,407	82.6	65,866	82.3	73,470	82.3	72,744		65,687	91.2

Source: UN Comtrade; apparel represented by SITC 84. Values for 2009 are from United States International Trade Commission (USITC); apparel is represented by SITC 84; General CIF (cost, insurance, freight) Imports Value and General CIF Imports.

Note: Percent is the country's or region's percentage of the year's world value. DR-CAFTA = Dominican Republic–Central American Free Trade Agreement; n.a. = not applicable, a country was not in the top-15 apparel suppliers that year.

Table 5.3 Changes in EU 15 Top-15 Apparel Importers, 2000 and 2005–09

Country/region	2000		2005		2006		2007		2008		2009	
	Value (€, millions)	Percent	Value (€, millions)	Percent	Value (€, millions)	Percent	Value (€, millions)	Percent	Value (€, millions)	Percent	Value (€, millions)	Percent
World totals	64,517		73,909		80,392		84,172		86,935		81,300	
European Union												
15 (intra)	26,180	40.6	29,544	40.0	30,993		33,710		34,601		31,507	38.8
China	6,190	9.6	13,061	17.7	14,789		16,865		19,139		19,491	24.0
Turkey	4,437	6.9	5,648	7.6	5,730		6,109		5,739		5,137	6.3
Bangladesh	1,907	3.0	2,596	3.5	3,381		3,208		3,536		3,800	4.7
India	1,805	2.8	2,455	3.3	2,922		2,838		2,998		3,138	3.9
Tunisia	2,496	3.9	2,359	3.2	2,386		2,500		2,526		2,196	2.7
Morocco	1,822	2.8	1,858	2.5	2,007		2,165		2,089		1,809	2.2
Romania	2,196	3.4	2,881	3.9	2,791		2,060		1,982		1,521	1.9
Poland	1,539	2.4	854	1.2	812		890		1,185		1,335	1.6
Vietnam	650	1.0	522	0.7	768		843		947		935	1.1
Indonesia	1,281	2.0	891	1.2	1,052		899		899		865	1.1
Bulgaria	722	1.1	977	1.3	1,088		1,054		1,035		823	1.0
Pakistan	645	1.0	697	0.9	787		802		813		779	1.0
Thailand	730	1.1	663	0.9	761		703		717		690	0.8
Switzerland	377	n.a.	519	n.a.	528		636		642		548	0.7
Sri Lanka	338	n.a.	331	n.a.	426		488		529		555	0.7
Hungary	1,001	1.6	687	0.9	706		677		582		445	n.a.
Hong Kong, China	1,885	2.9	1,006	1.4	1,557		1,005		510		258	n.a.

Source: Eurostat: Apparel Imports to Euro Area EU 15; apparel represented by SITC 84.

Note: Percent represents the country's or region's percentage of the year's world value. n.a. = not applicable, as country was not in top-15 apparel suppliers that year.

excludes textiles and apparel items from its GSP agreements, the EU 15 includes textiles and apparel, thereby favoring many of the least-developed exporters in the global economy.

Japan

As in the United States and the EU 15, Japan relies heavily on apparel imports. In 2006, the estimated apparel import penetration ratio was 93 percent (Clothesource 2008). Furthermore, Japan is highly dependent on one country, China, which represented 83 percent of total apparel imports in 2008 (WTO 2009). The top-five countries/regions (EU 27, Vietnam, Thailand, and Korea, plus China) accounted for 93.9 percent of total imports in 2008 (see table 5.4).

Characteristics of Top Apparel-Exporting Countries

By the end of 2009, the economic recession that hit the apparel retail markets of all the advanced industrial countries had rippled throughout the supply chain in developing economies as well. A striking trend is that the largest low-cost apparel producers in the developing world—China, India, Bangladesh, and Vietnam—actually managed to increase their export shares in major global markets (see table 5.5). This may reflect a substitution effect of the economic recession, in which the lowest cost suppliers gain market share vis-à-vis more expensive rivals.

China is the clear winner in the global apparel export race of the past 15 years. Between 1995 and 2008, China more than doubled its share of global apparel exports, from 15.2 percent to 33.2 percent, and it had a fivefold increase in the value of its apparel exports, from \$24 billion to \$120 billion. Other than the EU 27, which includes intra-European Union trade, the next six apparel exporters combined (Turkey, Bangladesh, India, Vietnam, Indonesia, and Mexico) account for less than half (15.4 percent) of China's export total in 2008 (see table 5.5).

Capabilities of leading global apparel exporters

Annex table 5A.3 lists the production capabilities of several main apparel-exporting countries. As countries like China, Turkey, and India develop capabilities that permit vertical integration in apparel, their reliance on apparel exports tends to diminish because their upgrading processes facilitate broader industrial diversification. Annex table 5A.4, which provides export-dependence ratios for major apparel suppliers, lends support to this argument. Those countries with the greatest apparel export dependence—Cambodia (85 percent), Bangladesh (71 percent), and Sri Lanka (41 percent)—emphasize CMT (cut, make, and trim) assembly with limited capabilities beyond manufacturing. Vietnam also emphasizes CMT

Table 5.4 Changes in Japan's Top-Five Apparel Importers: 1995, 2000, 2005, and 2007-08

Country/region	1995		2000		2005		2007		2008	
	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent	Value (US\$, millions)	Percent
World	18,758		19,709		22,541		23,999		25,866	
China	10,626	56.6	14,713	74.7	18,243	80.9	19,795		21,350	82.8
European Union 15	2,398	12.8	1,476	7.5	1,556	6.9	1,515		1,457	5.6
Vietnam	n.a.		591	3.0	610	2.7	717		865	3.4
Thailand	503	2.7	n.a.		n.a.		271		313	1.2
Korea, Rep. of	1,847	9.8	951	4.8	436	1.9	258		227	0.9
United States	1,096	5.8	468	2.4	296	1.3	n.a.		n.a.	
Top-five total and percentage of world imports	16,469	87.8	18,200	92.3	21,141	93.8	22,555		24,213	93.9

Source: UN Comtrade, SITC 84, rev. 3., Imports to Japan.

Note: Percent represents the country's or region's percentage of the year's world value. n.a. = not applicable as country was not in top-five apparel suppliers for the year.

Table 5.5 Changes in World's Top-15 Apparel Exporters: 1995, 2000, 2005, and 2007-08

Country/region	1995		2000		2005		2007		2008	
	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent
World	158.4		197.7		277.1		345.8		361.9	
China	24.0	15.2	36.1	18.2	74.2	26.8	115.2		120.0	33.2
European Union 27 ^a	48.5	30.6	56.2	28.4	85.5	30.8	105.1		112.4	31.1
Turkey	6.1	3.9	6.5	3.3	11.8	4.3	13.9		13.6	3.8
Bangladesh ^b	n.a.		5.1	2.6	6.9	2.5	8.9		10.9	3.0
India	4.1	2.6	6.0	3.0	8.6	3.1	9.8		10.9	3.0
Vietnam ^b	n.a.		n.a.		4.7	1.7	7.4		9.0	2.5
Indonesia	3.4	2.1	4.7	2.4	5.0	1.8	5.9		6.3	1.7
Mexico ^c	2.7	1.7	8.6	4.4	7.3	2.6	5.1		4.9	1.4
United States	6.7	4.2	8.6	4.4	5.0	1.8	4.3		4.4	1.2
Thailand	5.0	3.2	3.8	1.9	4.1	1.5	4.1		4.2	1.2
Pakistan	n.a.		n.a.		3.6	1.3	3.8		3.9	1.1
Tunisia	2.3	1.5	n.a.		3.1	1.1	3.6		3.8	1.0
Cambodia ^b	n.a.		n.a.		n.a.		3.5		3.6	1.0
Malaysia	2.3	1.4	n.a.		n.a.		n.a.		3.6	1.0

(continued next page)

Table 5.5 continued

Country/region	1995		2000		2005		2007		2008	
	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent	Value (US\$, billions)	Percent
Sri Lanka ^b	n.a.		2.8	1.4	2.9	1.0	n.a.	1.0	3.5	1.0
Hong Kong, China ^d	9.5	6.0	9.9	5.0	7.2	2.6	5.0	n.a.	n.a.	n.a.
Morocco	n.a.		n.a.		2.8	1.0	3.5	n.a.	n.a.	n.a.
Korea, Rep. of	5.0	3.1	5.0	2.5	n.a.		n.a.	n.a.	n.a.	n.a.
Taiwan, China	3.2	2.0	3.0	1.5	n.a.		n.a.	n.a.	n.a.	n.a.
Dominican Republic	n.a.		2.6	1.3	n.a.		n.a.	n.a.	n.a.	n.a.
Philippines	2.4	1.5	2.5	1.3	n.a.		n.a.	n.a.	n.a.	n.a.
Poland	2.3	1.5	n.a.		n.a.		n.a.	n.a.	n.a.	n.a.
Top-15 total and percentage share of world exports	127.5	80.5	161.5	81.7	232.6	83.9	299.1	87.0	315.0	87.0

Source: WTO 2010; apparel exports represented by SITC 84.

Note: Values are in billions of U.S. dollars at current prices. Percent represents the country's or region's percentage of the year's world value. n.a. = not applicable as country was not in top-15 apparel suppliers for the year.

a. European Union (EU) values include intra-EU trade; values represent only EU 15 in 1995.

b. Some years include estimates.

c. Includes significant shipments through processing zones.

d. Domestic exports only.

assembly, but its apparel export dependence ratio is relatively low (14 percent) because of the importance of its agricultural exports.

The main apparel-exporting countries can be categorized as follows:

- *Steady-growth suppliers* (overall increasing market share since the early 1990s): China, Bangladesh, India, Vietnam, and Cambodia; Pakistan and Egypt as well, but with smaller market shares.
- *Split-market suppliers*: Indonesia is increasing its market share in the United States and Japan and decreasing it in the EU 15; conversely, Sri Lanka is increasing market share in the EU 15 and decreasing it in the United States.
- *Pre-MFA suppliers* (sharp declines after MFA quota phaseout that have accelerated during the crisis): Canada, Mexico, CAFTA, EU-12, Tunisia, Morocco, and Thailand.
- *Past-prime suppliers*: (decreasing market share since early 1990s): Hong Kong, China; Korea; Taiwan, China; Malaysia—also countries with smaller market shares: Philippines; Singapore; and Macao SAR, China.

The last two years have reinforced many of the trends occurring after the phaseout of quotas. China, Bangladesh, Vietnam, and Indonesia are increasing their market shares in North America and the European Union, primarily at the expense of near-sourcing options such as Mexico and the Central American and Caribbean suppliers to the United States, as well as apparel exporters from North Africa and Eastern Europe to the EU 15 (see annex figures 5A.1 and 5A.2).

Leading apparel suppliers like China, India, and Turkey, concerned about a slowdown in global exports, have also begun to focus more on sales to their domestic markets. This trend not only taps into the added purchasing power of those emerging economies, but it also allows them to accelerate the upgrading process associated with moving beyond assembly and full-package supply to original design manufacturing (ODM) and original brand manufacturing (OBM).

Regional Trends in Capturing Export Share

From a regional perspective, how have different apparel exporters managed to cope with the MFA phaseout and the economic recession? Since the export data for 2008 capture only the initial year of the economic recession, the following findings are provisional, yet they reveal some interesting trends.

The growth of regional suppliers for finished apparel to the European Union and the United States has decreased markedly since 2005, largely resulting from the expansion of China's exports to these markets (see tables 5.2 and 5.3). Regional and bilateral trade agreements in Asia are also increasing, for example,

as are those in the South Asian region (SAFTA, South Asian Free Trade Area) and those involving the Association of Southeast Asian Nations (ASEAN), including the new China link that went into full effect on January 1, 2010 (see annex table 5A.1).

East Asia: China wins with functional upgrading

In East Asia, China has not only increased its share of overall exports, but it has also significantly diversified its export partners. In 1996, Japan and Hong Kong, China, represented nearly 60 percent of China's apparel exports of \$25 billion, with the United States and the EU 15 accounting for another 22.6 percent. By 2008, China's apparel exports had nearly quintupled to \$120 billion, and the EU 15 and the United States were the top-two export partners; but they accounted for only 39.3 percent of China's apparel exports, while Japan and Hong Kong, China, held 21.1 percent (see table 5.6). Thus, China's top-four export markets in 2008 had about the same share of China's total exports as did combined Japan and Hong Kong, China, in 1996. In this respect, China is decreasing its dependence on its traditional export partners while adding important new markets, such as Russia and former Soviet bloc countries. This pattern can help China to withstand the current demand slump in advanced industrial markets.

It is also important to recognize the size of China's apparel production for its domestic market. In 2007, the estimated value of sales to the Chinese apparel market totaled \$93 billion, indicating that 56 percent of the overall apparel production activities in China were for local consumers (Clothesource 2008).

South Asia: Steady winners

In the long term, the South Asian countries have all increased market share to both the EU 15 and the United States. Post-MFA and during the recent crisis, Bangladesh performed well in both markets, but India, Sri Lanka, and Pakistan have not performed as well in the two markets. The U.S. market share and export value of India, Sri Lanka, and Pakistan has been decreasing, whereas it has increased since 2007 to the EU 15. South Asian countries receive preferential access to the EU under the GSP scheme, yet they do not receive U.S. benefits from GSP.

Southeast Asia: Split effects

Both Vietnam and Cambodia have been gaining EU 15 and U.S. market share since the early 1990s. During the crisis, however, Vietnam managed to maintain its value, volume, and market share far better than did Cambodia. Indonesia and Malaysia are more important suppliers to the U.S. market than to the EU market, and their post-2007 export values and market shares have affected exports to the

Table 5.6 China's Top-10 Apparel Export Markets: 1996, 2002, and 2008

Partner	1996			2002			2008		
	Value (US\$, millions)	Percent	Partner	Value (US\$, millions)	Percent	Partner	Value (US\$, millions)	Percent	Partner
Japan	8,170	32.6	Japan	11,197	27.1	European Union 15	28,760	23.9	
Hong Kong, China	6,600	26.4	Hong Kong, China	7,084	17.2	United States	18,566	15.4	
United States	3,187	12.7	United States	5,325	12.9	Japan	17,686	14.7	
European Union 15	2,467	9.9	European Union 15	4,672	11.3	Hong Kong, China	7,757	6.4	
Korea, Rep. of	649	2.5	Korea, Rep. of	2,250	5.4	Russian Federation	5,640	4.7	
Russian Federation	635	2.5	Russian Federation	1,300	3.1	Kyrgyz Republic	5,091	4.2	
Australia	453	1.8	Australia	1,027	2.5	Korea, Rep. of	3,340	2.8	
Poland	275	1.1	Canada	731	1.8	Kazakhstan	3,022	2.5	
Canada	267	1.1	Mexico	618	1.5	Canada	2,956	2.5	
Saudi Arabia	192	0.8	Singapore	617	1.5	Australia	2,473	2.1	
World	25,034		World	41,302		World	120,405		
Value of year's top-10 and percentage share of China's annual apparel exports	22,896	91.5		34,821	84.3		95,290	79.1	
World apparel exports and China's share	166,077	15.1		203,664	20.3		361,888	33.3	

Source: UN Comtrade; SITC code 84 rev. 3: Exports from China. World Textile Export Values from WTO Statistics Database.

Note: Percent represents the country's or region's partner's share of China's annual apparel exports to the world.

two markets differently, with increases in their share of the U.S. market and decreases in the EU 15. Furthermore, Indonesia and Malaysia have started to focus on growth in textile exports as well. Thailand has been negatively affected by the MFA phaseout, and the Philippines' market share in the United States and EU 15 has fallen since the early 1990s.

Regional suppliers: Declines in market share

The EU's outward processing trade (OPT) arrangement is analogous to the U.S. production sharing system (807) trade arrangement (Gereffi 1997). The United States and its periphery include the following: NAFTA members (United States, Mexico, Canada); the DR-CAFTA signatories (Central America and the Dominican Republic); and other economies in the Caribbean Basin Initiative. The EU and its periphery include EU 27, Turkey, non-EU Central and Eastern Europe countries, and North Africa.

Nearly all of the U.S. regional suppliers have been negatively impacted by the MFA phaseout. EU 15 regional suppliers are also experiencing declines in market share to the EU 15, but the EU as a whole is increasing its share of global apparel exports. Apparel exports from the EU 27 are increasing to emerging markets such as Russia.

Apparel GVCs: Changing Roles, Capabilities, and Networks

The global industry has undergone several production migrations, and production network configurations have been transformed over the last 30 years. As production and sourcing networks evolved and expanded to different global regions, new governance structures and upgrading opportunities arose in the apparel GVC.

Upgrading in the Buyer-Driven GVC

The apparel industry is the quintessential example of a buyer-driven production chain, marked by power asymmetries between the producers and global buyers of final apparel products. The most valuable activities in the apparel GVC are not related to manufacturing per se, but are found in the design, branding, and marketing of the products. These activities are performed by lead firms—large global retailers and brand owners in the apparel industry, which in most cases, outsource the manufacturing process to a global network of suppliers. Apparel manufacturing is highly competitive and becoming more consolidated, with increasing barriers to entry and upgrading. Developing countries are in constant competition for foreign investments and contracts

with global brand owners, leaving many suppliers with little leverage in the chain. The result is an unequal partition of the total value-added along the apparel commodity chain in favor of lead firms.

Beginning in the 1970s, East Asian suppliers extended their upgrading opportunities in the apparel GVC from simple assembly to a series of new roles that included original equipment manufacturing (OEM) for full-package production, ODM for design, and OBM for brand development stages (Gereffi 1999). As intangible aspects of the value chain—marketing, brand development, and design, for example—have become more important for the profitability and power of lead firms, “tangibles” (production and manufacturing) have increasingly become “commodities.” This has led to new divisions of labor and hurdles if suppliers wish to enter these chains (Bair 2005; Gereffi et al. 2001).

The main stages of functional capabilities and upgrading in the apparel GVC are described below (Gereffi and Memedovic 2003). Table 5.7 summarizes the current functional capabilities of the main apparel export countries. Annex table 5A.5 highlights the change in roles, associated governance structures, and

Table 5.7 Summary of Country Capabilities with Examples

Functional capabilities	Supplier tier	Recommendations, key facilitators	Country examples
Cut, make, trim (CMT) (assembly)	Marginal supplier	<ul style="list-style-type: none"> Promote upstream foreign direct investment (FDI) Government and regional organizations Lead firm to commit to long-term supply 	Cambodia, Vietnam, Sub-Saharan Africa, the Caribbean
Package contractor (OEM) sourcing	Preferred supplier	<ul style="list-style-type: none"> Invest in machinery and logistics technology Private investment 	Bangladesh and Indonesia
	Niche supplier		Sri Lanka and Mexico
Full-package provider (ODM)	Strategic supplier	Next step: enter new emerging markets as a lead firm	European Union, Turkey, India, China
Service providers	Coordinators and foreign investors		Hong Kong, China; Taiwan, China; Singapore; Malaysia; Republic of Korea

Source: Authors.

Note: ODM = original design manufacturing; OEM = original equipment manufacturing.

required skills for contemporary upgrading in the global apparel GVC. The stages are as follows:

- *Assembly/CMT*: This is a form of subcontracting in which garment sewing plants are provided with imported inputs for assembly, most commonly in export processing zones (EPZs). CMT, that is, “cut, make, and trim,” or CM (cut and make), is a system whereby a manufacturer produces garments by cutting fabric provided by the customer and sewing the cut fabric into garments for delivery to the customer in accordance with his or her specifications. In general, companies operating on a CMT basis do not become involved in the design of the garment, just the manufacture.
- *Original equipment manufacturing (OEM)/FOB/package contractor*: OEM is a business model that focuses on the manufacturing process. The contractor is capable of sourcing and financing piece goods (fabric) and trim, and providing all production services, finishing, and packaging for delivery to the retail outlet. In the clothing industry, OEMs typically manufacture according to customer specifications and design, in many cases using raw materials specified by the customer. Free-on-board (FOB) is a common term used in industry to describe this type of contract manufacturer. However, it is technically an international trade term in which, for the quoted price, goods are delivered onboard a ship or to another carrier at no cost to the buyer.
- *Original design manufacturing (ODM)/full package*: This is a business model that focuses on design rather than on branding or manufacturing. A full-package garment supplier carries out all steps involved in the production of a finished garment, including design, fabric purchasing, cutting, sewing, trimming, packaging, and distribution. Typically, a full-package supplier will organize and coordinate the design of the product; the approval of samples; the selection, purchasing, and production of materials; the completion of production; and, in some cases, the delivery of the finished product to the final customer.
- *Original brand manufacturing (OBM)*: OBM is a business model that focuses on branding rather than design or manufacturing; this is a form of upgrading to move into the sale of the customer’s “own brand” products. For many firms in developing countries, this marks the beginning of brand development for products sold in the home country or its neighbors.

The desire of buyers to reduce the complexity of their own operations, keep costs down, and increase flexibility to enable responsiveness to consumer demand has spurred the shift from CMT to OEM package contractors. Establishing and maintaining captive, buyer-supplier-dependent relationships is costly for the lead

firm and leads to inflexibility as far as changing suppliers because of transaction-specific investments developed between parties. Modular production networks provide the lowest costs to lead firms. Thus, logistics coordination and sourcing are frequently the first functional activities lead firms are willing to give up, and they want to shift the responsibility for this to their first-tier suppliers. The CMT model is unnecessarily complex and the recession has accelerated awareness of the flaws in this model. This model is finally becoming obsolete; countries without capabilities beyond CMT need to prioritize investments in this area to stay in business and maintain market share.

Upgrading of Regional Capabilities in the Apparel GVC

In the past, the global apparel industry has been characterized by a large number of exporting countries as a result of the MFA quota system; however, these numbers have been sharply reduced and the exports have become more concentrated. The apparel supply chain is also marked by substantial country specialization. Higher-income nations generally predominate in more capital-intensive segments, while lower-income countries dominate labor-intensive segments (Kilduff and Ting 2006). The most labor-intensive activity is apparel production, followed by textile (yarn and fabric) production. The most capital-intensive segments, such as manmade fiber production and machinery manufacturing, are located upstream, where entry barriers become progressively higher (Gereffi and Memedovic 2003). As countries grow richer and wages rise, the comparative advantage in labor-intensive manufacturing is eroded, and the focus shifts to high value-added products or to other manufactured products with lower labor intensity (Adhikari and Weeratunge 2006).

Annex figure 5A.3 illustrates how this division between capital- and labor-intensive activities varies between countries at different levels of development and shapes the pattern of industrial upgrading in the Asian apparel GVC. The main segments of the apparel chain—garments, textiles, fibers, and machinery—are arranged along the horizontal axis, and they reflect low to high levels of relative value-added as capital intensity increases. Countries are grouped on the vertical axis by their relative level of development, with Japan at the top, China and India in the middle tier, and the least-developed exporters like Bangladesh, Cambodia, and Vietnam at the bottom.

This figure further reveals several important dynamics about the apparel GVC in Asia, and the GVC approach more generally (see Gereffi 2005, 172). First, individual countries tend to progress from low to high value-added segments of the chain sequentially over time. This shows the importance of looking at the entire constellation of value-added steps in the production process (raw materials,

components, finished goods, related services, and machinery), rather than just the end product. Second, there is a regional division of labor in the apparel GVC, whereby countries at very different levels of development form a multitiered production hierarchy with a variety of export roles; for example, the United States generates the product designs and large orders, Japan provides the sewing machines, the East Asian newly industrializing economies (NIEs) supply fabric, and low-wage Asian economies (like China, Indonesia, or Vietnam) sew the apparel. Industrial upgrading occurs when countries change their roles in these export hierarchies. Finally, advanced economies like Japan and the East Asian NIEs do not exit the industry when the finished products in the chain become mature, as the “product cycle” model (Vernon 1966) implies, but rather they capitalize on their knowledge of production and distribution networks and thus move to higher value-added stages in the apparel chain.

Lead Firms in the Contemporary Apparel GVC

In the apparel GVC, there are three main types of lead firms: retailers, brand marketers, and brand manufacturers (highlighted in figure 5.1). These lead firms not only have significant market power because of their size, which is reflected in sales, but they also have moved beyond production to different combinations of high-value activities, including design, marketing, consumer services, and logistics.

Table 5.8 provides regional examples of each type of lead firm. The retailer category distinguishes between mass merchants that sell a diverse array of products and specialty retailers that sell only apparel items. Brand manufacturers traditionally formed production networks in which the brand owner was involved in the production process, either through ownership or through supplying inputs to production. In contrast to brand manufacturers, brand marketers and retailers opt for sourcing strategies that involve constructing networks with OEM or full-package producers. In this model, the buyer provides detailed garment specifications and the supplier is responsible for acquiring the inputs and coordinating all parts of the production process: purchase of textiles, cutting, garment assembly, laundry, as well as finishing, packaging, and distribution (Bair and Gereffi 2001; Bair 2006). As capabilities in the global apparel supply base improved, brand manufacturers, marketers, and retailers expanded their sourcing networks.

Changes in Apparel-Sourcing Strategies

Two major changes occurred during the MFA phaseout that caused a change in the sourcing strategies of lead firms in the apparel GVC. On the demand side,

Figure 5.1 Types of Lead Firms in the Global Apparel Value Chain

Table 5.8 Lead Firm Types and Brand Types with Regional Examples

Lead firm type	Type of brand	Description	Examples	
			United States	European Union 27
Retailers: mass merchants	Private label: the retailer owns or licenses the final product brand, but in almost all cases, the retailer does not own manufacturing.	Department/discount stores that carry private label, exclusive, or licensed brands that are only available in the retailers' stores in addition to other brands.	Walmart, Target, Sears, Macy's, JCPenney, Kohl's, Dillard's	Asda (Walmart), Tesco, C&A, Marks & Spencer
Retailers: specialty apparel		Retailer develops proprietary label brands that commonly include the store's name.	Gap, Limited Brands, American Eagle, Abercrombie & Fitch	HandM, Benetton, Mango, New Look, NEXT
Brand marketer	National brand: the manufacturer is also the brand owner and goods are distributed through multiple retail outlets.	Firm owns the brand name, but not manufacturing, that is, "manufacturers without factories." Products are sold at a variety of retail outlets.	Nike, Levi's, Polo, Liz Claiborne	Ben Sherman, Hugo Boss, Diesel, Gucci
Brand manufacturer		Firm owns brand name and manufacturing; it typically coordinates supply of intermediate inputs (CMT) to its production networks, often in countries with reciprocal trade agreements.	VF, Hanesbrands, Fruit of the Loom, Gildan	Inditex (Zara)

Source: Authors.

brand manufacturers were replaced by the suppliers of private-label merchandise (store brands) sourced by retailers. Retailers' strengths are in marketing and branding, but they tend to have limited knowledge of how to actually make the products they are procuring. Thus, retailers needed suppliers or agents capable of bundling and selling the entire range of manufacturing and logistics activities (OEM or ODM), creating a need for suppliers with increased capabilities. On the supply side, network relationships in the apparel supply chain became increasingly complex because of the breadth and specialization of apparel products and the growth of countries with production capabilities. The MFA had facilitated the entry of developing countries with limited technical or business skills into global apparel networks.

These two changes led to the need for new forms of coordination and management in the apparel supply chain. Two groups emerged to provide the key links between producers and retailers: East Asian transnational manufacturers with established buyer relationships who set up and managed global production networks, and traders (import-export companies) and agents who emerged as intermediaries between established buyers and sellers in the apparel GVC.

The traditional agent-sourcing model is most popular with buyers that require smaller volumes or larger buyers that need small quantities of certain items. Benefits of using a third-party sourcing agent include scale of operations, buying power, flexibility, and ability to spread risk among suppliers. Li and Fung Limited—based in Hong Kong, China, engaged in the trade of consumer goods since 1906, and pioneered the agent-sourcing model—is continuing to expand its roles into areas such as product development, marketing, and branding. Recently, Li and Fung adopted a more prominent role as the primary purchasing agent for giant retailers including Walmart and well-known apparel brands like Liz Claiborne.

Alternatively, as buyers developed expertise in assessing local capabilities, they started to establish direct sourcing relationships. To reduce cost and mitigate risk, many buyers established overseas sourcing offices in their main producing countries. Over the years, retailers shifted more responsibilities to these overseas sourcing offices, driven by cost and the skills of the staff based there. Many are also moving product development and design offices closer to the manufacturing process. Direct sourcing requires manufacturers to provide faster reaction times and better factory understanding of a retailer's particular needs. Sourcing agents charge clients 4 to 8 percent of the wholesale price as commission, representing an area to realize savings if this step is eliminated.

Annex tables 5A.6–5A.8 describe the sourcing channels and destinations used by several categories of lead firms in the global apparel GVC. Most retailers use a range of different channels depending on their levels of expertise and sales volumes (just-style.com 2009c).

New Roles and Relationships in the Apparel GVC

The roles and relationships among national and global lead firms, apparel manufacturers, and intermediaries have increasingly blended and overlapped in recent years. The following trends are closely tied to buyers' strategies and long-term objectives. These trends began before the economic crisis and will likely persist afterwards.

- *Brand owners becoming specialty retailers:* Brand manufacturers and marketers are increasingly opening their own stores. In addition, brands with existing retail operations are likely to focus more on their own stores rather than meeting the needs of their external customers (Euromonitor 2009).
- *Full-package "manufacturers" becoming intermediaries:* Rather than manufacture, they establish a network of global suppliers. Essentially, these suppliers are doing what brand marketers and manufacturers did 10 to 20 years ago. There are a host of firms in countries around the world that make products for multiple brands, based on the buyers' requirements. They provide full-package services along with production capabilities.
- *Intermediaries/agents expanding services:* These middlemen are expanding their roles to include an array of services to buyers, including design, product development, and quality control, in addition to providing a network of suppliers and logistics.
- *Private-label brands growing:* There is a sharp increase in the volume and diversity of retailer private labels. Retailers that develop proprietary brands use in-house design teams and outsourced manufacturing capacity, often by direct foreign product sourcing. By eliminating the middleman associated with national brands, retailers can shave costs and widen profit margins. Today, retailers are expanding the range of private-label products offered and developing higher-margin private-label goods (Euromonitor 2009).
- *Brand marketers creating exclusive product lines with mass merchant retailers:* Exclusive product lines are a new way for mass merchants to offer unique merchandise. Retailers are striking agreements with brand marketers to develop and distribute brands that are sold exclusively through the one retailer's stores instead of the traditional brand marketer model in which goods are sold via multiple retail outlets (Asaeda 2008; Euromonitor International 2009).
- *Social and environmental standards becoming more important:* This trend began with corporate social responsibility (CSR) campaigns and social advocacy groups. Now environmental compliance requirements and green initiatives are moving to the forefront (Asaeda 2008; Barrie and Ayling 2009; Driscoll and Wang 2009; International News Services 2009; Tucker 2009).

Consumers are demanding that lead firms become more responsible and transparent about their practices. The success of ethical clothing brands (for example, Patagonia) is a testament to the power of consumer demand and green credentials.

- *Dual sourcing strategies of "quick response" and "fast fashion" being adopted to keep competitive:* This is a system to design "hot" products with minimal production lead times and close matching of supply and demand.

Quick response is associated with replenishment purchases for basic products (Jassin-O'Rourke 2008). Fast fashion is actually quick response in new merchandise (with little or no replenishment), involving shipping fewer pieces, in a great variety of styles, and more often.² Fast fashion emerged from quick response, but the two are different. Buyers tend to source fashion-sensitive products from suppliers that can deliver in a flexible and speedy manner, while basic products are sourced from the lowest-cost countries (Technopak 2007), leading to the distinction between the two concepts.

The industry made predictions that fast fashion would lead to local sourcing, but this has not been the case. Asian suppliers have quickly adapted the capabilities to serve fast-fashion buyers, including reducing minimum-run requirements. These suppliers have also lowered the cost of goods, thus putting intense pressure on regional manufacturers (The Clothing Industry 2009).

Trends in Lead Firm Sourcing Strategies Accelerated by the Crisis

Activities and strategies of lead firms have a profound effect on suppliers' relationships and required capabilities throughout the value chain. Key trends in lead firms' sourcing strategies in the apparel GVC that have been accentuated by the MFA phaseout and economic recession include the following:

- *Avoid risk and increase diversity of suppliers:* Maintaining a diversified portfolio of vendors and countries is a necessity for successful sourcing organizations (Sauls 2008). The recession has increased buyers' interest in having backup suppliers in place in case factories go under and to cope with general uncertainty about the future (Barrie and Ayling 2009). Some predicted the recession would lead to more local sourcing, but this has not yet happened (The Clothing Industry 2009).
- *Reduce reliance on China:* Lead firms continue to source the majority of products from China, but they also seek to diversify into other countries to avoid putting all their eggs in one basket. The Japanese government has openly declared its interest in reducing reliance on China. This could have major

effects, since Japan is the world's second largest clothing importer and Southeast Asia and Bangladesh currently account for only 7 percent of imports. Japan's plan could double or triple the total current exports from these countries, putting price pressure on European and U.S. Asian importers (Talking Strategy 2008; *Jakarta Globe* 2009; just-style.com 2009b).

- *Decrease suppliers' dependence on few buyers:* Lead firms no longer want to be the main buyer for any one supplier because of the risks associated with controlling the majority of a factory's output. Buyers tend to follow the "30/70" rule in which it is desirable to have 30 percent of a factory's business, but not more than 70 percent (Fung, Fung, and Wind 2008). Now suppliers must be able to meet the requirements of several buyers, and buyers have less obligation (or benefit) to invest in upgrading their suppliers' factories.
- *Increase long-term relationships with suppliers:* During the era of quotas, trade was dominated by short-term, market relationships. Now that quotas are gone, buyers are streamlining the number of suppliers they work with and focusing on developing long-term strategic partnerships with their most important suppliers. These strategic suppliers are increasingly multinational manufacturers or network coordinators that do the logistics legwork for the lead firms.
- *Rationalize supply chain:* Most lead firms in the apparel industry are committed to significant reductions in the size and scope of their supply chains. They want to deal with fewer, larger, and more capable suppliers that are strategically located near major markets around the globe. Retailers seek to consolidate the number of wholesalers they purchase from and they want to buy a more comprehensive line of clothing, accessories, and footwear from these wholesalers (Barrie and Ayling 2009; Euromonitor 2009). The recession has caused lead firms to "cut the fat," and they are confining their relationships to their most capable and reliable suppliers.

Impact of the Crisis on Apparel Suppliers in Developing Economies

The economic crisis has had a similar impact on apparel suppliers in developing countries, but those countries have been affected in varying degrees. The decrease in demand from the leading apparel-importing countries has meant a decrease in apparel exporters' product volumes and values and their access to credit, resulting in employment declines and in factory closings. Buyers are requiring more for less from the suppliers they choose to buy from and are seeking to build long-term partnerships with the most capable suppliers. Governments have responded in a variety of ways, ranging from tax rebates to increasing technology and infrastructure investments. These key impacts are highlighted below.

Decreases in Employees and Factories: Survival of the Fittest

During the recession, buyers transferred business away from marginal suppliers to their core operations, which created job losses in countries that are highly dependent on the apparel industry (Birnbaum 2009). Lower demand from international customers put a large number of vulnerable garment manufacturers in developing countries out of business (Barrie and Ayling 2009; Driscoll and Wang 2009; International News Services 2009). Annex table 5A.4 includes employment figures and estimated job losses in the textile and apparel industries in developing countries. Upper estimates of number of jobs lost because of the economic crisis include China, 10 million; India, 1 million; Pakistan, 200,000; Indonesia, 100,000; Mexico, 80,000; Cambodia, 75,000; and Vietnam, 30,000 (Forstater 2010). Job losses are causing rising levels of poverty and geographical shifts from urban areas focused on export markets to rural areas focused on agriculture and traditional employment, thus reducing the number of skilled textile and apparel laborers available.

Decline in Export Volume and Value

Many surviving companies are experiencing a decline in exports in some product categories. By May 2009, apparel imports to the U.S. market dropped by 15.7 percent, with every major garment supplier reporting declines (WTO 2009). Most view the decline in U.S., EU, and Japanese consumption as temporary. However, the longer the effects of the recession are felt, the longer consumers become accustomed to living with less. If that decrease in consumption becomes permanent, the current slow shift toward domestic markets in developing economies will accelerate and production networks will become more national or regional in nature.

New Sources of Credit and Trade Finance

Perhaps the most lasting effect of the recession on existing and new suppliers is access to credit and finance. The recession brought the importance of suppliers' financial stability to the attention of all buyers. The crisis has made access to credit much more difficult, leading to new types of financial arrangements, and thus increasing suppliers' dependence on buyers. In the future, firms will have to prove their financial stability in order to become suppliers.

To make matters worse, some customers are delaying payments and banks are becoming stricter with credit access (just-style.com 2009a). The general decline in credit availability is affecting all suppliers, but particularly hard hit are small and

medium-size firms and locally owned firms (Barrie and Ayling 2009; Driscoll and Wang 2009).

The credit crunch has spurred new financial arrangements. Some buyers fear that when demand returns, it may be difficult to find qualified suppliers (Driscoll and Wang 2009). Retailers such as Kohl's and Walmart are offering financial support to their suppliers. Kohl's offered 41 percent of its suppliers a "Supply Chain Finance" program that lets suppliers get paid quickly once their invoices are approved for payment; by mid-2009, 11 percent of suppliers had signed on to the deal (O'Connell 2009). Walmart also offered about 1,000 suppliers, primarily apparel manufacturers, an alternative to traditional means of financing: a new "Supplier Alliance Program," in which eligible suppliers can get payment for their orders within 10 to 15 days of Walmart's receipt of goods, compared with the more typical 60 to 90 days (O'Connell 2009). Li and Fung is also moving into financing by becoming a lender of last resort to factories and small importers whose credit was cut off during the global financial meltdown (Kapner 2009; O'Connell 2009).

Increasing Government Support

In the aftermath of the MFA quota phaseout and the recent recession, the governments of nearly all major apparel-exporting countries have provided various forms of support to local industry. During the recession, the actions of individual governments became critical steps to recovery. Government interventions in developing economies have taken various forms, for example, providing tax relief, suspending tariffs or export duties, and assuring financing and liquidity for enterprises (see annex table 5A.1).³

Forming Strategic Long-Term Relationships with Lead Firms

Strategic long-term relationships are beneficial for buyers and suppliers. Buyers benefit from these relationships by virtue of their ability to exert influence over a supplier in order to achieve efficiencies in the supply chain, including reducing lead times, standardizing production processes to suit the nature of the buyer's product (asset specificity and tacit knowledge—lead firm setting standards), establishing preferential logistics and transportation arrangements, and increasing the transparency of the supplier's inventory (Technopak 2007). Suppliers benefit because these relationships provide security in the form of guaranteed demand for the supplier's output.

The strategic-supplier relationship is likely to become increasingly prominent in the apparel GVC in the post-MFA and postcrisis era. As global supply chains

become more rationalized and consolidated, lead firms are realizing that future efficiency gains will require closer, more integrated linkages among all parts of the chain. The question today cannot be limited to "how successful is my firm?" Instead firms must ask themselves, "How successful is my network, and what role does my firm play in the bigger picture?"

More Stringent Supplier Capabilities

The following factors have long been important in apparel-sourcing strategies, but the crisis has heightened the need for suppliers to meet all or most requirements, as opposed to just one or two:

- *Cost/price:* During the recession and since, consumers have been placing more emphasis on price, thus causing retailers and brand marketers to focus on reducing costs (MSN 2009; Tucker 2009).
- *Product quality:* Firms must provide quality in addition to low prices, flexible production, and services (Driscoll and Wang 2009).
- *Supplier flexibility:* Firms are under pressure to make multiple products in small runs in order to deal with decreased demand and niche markets (MSN 2009).
- *Visibility/transparency:* Growing consumer demand for higher social and environmental standards has increased the need for supply chain transparency in both the United States and the European Union. Lead firms want to know more about their suppliers to ensure that they uphold the principles of the brands (Sauls 2008).
- *Full-package capabilities:* Suppliers need to be able to offer a full package to buyers and expand their capabilities to other parts of the value chain—including design, inventory management, and transportation of goods—and adopt the appropriate technologies to facilitate this transition (Technopak 2007).

Since the expiration of quotas, the global apparel industry has been faced with overcapacity that is creating intense competition in low-cost countries. By restricting leading apparel country exporters, the quota system enabled too many factories in too many countries to enter the global apparel trade, and now more factories are competing for fewer orders. In the short term, this has significantly raised the bar to be a global competitor; manufacturers must be more creative and comprehensive in the development of their products and services (Technopak 2007). Buyers are placing stricter demands on manufacturers and are asking for better products (quality), more nonmanufacturing capabilities, and faster turnaround times, all for lower costs. Suppliers must meet buyer demands to keep

orders, increase volume, and reduce costs (Talking Strategy 2008). When this is coupled with the ongoing consolidation in the retail sector, the result is more power in the hands of the global buyers (that is, retailers, global brands, and large manufacturers that have outsourced their production).

Recommendations for Economic Development

This section offers recommendations for economic developers, governments, and the private sector that can provide assistance to developing countries in facing the challenges and harnessing the opportunities created by the crisis. How can developing countries best use current circumstances to make critical reforms that will enable them to take part in global growth once the economy recovers?

Short-Term Crisis Strategies

- *Implement “furlough” days:* Firms should implement the equivalent of “furlough” days rather than lay off workers. By reducing the number of hours or wages, firms and countries can maintain the labor force and industry expertise that will be needed when production returns.
- *Encourage local-market production:* Firms and governments should encourage production for the local market to keep companies in business. For example, MOL Magazalari (Turkey) is a consortium of 38 local clothing manufacturers that have recently set up manufacturer-owned shops selling goods manufactured, designed, and marketed as “Made in Turkey.” These Turkish firms have used the crisis as an opportunity to upgrade their skill sets in marketing and retailing, which is helping them survive the recession and become more competitive in the future (The Clothing Industry 2009).

Long-Term Postcrisis Suggestions to Foster Growth

- *Invest in education and training:* Education and training opportunities will help to overcome the skills deficits that could hinder economic upgrading. Whereas quotas helped to initiate a textiles and clothing industry in developing countries, maintaining or improving a country’s position in the global apparel GVC requires a continuous dedication to workforce development by the government and local firms. In the long run, innovative capacities depend on suitable human capital. Education should include technical skills as well as soft skills in areas such as management, product development, design, and market research.
- *Create marketing and networking functions:* Firms and governments should work together to create organizations to market and network the country/region and

align firms with international organizations dedicated to standards development, industry advocacy, research and development, and best practices. Economic developers and governments should provide firms with assistance to attend and participate in international trade shows to increase visibility to potential buyers.

- *Promote foreign direct investment or joint ventures to develop vertical capabilities:* The government of countries without domestic textile production should market their countries as a favorable location to locate FDI. This is a good strategy in areas that are still dominated by assembly or CMT production models, such as Africa, Southeast Asia, and the Caribbean. This will help to establish backward linkages and to develop skills not in the country. Economic authorities need to provide a one-stop shop for any investor or supplier wishing to set up a new firm (Knappe 2008).
- *Invest in technology and flexible production systems:* Firms and governments with a long-range vision of recovery are prepared to invest in technology that enables more efficient and flexible business and production models. Investments are needed to upgrade production machinery as well as logistics and information technologies that enable suppliers to become more integrated into their buyers’ networks. Enterprises willing to invest in creative solutions will come out ahead in the aftermath of the recession.
- *Develop full-package capabilities:* Firms must be able to—or have alliances with firms that can—provide a final product and additional services related to product development, design, logistics, and quality control. Global brands and retailers are starting to move product development and design divisions closer to regional manufacturing. Suppliers able to offer these services (strategic suppliers) can be indispensable to the buyer and are likely to maintain market share through tough economic times.
- *Develop standards to meet international and regional standard certifications:* Governments should encourage and provide assistance to firms with product and process standards required by international buyers, such as ISO 9000 and 14000, the Global Organic Textile Standard, and the European Union’s REACH directive.
- *Promote sustainable production practice:* Surviving suppliers will be companies that chose to compete on their environmental credentials in addition to cost, quality, and other traditional factors. Whether legally enforceable or “voluntary,” agreement to make adjustments to have a greener and more transparent firm and supply chain will be mandatory to compete in the future. Countries that develop policies that facilitate the transition to more sustainable practices will be the winners.
- *Diversify buyers, products, and end markets:* Firms need to diversify into multiple product lines and end-use markets as well as different geographic markets.

Equally important, suppliers should expand their export focus to emerging countries with growing disposable incomes. These markets are often less demanding than traditional export markets in the United States and the European Union, but they offer more opportunities to upgrade skills to higher value-adding functions such as product design, marketing, and branding. Bilateral and regional trade agreements can help facilitate this process and build future long-term relationships.

Conclusions

Developing countries in the global apparel GVC have been beset by two major crises in recent years: the WTO phaseout of the quota system in 2005, which provided access for many poor and small export-oriented economies to the apparel markets of industrialized countries, and the recent economic recession that has lowered demand for apparel exports and led to massive unemployment across the industry's supply chain. Beyond the need to adjust to these two crises, our analysis has also highlighted a longer-term process of global consolidation, whereby a handful of leading apparel suppliers (countries and firms) has strengthened their positions in the apparel GVC, which complicates the adjustment strategy of smaller or more vulnerable players who have lost ground in the crisis.

On the country side, China has been the big winner. It has increased its dominant position in all of the major industrial economies (the United States, the European Union, and Japan). It has also diversified its export reach by gaining ground in many of the world's top emerging economies as well, such as Russia for finished goods and India, Brazil, and Turkey for intermediate goods, like textiles. Other developing economies have also gained in the post-MFA era, such as Bangladesh, India, Vietnam, and Indonesia. But regional suppliers have been hard hit, especially Mexico and CAFTA-DR in North America, and East European and North African suppliers to the European Union.

On the firm side, the quota phaseout and economic recession have accelerated the ongoing shift to a rationalization of global supply chains. Major retailers, brand marketers, and brand manufacturers have been stressing their desire to work with fewer, larger, and more capable suppliers, strategically located around the world. In addition, there has been a consolidation among the lead firms, as the largest retailers (Walmart), traders (Li and Fung), brand marketers (Nike), and brand manufacturers (VF Corporation) are increasing their market shares through mergers, acquisitions, and bankruptcies within the textile and apparel chain.

Within the developing world, the dual crises outlined in this paper pose the biggest threat to two kinds of vulnerable actors. The "trade impact" will be most

significant for the smaller countries that were privileged by the MFA quota system, who no longer have guaranteed access to developed country markets. Regional trade agreements can ameliorate, but not eliminate, this pressure from dominant global exporters. A more specific "recession impact" is likely to hurt the weaker manufacturers in large developing economies, such as India, China, and Bangladesh. This could lead to major unemployment in these economies as supply-chain consolidation occurs inside these economies. We have offered suggestions to apparel suppliers in developing economies for coping with these competitive pressures, but there is no quick fix or certain solution.

The ultimate impact of the economic crisis is likely to extend well beyond specific industries, such as apparel. It challenges the broader viability of export-oriented industrialization as a growth model for developing economies. The economic recession will probably push even the successful apparel-exporting countries, such as China and India, toward more emphasis on domestic markets, and less reliance on export-oriented development per se. This is not only because export demand has slackened, but also because the upgrading opportunities of domestic and regional markets are likely to be greater for suppliers in developing countries. While these issues are beyond the scope of any specific industry analysis, they highlight the importance of rethinking national models of development in light of what we have learned about global value chains and the crisis.

Annex: Examining the Apparel Industry

Annex tables and figures begin on the following page.

Table 5A.1 Leading Apparel Exporters: Government Support and Trade Agreements

Country	Government support and dates of initiation	Key trade agreements
China	<p>2009 (April 24): China's State Council Three-Year Textile and Clothing (T&C) Stimulus Plan. The aim of the plan is to ensure stable development and to upgrade the T&C infrastructure. The plan will eliminate obsolete capacity, reduce energy consumption, improve efficiency, and encourage a shift to higher value-added products plus improvements in product quality and variety. The government is targeting average textile production growth of 10 percent each year and export growth of 8 percent annually to reach US\$240 billion by 2011. They want the industry to invest in more advanced technology to increase productivity, nurture 100 domestic brands to make them account for 20 percent of all export volumes in three years, and to boost domestic consumption and improve access to credit and extend loan repayment deadlines to textile companies facing difficult times. Reports of massive lending sprees by Chinese banks to exporting companies to keep factories going despite customers delaying or defaulting on payments or demanding price reductions.</p> <p>2008–09: Increase in Value Added Tax (VAT) Export Rebates. China charges a VAT of 17 percent at every level of the production process and the final product, but firms exporting a product can receive VAT export rebates on finished and input products. Due to decreases in export demand and increasing domestic production costs (currency and labor), China progressively increased VAT export tax rebates a total of five times for T&C (three times in 2008 and twice in 2009). Chinese clothing manufacturers can now claim a rebate up to the 17 percent ceiling. Prior to increases in 2008, China had been taking measures to slow export growth by decreasing export rebates.</p>	<p>Association of Southeast Asian Nations (ASEAN) ASEAN–China (Jan. 1, 2010),</p> <p>Free Trade Agreements (FTA): Pakistan, New Zealand, Hong Kong, China</p>
Turkey	<p>2009: Strategic Action Plan for Textile, Ready-to-Wear, and Leather Sectors (2009–14). This is a scheme recently unveiled by the government to alleviate problems with T&C production in the country. The plan provides support in the form of government finance, advice, and training for export-oriented clothing producers who wish to relocate factories from Istanbul and its surrounding areas to eastern provinces of Turkey where wages are lower. Incentives include exemptions from customs tax and reductions in VAT, corporation tax, and energy bills.</p>	<p>EU Customs Union; Active in China Safeguards</p>

Table 5A.1 *continued*

Country	Government support and dates of initiation	Key trade agreements
	<p>2003: Government Incentive program, Turquality (WTO-compliant). This is an accreditation and support program to strengthen the international image of the country and of the garments manufactured by a select group of approximately 30 T&C brand owners.</p>	
Bangladesh	<p>2006: Government of Bangladesh assistance. The government support measures to bolster the T&C industry include the provision of bonded warehouse facilities, technological upgrading (concessionary duty rates and tax exemptions for the import of capital machinery), cash subsidies for the use of local fabrics as inputs for exporting ready-made garments (RMG) enterprise, and an Export Credit Guarantee Scheme covering risk on export credits at home, and commercial and political risks occurring abroad. The government also supports market promotion efforts of the RMG exporters and subsidizes utility charges.</p>	<p>South Asian Free Trade Area (SAFTA), Generalized System of Preferences (GSP): EU Everything But Arms (EBA), FTAs: Canada, Australia, and Norway</p>
India	<p>2006–11: Government Strategic T&C Development Plan. Initiatives in the budget included the following: reduced the VAT on all goods; established the Scheme for Integrated Textile Parks in 2004 to encourage vertically integrated textile clusters with modern infrastructure; approved 40 parks and 4 are in operation. Also investing in handloom and handicraft clusters.</p> <p>2009/10: India's National Budget includes supports. The budget included several support mechanisms to help T&C manufacturers recover from the economic recession including a US\$26 million financial aid package to help companies looking to develop new export markets. It is also increasing availability of low interest loans and tax incentives (extension of tax holiday arrangements) for export-oriented firms.</p> <p>1999–2009: India's Textile Upgradation Fund Scheme. The government offers financial incentives (low cost loans and special credits) for domestic manufacturers to upgrade their technology. This has been a very effective tool to foster new investment.</p>	<p>SAFTA, European Union: GSP (textile articles included, but textiles omitted)</p>
Vietnam	<p>2010: Government Industry Plans. The plans include restructuring production by moving textiles into industrial parks and apparel to rural areas, encouraging big firms to establish long-term relationships with overseas importers and retailers, adding value to products using fashion techniques, paying attention to local markets, and improving workers' quality of life.</p>	<p>ASEAN, ASEAN-Japan, ASEAN-Australia-New Zealand, ASEAN-China</p>

(continued next page)

Table 5A.1 *continued*

Country	Government support and dates of initiation	Key trade agreements
	<p>2009: Cotton Development Program. With the goal of tripling raw cotton production by 2020, the program includes free cottonseed to several provinces.</p> <p>2008 (March): Vietnamese Government Development Strategy. The government is seeking to encourage manufacturing value-added products by emphasizing the use of domestically grown raw cotton, promoting the production of high-quality woven fabrics by improving dye and finish operations, and focusing on training workers in management and design positions. The government asked Vinatex, one of the largest domestic firms, to increase the amount of local material from 36 to 50 percent. Efforts are under way to make the industry more fashion-oriented and to develop qualified fashion designers and Vietnamese fashion brands.</p>	EU: GSP (footwear and headgear omitted)
Indonesia	<p>2009: Indonesian Government assistance. The government approved a US\$26.5 million state budget fund to support the country's T&C (82 percent) and footwear (18 percent) industries. In 2007, this fund supported 78 T&C manufacturers with approximately US\$18.9 million; in 2008, US\$23.1 million. In 2008, government set aside US\$25.2 million to update textile machinery to meet Japan's high import standards. The subsidy for textile machinery upgrading was pulled back in 2010 due to a lack of interest and applicants.</p>	ASEAN, ASEAN-Japan, ASEAN-Australia-New Zealand, ASEAN-China
Pakistan	<p>2009 (August): Government industry-specific five-year plan. The government released details of a new five-year program to revitalize the textile industry. The policy allocates funds to companies to make investments necessary to compete in international apparel markets by increasing the local availability of Pakistan-made textiles, especially yarns and fabrics. The initiative focuses on gas and electricity supply, full refund of past R&D claims, availability of 5 percent export refinancing, relief on long-term loans, tax-free import of machinery, and subsidized credit. Mills that increase market share and earn more money for the country have been promised a higher rate of duty drawback.</p> <p>2008/09: National Trade Strategy Initiatives. The trade plan has several textile-related initiatives including establishing new export clusters for weaving and textile processing and embroidery, funding productivity audits, hiring international consultants to develop the handicraft sector, providing tax incentives to facilitate imports of machinery and raw material inputs, and encouraging manufacture and export of recycled polyester.</p>	SAFTA, GSP: EU, U.S. Reconstruction Opportunity Zone (similar to an Export Processing Zone), FTA: China, Malaysia, Sri Lanka

Table 5A.1 *continued*

Country	Government support and dates of initiation	Key trade agreements
	<p>2006: Government support for upgrading. This support focused on technology upgrading and modernization as well as training institutes for skill development.</p>	
Cambodia	<p>2001: Better Factories Cambodia: ILO Project. The project grew out of a trade agreement between the United States and Cambodia. Under the agreement the United States promised Cambodia better access to U.S. markets in exchange for improved working conditions in the garment sector; the ILO project was established to help the sector make and maintain these improvements with lead firms.</p> <p>2000s: Government incentives. This support centered on encouraging foreign investment with generous incentives.</p>	ASEAN, ASEAN-Japan, ASEAN-Australia-New Zealand, ASEAN-China
Sri Lanka	<p>2006: Sri Lankan Government debt write-off. The government wrote off the unpaid debt of the local textile manufacturers that had registered for restructuring the textile industry; initiated incentives for apparel productivity improvement through a grant of US\$1 million to promote backward linkages; began setting up an industrial park with a waste and effluent treatment plant to facilitate fabric manufacturing. Another program was outlined aimed at developing a regional apparel hub in Katunayake, where both an EPZ and an international airport are located.</p> <p>Government attracts FDI. Government provides incentives, including special industrial zones, tax holidays, and import duty exemptions.</p> <p>2002: Garments Without Guilt. This program is cofunded by the government and private sector to promote the country's image as an ethical T&C manufacturer, committed to labor rights and ethical sourcing. The campaign is a way for Sri Lankan producers to differentiate themselves from other Asian suppliers.</p>	SAFTA, GSP+: EU

Source: Authors.

Table 5A.2 Leading Apparel Exporters: Strengths and Weaknesses/Threats

Country	Strengths	Weaknesses/threats	Labor pay rate ^a
China	<ul style="list-style-type: none"> • Labor: high productivity, competency, and experience: China excels at improving productivity in light of rising inflation. • Quality and reliability: fabric and garments • Technology investment (logistics) • Product diversity: fabric and finished goods • Mentality and management: "can do" business approach 	<ul style="list-style-type: none"> • Inflation: (increases producer prices) and competition for workers from higher paying, non-apparel-sector industries • Labor costs and labor laws: rising domestic wages, expected to increase further as a result of new labor laws • Currency appreciation • Energy costs: increasing • Shipping cost: major increases • Product safety 	\$1.44–1.88/hour
Turkey	<ul style="list-style-type: none"> • Flexibility and speed: domestic manufacturers investing in new production in Egypt 	<ul style="list-style-type: none"> • Labor costs • Intellectual property enforcement • Inflation in raw material costs compared to competitors 	\$2.44/hour
Bangladesh	<ul style="list-style-type: none"> • Low-cost production and firms' willingness to keep margins low while investing in new technology to improve productivity and to reinforce relationships with buyers • Improvements in terminal handling and customs: Clearance has gone from 12–13 days as recently as last year to clear goods within 3 days • Low labor costs and availability • Low energy costs • Currency depreciation: coincided with post-ATC period. More of an advantage to knit exports. • Growing textile industries: Taiwanese and Korean investors are setting up fabric/fiber operations 	<ul style="list-style-type: none"> • Lack of design, soft skills, and technology • Currency fluctuation (mainly euro) causing losses in previously arranged letters of credit • Shortage of skilled workers and middle management • Human capital (poor) and worker unrest and strikes over poor pay and conditions • Energy reliability: power interruptions in the national power grid are common, and stand-alone generators are often needed (more expensive) • Inefficient infrastructure: port and transportation 	\$0.31/hour
India	<ul style="list-style-type: none"> • Product diversity: most diversified exporter of T&C products in South Asia 	<ul style="list-style-type: none"> • Procedural hurdles to international trade 	\$0.51/hour

Table 5A.2 continued

Country	Strengths	Weaknesses/threats	Labor pay rate ^a
	<ul style="list-style-type: none"> • Low cost, flexibility, and speed: strengths when compared to China. Flexibility: can cater to buyers' requirements for small, customized orders as well as large orders. Intricate, high-quality garments with flexibility and speed. • Domestic market: growing number of firms switching to supply domestic market 	<ul style="list-style-type: none"> • Lack of scale economies: 80 percent of T&C units are small, cottage-like, typically employing fewer than 11 workers; only 6 percent have more than 49 employees • Currency fluctuation percent • Inflation in raw material costs compared to competitors • Manufacturing costs: power, operating, and transaction costs are higher compared to competitors 	
Vietnam	<ul style="list-style-type: none"> • Alternative to China: FDI and sourcing • Growing textile industries: Taiwanese and Korean investors are setting up operations • Growing exports to Japan and domestic market; ASEAN trade pacts • Relatively stable business environment 	<ul style="list-style-type: none"> • Skilled workers: Lack of skilled workers with experience in technology, fashion, and management • Imported textiles: Dependent on imported textiles • Private capital: Ability to allow private capital to operate freely 	\$0.38/hour
Indonesia	<ul style="list-style-type: none"> • Large domestic market • Large installed production capacity • Low labor costs and relatively low turnover rates • Long, refined textile tradition (batik techniques, embroidery) 	<ul style="list-style-type: none"> • High energy costs • Outdated machinery • Inconsistency • General business climate: unfavorable bureaucracy, taxes, corruption, security, cooperation 	\$0.44/hour
Mexico	<ul style="list-style-type: none"> • NAFTA • Proximity to the United States 	<ul style="list-style-type: none"> • High labor cost 	\$2.17/hour
Pakistan	<ul style="list-style-type: none"> • Low labor cost • Government support and liberal FDI policies with incentives have been essential to development • Currency depreciation against the U.S. dollar and other Western currencies. This has helped exports, but has also raised the cost of imported inputs. 	<ul style="list-style-type: none"> • Energy access and reliability • Political instability: security and safety issues • Mediocre quality and color consistency of textiles and clothing • Labor: low productivity • Lack design skills and global market knowledge as well as supporting resources (research and training centers) 	\$0.56/hour

(continued next page)

Table 5A.2 continued

Country	Strengths	Weaknesses/threats	Labor pay rate ^a
Cambodia	<ul style="list-style-type: none"> • Labor: cost, availability, and standards • Government support • Economies of scale (2005): 7 percent of the garment manufacturing entities employ more than 5,000 people 	<ul style="list-style-type: none"> • Labor: Unskilled, low productivity • All FDI; lack local firms • Apparel export dependence • Production flexibility and efficiency • Lack upstream textile industry • Lack in transportation and communication infrastructure 	\$0.33/hour
Sri Lanka	<ul style="list-style-type: none"> • Diversification of product exports • Focus on niche apparel and enterprising nature of the private sector to position country in niche markets • Quality, on-time deliveries and service • Compliance and emphasis on international labor and environmental standards 	<ul style="list-style-type: none"> • Higher labor costs • Uncertainty of EU-GSP benefits • Dependence on apparel exports 	\$0.46/hour (2004)

Sources: Anson and Brocklehurst 2008; Jassin-O'Rourke Group 2008; and authors.

Note: a. Labor rates are for 2008 unless otherwise noted.

Table 5A.3 Apparel Country Exporter Capabilities

Country	Country capabilities	Firm ownership and size
China	<ul style="list-style-type: none"> • Full-package (ODM), vertical capabilities within country with full supply chain geographic clusters • Man-made fiber (MMF) and cotton: world's largest cotton producer, importer, and consumer. Upgrading to higher-end clothing. • Primary supplier to global buyers: major buyers have local sourcing offices. Strong domestic market as well (OBM). 	Foreign direct investment (FDI) approx. 45 percent; state-owned enterprises (SOE) 2 percent
Turkey	<ul style="list-style-type: none"> • Full-package (ODM): vertical capabilities within country • Intricate, high-quality garments; cotton and MMF production. More knitted apparel, about 70 percent (t-shirts, pullovers, socks), than woven 20 percent (outerwear, shirts, blouses). 	Many small- and medium-enterprise firms

Table 5A.3 continued

Country	Country capabilities	Firm ownership and size
Bangladesh	<ul style="list-style-type: none"> • Package contractors (OEM) (knit apparel only) • CMT assembly: woven apparel, woven fabrics; industry is not developed; import 85 percent of needed materials from China, India, Pakistan, and Hong Kong and Taiwan, China • Major buyers tend to have sourcing offices • Products: cotton apparel, about 50/50 knitted (t-shirts) and woven 	FDI dominates
India	<ul style="list-style-type: none"> • Full-package (ODM): vertical: cotton to cut/sew final products • Strong design skills • Mostly cotton apparel: medium quality and relatively high-fashion, ready-made garments for export and domestic markets 	Local dominates; foreign firms must be a joint venture. Small firm size
Vietnam	<ul style="list-style-type: none"> • CMT assembly, limited OEM: lack domestic textile industry • Major buyers tend to have sourcing offices • Products: low-cost, volume production • Cotton and cotton blends; primarily woven garments 	FDI: 45 percent State-owned enterprise (SOE): 10 percent
Indonesia	<ul style="list-style-type: none"> • Package contractors (OEM): garment manufacturers source the bulk of fabrics from the United States and Europe. Do not take full advantage of domestic upstream production for apparel exports. • Vertical capabilities; strong, well-integrated materials and accessories base with strong textile and apparel export markets. • Products: low-cost, volume, synthetics; fabric and apparel; second strongest in MMF behind China 	Foreign and local firms
Mexico	<ul style="list-style-type: none"> • OEM and CMT capabilities • Products: commodity cotton denim trousers, image-wear 	Foreign and local firms
Pakistan	<ul style="list-style-type: none"> • Vertical production for cotton: spinning, weaving, knitting, finishing, and cut/sew; focus more on home textiles than apparel products • Cotton apparel, nearly 50/50 knitted and woven 	Foreign firms important Woven apparel: small-scale firms
Cambodia	<ul style="list-style-type: none"> • CMT assembly; lack domestic textile industry • Less important supply country, mostly basics (t-shirts) 	FDI: 90 percent Local: 7 percent
Sri Lanka	<ul style="list-style-type: none"> • Package contractors (OEM) and ODM for knitted apparel • Niche products: particularly women's underwear and bras; specialize in knitted intimate apparel and activewear • Several lead firms have long-term strategic relationships with firms (Victoria's Secret, Nike, Gap) 	

Source: Compiled by authors from various trade journals and online sources.

Note: CMT = cut, make, and trim; FDI = foreign direct investment; MMF = man-made fiber; OBM = original brand manufacturing; ODM = original design manufacturing; OEM = original equipment manufacturing; SOE = state-owned enterprise.

Table 5A.4 Leading Apparel Exporters: Export Value, Markets, and Dependence, 2008

Country	Export value (US\$, billions)	Export markets (percent)	Employment	Estimated employment loss and percent total	Apparel export dependence (percent)
China	120.0	EU 15: 24 U.S.: 15 JPN: 15 HK: 6 RUS: 5	T&A: 30 million	10 million (33)	8.4
Extra-European Union 27	27.7	RUS: 19 SWISS: 17 U.S.: 10	—	—	—
Turkey	13.6	EU 15: 76 US: 23	—	—	10.3
Bangladesh	10.9	EU 15: 59 U.S.: 32 CAN: 4	T&A: 3 million	0 (0)	71.1
India	10.9	EU 15: 48 U.S.: 26 UAE: 8	T&A: 35 million	300,000– 1 million (0.9–3)	6.1
Vietnam	9.0	U.S.: 61 EU 15: 19 JPN: 9	T&A: 2 million	20,000–30,000 (1.0–1.5)	14.3
Indonesia	6.3	U.S.: 58 EU 15: 24 UAE: 2	T&A: 1 million	41,000–100,000 (4–10)	4.5
Mexico	4.9	U.S.: 97 CAN: 1 EU 15: 1	T&A: 750,000	36,000–80,000 (4–10)	1.7
Pakistan	3.9	EU: ~30 U.S.: ~30 HK: ~4	T&A: 2.5 million	200,000 (8)	19.2
Cambodia	3.6	U.S.: 70 EU: 22	A: 352,000	74,500–75,500 (20–22)	84.8
Sri Lanka	3.3 (2007)	EU 15: 48 U.S.: 44 CAN: 2	A: 270,000	—	40.9

Source: Authors.

Note: Export dependence is percentage share of total merchandise exports. Geographic export markets: figures for Bangladesh, Cambodia, and Vietnam are for 2007. Employment information and loss for Bangladesh, China, India, Indonesia, Mexico, and Pakistan are from Forstater (2010). CAN = Canada; EU = European Union; HK = Hong Kong, China; JPN = Japan; SWISS = Switzerland; UAE = United Arab Emirates; RUS = Russian Federation; — = not available.

Table 5A.5 Functional Upgrading Trajectories, Governance, and Local Skills

Functional capabilities	Governance structure	Weaknesses and upgrading	Skills acquired
Assembly (CMT): the focus of the supplier is on production alone; suppliers assemble imported inputs following buyers' specifications.	Captive or market	Lack capital, expertise, direct access to buyers, local inputs Process or product upgrading	Local firms learn foreign buyers' preferences, including international standards for price, quality, and delivery.
OEM: the supplier takes on a broader range of tangible, manufacturing-related functions, such as sourcing inputs and inbound logistics in addition to production.	Captive or market	Lack design capabilities and strong managerial and technical skills. Functional upgrading to logistics and coordination	Production expertise increases over time and spreads across different activities. Suppliers learn the upstream and downstream segments of the chain from buyers. Can lead to substantial backward linkages in the domestic economy.
If the ability to codify transactions increases and supplier competencies remain high, degree of explicit coordination decreases.	Modular		
ODM: supplier carries out part of the preproduction processes, including design or R&D		Lack direct access to foreign consumers and marketing skills. Functional and product upgrading	Innovative skills related to new product development
If in collaboration with buyer	Relational		
If buyer attaches its brand to a product designed by the supplier	Captive or modular		
OBM: supplier acquires postproduction capabilities and is able to fully develop products under its own brand names.		Knowledge changing	Innovative skills related to marketing and consumer research

(continued next page)

Table 5A.5 continued

Functional capabilities	Governance structure	Weaknesses and upgrading	Skills acquired
If maintains relationship with and develops brands with buyer	Relational	Functional upgrading	
If no longer relies on buyer for any functions and establishes own distribution channels	Lead firm	Channel and functional upgrading	

Sources: Adapted from Gereffi (1999); Gereffi and Memedovic (2003); Humphrey (2004).
 Note: The table assumes vertical integration is not present.

Table 5A.6 Mass Merchants: Private-Label Sourcing Strategies, 2008

Retailer	Sales (US\$, billions)	Sourcing	Description and known countries
Walmart	302.6	Direct sourcing; intermediary: Li and Fung	80 percent from 3rd parties; <20 percent sourced directly from manufacturers (2009); Countries: China, about 90 percent; others incl. Mexico, Bangladesh, and Jordan
Target	64.9	Own intermediary	Target owns (subsidiary) a domestic agent, Associated Merchandising Corp. (AMC)
Sears	25.3	Direct sourcing	60–70 percent direct sourcing via 8 sourcing and 4 quality assurance offices worldwide (2005)
Macy's	24.9	Own intermediary; intermediary: AMC	Macy's owns (subsidiary) a domestic agent, MDSI, that has offices in 10 countries
JCPenney	18.5	Direct sourcing	16 overseas buying offices; concentrate on 15 countries including Bangladesh; Hong Kong, China; Pakistan
Kohl's	16.4	Intermediary: Li and Fung	Kohl's is currently Li and Fung's largest supplier
Marks & Spencer (UK)	15.3	Direct sourcing	Domestic importers: 70 percent provided from < 15 UK-based full-service importers/vendors. 30 percent direct sourcing with 120 suppliers via 7 owned sourcing offices; Turkey/Morocco office responsible for 12 percent (2006). Others are Bangladesh and Sri Lanka.

Source: Sales figures from Asaeda (2009).

Note: Sales represent all divisions, not just apparel.

Table 5A.7 Specialty Retailers: Sourcing Strategies, 2008

Retailer	Sales (US\$, billions)	Private-label sourcing	Description and known countries
Gap	14.5	Direct sourcing	900 vendors in 60 countries. China, 27 percent; U.S., 3 percent. Others: Bangladesh, Sri Lanka, Pakistan, Philippines, Jordan, Vietnam, Cambodia (Gap largest buyer), Morocco, Turkey, and India
HandM (Sweden)	13.1	Direct sourcing	20 offices (10 each in Europe and Asia); relationships with 750 factories: 60 percent Asia (incl. Bangladesh, Pakistan, Cambodia) and 40 percent Europe (2007)
Limited Brands Inc.	9.0	Own intermediary	Own MAST Industries (agent, contract mfg., design): mfg. facilities in 35 countries in Asia (Sri Lanka), Europe, S. America, Africa
Abercrombie and Fitch	3.5	Direct sourcing	Domestic Importer: use MAST Industries; relationships with 38 countries: primarily Asia and Central and South America
Talbots	2.4	Intermediary: Li and Fung	
Aeropostale	1.9	Direct sourcing	>67 percent of business with five vendors
Gymboree	1.0	Intermediary: Li and Fung	

Sources: Sales for 2008 are from Apparel Magazine (2009); Talbot's (Euromonitor 2009).

Table 5A.8 Brand Marketers and Manufacturers: Sourcing Strategies, 2008

Brand firm	Sales (US\$, billions)	Sourcing strategy	Description and known countries
Nike	19.2	Direct sourcing	Apparel from 38 countries. China, largest—others including Thailand; Indonesia; Malaysia; Vietnam; Turkey; Sri Lanka; Cambodia; Taiwan, China; El Salvador; Mexico; India; and Israel.
Inditex (Zara) (Spain)	15.1	Direct sourcing; manufacturer	50 percent owned manufacturing (Spain, "fashion items"); 50 percent sourced, with 40 percent from Asia (China, Bangladesh, basics, t-shirts); and 10 percent, Europe and Northern Africa (Morocco). 1990: Asia represented almost 0 percent.
VF Corporation	7.6	Direct sourcing; manufacturer	77 percent sourced: China largest; others including Bangladesh, Vietnam, Indonesia, Thailand, Cambodia, the Philippines, Pakistan, India, Sri Lanka, Egypt, Chile, Argentina, Tunisia, and Morocco. 23 percent owned manufacturers incl. Mexico, Nicaragua, Honduras, Poland, and Turkey.
Liz Claiborne	4.2	Intermediary: Li and Fung	
Hanesbrands	4.0	Direct sourcing; manufacturer	34 percent sourced from 3rd party manufacturing (FOB); 66 percent: owned facilities or 3rd party cut/sew contractors (CMT). Hanesbrands owns 52 manufacturing plants with locations in the United States, Vietnam, Thailand, Puerto Rico, Dominican Republic, El Salvador, and Honduras.
Phillips-Van Heusen (PVH)	2.5	Direct sourcing	175 manufacturing plants in 26 countries (including Bangladesh, Cambodia, United States) to firm specifications (FOB)
Timberland	1.5	Intermediary: Li and Fung License to PVH for some apparel	

Source: Authors; sales figures from Driscoll and Wang (2009).

Figure 5A.1 Shifts in Regional Structure of U.S. Apparel Imports, 1996–2008 Coming on Strong
Egypt

Source: United States International Trade Commission (USTIC); U.S. imports for consumption, customs value: SITC 84, rev. 3.

Note: The rings indicate the share of total U.S. imports in U.S. dollars by partner country:

1. 10%+
2. 6.0% – 9.9%
3. 4.0% – 5.9%
4. 2.0% – 3.9%
5. 1.0% – 1.9%

The 2008 position corresponds to the ring in which the country's name is located; the 1996 position, if different, is indicated by a small circle. The arrows represent the magnitude of change over time. Total value of U.S. clothing imports grew from \$41.5 billion in 1996 to \$78.8 billion in 2008. From 1996 to 2008, China's import share of the U.S. apparel market grew from 15.2 percent to 34.5 percent.

Figure 5A.2 Shifts in Regional Structure: EU 15 Apparel Imports, 1996–2008

Source: Comtrade, SITC 84, Rev 3, imports to the EU 15.

Note: The rings indicate the share of total European imports in U.S. dollars by partner country:

1. 10%+
2. 6.0% – 9.9%
3. 4.0% – 5.9%
4. 2.0% – 3.9%
5. 1.0% – 1.9%.

Apparel imports are for the EU 15 countries only. The calculations include the value of intra-EU trade, but the chart excludes the names of the individual EU 15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom). The 2008 position corresponds to the ring where the country's name is located; the 1996 position, if different, is indicated by a small circle. The arrow represents the magnitude and direction of change over time. Total value of extraregional European clothing imports grew from \$45.5 billion in 1996 to \$203.4 billion in 2008.

Figure 5A.3 Industrial Upgrading by Asian Economies in the Apparel Value Chain

Source: Adapted from Gereffi 2005, 172.

Note: Dashed arrows refer to the sequence of production and export capabilities within economies. Solid arrows refer to the direction of trade flows or foreign direct investments between economies. Dates refer to a country's peak years for exports of specific products.

Notes

1. Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.
2. See, for example, <http://www.stanford.edu/~swinney/FastFashion.pdf>.
3. For a more detailed review of protectionist actions in the textile and apparel industries, see Frederick and Gereffi (2009a; 2009b).

References

- Adhikari, R., and C. Weeraratne. 2006. "Textiles and Clothing Sector in South Asia: Coping with Post-quota Challenges." In *South Asian Yearbook of Trade and Development 2006*, ed. B. S. Chimni, B. L. Das, S. Kelegama, and M. Rahman, 109–45. New Delhi, India: Center for Trade and Development and Wiley-India.
- . 2007. "Textiles and Clothing in South Asia: Current Status and Future Potential." *South Asia Economic Journal* 8 (2): 171–203.
- Adhikari, R., and Y. Yamamoto. 2007. "Textile and Clothing Industry: Adjusting to the Post-Quota World." In *Industrial Development for the 21st Century: Sustainable Development Perspectives*, United Nations (UN-DESA). New York: United Nations.
- Anson, R., and G. Brocklehurst. 2008. "Trends in World Textile and Clothing Trade." *Textile Outlook International* 138: 120–85.
- Apparel Magazine. 2009. "Apparel's Top 50: Cover Story." July. pp. 6–16.
- Asaeda, J. 2008. *Retailing: General*. New York: McGraw Hill.
- . 2009. *Retailing: General*. New York: McGraw Hill.
- Audet, D. 2004. "A New World Map in Textiles and Clothing Policy Brief." Organisation for Economic Co-operation and Development (OECD), Washington, DC. Retrieved from <http://www.oecd.org/dataoecd/43/14/33824605.pdf>.
- Bair, J. 2005. "Global Capitalism and Commodity Chains: Looking Back, Going Forward." *Competition and Change* 9 (2): 153–80.
- . 2006. "Regional Trade and Production Blocs in a Global Industry: Towards a Comparative Framework for Research." *Environment and Planning A* 38 (12): 2233–52.
- Bair, J., and G. Gereffi. 2001. "Local Clusters in Global Chains: The Causes and Consequences of Export Dynamism in Torreon's Blue Jeans Industry." *World Development* 29 (11): 1885.
- Barrie, L., and J. Ayling. 2009. "Apparel Industry Outlook for 2009." January/February Management Briefing. Aroq Limited, Bromsgrove, UK.
- Birnbaum, D. 2009. "Sourcing: Marginal Suppliers Need a Radical Re-think." *Just-Style.Com*. August 21.
- Clothesource. 2008. "The Great Apparel Sourcing Issues of 2008—And How to Deal with Them." Management Briefing (March). Aroq Limited. Worcestershire, UK.
- "The Clothing Industry and the Economic Crisis—A just-style Review 2009." Management Briefing (September). Aroq Limited, Bromsgrove, UK.
- Datamonitor. 2009. "Global Apparel Retail Industry Report." New York, NY: Datamonitor.
- Driscoll, M., and P. Wang. 2009. *Apparel and Footwear: Retailers and Brands*. New York, NY: Standard and Poor's (S&P).
- Euromonitor. 2009. "Clothing—U.S.: Country Sector Briefing Report." Euromonitor International.
- Forstater, M. 2010. "Implications of the Global Financial and Economic Crisis on the Textile and Clothing Sector." International Labour Organization (ILO), Geneva.
- Frederick, S. 2010. "Development and Application of a Value Chain Research Approach to Understand and Evaluate Internal and External Factors and Relationships Affecting Economic Competitiveness in the Textile Value Chain." (Ph.D. dissertation). North Carolina State University. www.lib.ncsu.edu/theses/available/etd-03132010-084518.
- Frederick, S., and G. Gereffi. 2009a. "Protectionism in Textiles and Apparel." In *Effective Crisis Response and Openness: Implications for the Trading System*, ed. S. Evenett, B. Hoekman, and O. Cattaneo, 321–44. Washington, DC: World Bank and Centre for Economic Policy Research (CEPR).
- . 2009b. "Review and Analysis of Protectionist Actions in the Textile and Apparel Industries." In *The Fateful Allure of Protectionism: Taking Stock for the G8*, ed. S. Evenett, B. Hoekman, and O. Cattaneo, 321–44. London, UK: Centre for Economic Policy Research (CEPR). <http://www.voxeu.org/index.php?q=node/3728>.
- Fung, V., W. Fung, and J. Wind. 2008. *Competing in a Flat World*. Upper Saddle River, NJ: Wharton School Publishing.
- Gereffi, G. 1997. "Global Shifts, Regional Response: Can North America Meet the Full-Package Challenge?" *Bobbin* (November): 15.
- . 1999. "International Trade and Industrial Upgrading in the Apparel Commodity Chain." *Journal of International Economics* 48 (1): 37–70.
- . 2004. "Industrial Adjustment in the North Carolina Textile and Clothing Industry." Presentation at the Global Apparel/Clothing Europe Conference, University of North Carolina at Chapel Hill. October 15–16, 2004. <http://www.unc.edu/depts/europe/conferences/04/global/papers.htm>.
- . 2005. "The Global Economy: Organization, Governance, and Development." In *Handbook of Economic Sociology*, 2nd ed., ed. N. Smelser and R. Swedberg, 160–82. Princeton, NJ: Princeton University Press.
- Gereffi, G., J. Humphrey, R. Kaplinsky, and T. Sturgeon. 2001. "Introduction: Globalization, Value Chains and Development." *IDS Bulletin* 32 (3): 1–14.
- Gereffi, G., and O. Memedovic. 2003. *The Global Apparel Value Chain: What Prospects for Upgrading for Developing Countries?* Sectoral Studies Series. United Nations Industrial Development Organization (UNIDO), Vienna.
- Humphrey, J. 2004. "Upgrading in Global Value Chains." Working Paper 28. International Labour Organization (ILO), Geneva.
- International News Services. 2009. "Seven Macro Trends in the Textiles and Apparel Industry." Management Briefing. June. Aroq Limited, Worcestershire, UK.
- Jakarta Globe. 2009. "Japan Mulls Importing More Indonesian Textiles." February 24.
- Jassin-O'Rourke Group. 2008. "Global Apparel Manufacturing Labor Cost Analysis 2008." Textile and Apparel Manufacturers and Merchants. <http://www.tammonline.com/researchpapers.htm>.
- just-style.com. 2009a. "Analysis: Do Stimulus Packages Help the Garment Trade?" April 20. <http://www.just-style.com/article.aspx?id=103915&dlk=dm>.
- . 2009b. "Japan: China Sourcing Cuts Could Raise Costs for U.S., EU Buyers." March 4.
- . 2009c. "10 Ways to Develop a Balanced Sourcing Strategy." November 24.
- Kapner, S. 2009. "The Unstoppable Fung Brothers." *CNN Money*. December 8.
- Kilduff, P., and C. Ting. 2006. "Longitudinal Patterns of Comparative Advantage in the Textile Complex. Part 2: Sectoral Perspectives." *Journal of Fashion Marketing and Management* 10 (2): 150–68.
- Knappe, M. 2008. "The Textiles and Clothing Value Chain: Write-Ups by ITC Panelists." UNCTAD XII: World Investment Forum Session II: Global Value Chains: Opportunities and Challenges for International and Domestic Firms, Accra, Ghana.
- MSN (Maquila Solidarity Network). 2009. "How Will the Global Financial Crisis Affect the Garment Industry and Garment Workers?" Maquila Solidarity Network, Ontario, Canada.
- O'Connell, V. 2009. "Wal-Mart Looks to Bolster Suppliers." *Wall Street Journal*. November 14.
- Rasmussen, J. 2008. "Part I: State of the Industry 2008." *Specialty Fabrics Review* (May): 28–35.
- Sauls, J. 2008. "Excellence in Sourcing: An Apparel Research Study and Analysis." A Supplement to *Apparel Magazine*. August.
- "Talking Strategy: Expert Views on U.S. Apparel Sourcing." 2008. *Global Apparel Markets* (1): 5–9.
- Technopak. 2007. "Strategies for Textile and Apparel Manufacturers in the Post-quota Era: Prospects to 2015." *Textile Outlook International* (July–August): 152–67.
- Tewari, M. 2006. "Is Price and Cost Competitiveness Enough for Apparel Firms to Gain Market Share in the World after Quotas? A Review." *Global Economy Journal* 6 (4): 1–46.
- Thoburn, J. 2009. "The Impact of the World Garment Recession on the Textile and Garment Industries of Asia." Seoul (Korea) Workshop: November 13–15: United Nations Industrial Development Organization (UNIDO).

- Tucker, R. 2009. "Not Only the Recession: Industry Hit by Resizing, Trade Issues and More." *Women's Wear Daily* 197 (89): 1, 8–9.
- U.S. Census Bureau. 2009a. "Apparel—Summary 2008 Report." Report MQ315A(08)-5. U.S. Department of Commerce, Washington, DC.
- . 2009b. "Socks Production—Summary 2008 Report." Report MQ315B(08)-5. U.S. Department of Commerce, Washington, DC.
- Vernon, R. 1966. "International Investment and International Trade in the Product Cycle." *Quarterly Journal of Economics* 80 (2): 190–207.
- WTO (World Trade Organization). 2009. *International Trade Statistics 2009*. World Trade Organization, Geneva.
- . 2010. *Time Series on International Trade*. World Trade Organization, Geneva. <http://stat.wto.org/Home/WSDBHome.aspx?Language=E>.