Industry & Trade Summary

Knit Fabric

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PREFACE

In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of the commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.[1]

This report on knit fabric primarily covers the period 1988-92 and represents one of approximately 250 to 300 individual reports to be produced in this series during the first half of the 1990s. Listed below are the individual summary reports published to date on the chemicals and textiles sectors.

USITC publication number	*Publication date*	*Title*
Chemicals:		
2458	November 1991	Soaps, Detergents, and Surface-Active Agents
2509	May 1992	Inorganic Acids
2548	August 1992	Paints, Inks, and Related Items
2578	November 1992	Crude Petroleum
2588	December 1992	Major Primary Olefins
2590	February 1993	Polyethylene Resins in Primary Forms
2598	March 1993	Perfumes, Cosmetics, and Toiletries
Textiles and apparel:		
2543	August 1992	Nonwoven Fabrics
2580	December 1992	Gloves
2642	June 1993	Yarns
2695	November 1993	Carpets and Rugs
2702	November 1993	Fur Goods
2703	November 1993	Coated Fabrics

[1] The information and analysis provided in this report are for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under statutory authority covering the same or similar subject matter.

CONTENTS

INTRODUCTION[1]

Strong demand for knit fabric by U.S. apparel firms led to an increase of 23 percent in U.S. producers' shipments of such fabric during 1988-92. The U.S. knit fabric industry, whose shipments totaled an estimated $6.8 billion in 1992, sells almost its entire output to apparel firms, largely for production of high-volume goods such as T-shirts, underwear, sweatshirts, and other fleece apparel. Retail sales of knit apparel rose by 24 percent during 1988-92.[2] Imports of knit fabric are relatively small, representing only 3 percent of apparent U.S. consumption of such fabric in 1992.

U.S. knit fabric sales, however, supply only a portion of the fabric used in knit apparel consumed in the United States. U.S. apparel producers that purchase knit fabric supplied an estimated 43 percent of apparent U.S. consumption of knit apparel, which totaled an estimated $21 billion in 1992. The remainder of the knitwear market was supplied by imports of knit apparel, which accounted for an estimated 35 percent of total sales, and by vertically integrated U.S. apparel producers that knit their own fabric, which accounted for an estimated 22 percent of the total.

The United States is by far the largest producer of knit fabric in the world, accounting for 56 percent of world production in 1990.[3] The U.S. knit fabric industry also represents an important segment of the domestic textile sector with 19 percent of textile mill shipments in 1992. The knit fabric industry is relatively capital intensive, employs a highly skilled workforce, and offers a wide range of fabrics at competitive prices.

The United States recorded a favorable balance of trade in knit fabric during 1988-92. Exports increased by 140 percent during the period to almost $328 million and imports advanced by 114 percent to $217 million, resulting in a 1992 trade surplus of $111 million. Foreign sales accounted for less than 5 percent of U.S. producers' shipments in 1992. Like the United States, most major markets rely heavily on local production to satisfy demand for knit fabric.

This report examines these and other developments in the knit fabric industry, focusing on changes occurring during 1988-92. It briefly describes the principal products and their production processes. Then it examines the U.S. industry and recent changes taking place therein, followed by a brief overview of the foreign industry. The report concludes by discussing the recent performance of the U.S. industry in both domestic and foreign markets.

[1] The knit fabric industry, as defined in this report, comprises mills that produce knit fabric for sale. It does not include vertically integrated producers of apparel that produce knit fabric for captive use.

[2] In this report, knit apparel comprises all knitwear except sweaters, hosiery, gloves, and other clothing accessories.

[3] The data include knit fabric produced both by knitting mills for sale and by vertically integrated apparel firms for captive use.

THE PRODUCT

Knit fabric, like woven fabric, is a semifinished product that is further processed into apparel, home textiles, and industrial products. Knit fabric is inherently elastic and conforms readily to a variety of disparately shaped surfaces, whereas woven fabric tends to be more stable, stiff, and resistant to stretch.[4]

Two basic types of knit fabric are weft and warp knits. Weft knits are the principal knit fabric made in the United States. Because most weft knits are in tubular form, they are commonly known as circular knits. Circular knit fabric includes single knits, double knits, and fleece. Most circular knits are high-volume, commodity fabrics for the production of T-shirts, underwear, and sweatshirts (figure 1).

Warp knits comprise a wider range of fabrics than do circular knits. Warp knits may be constructed with wider variances in stretch and stability and they lend themselves well to different surface treatments such as brushing, sueding, napping, and embossing. Two major types of warp knits are tricot and raschel. Tricot knits range from lightweight filmy fabrics used in women's lingerie to heavyweight velvets used in automotive upholstery. Raschel knits include elastic fabric, such as that used in swimwear, and various novelty and industrial fabrics. About three-fourths of the warp knits produced in the United States are used in apparel; the rest are used in home furnishings and industrial applications.

THE PRODUCTION PROCESS

Knit fabric is created by transforming yarn into a series of interlocking loops. The loops in circular knits run horizontally across the width of the fabric, whereas the loops in warp knits run vertically. Circular knits have both crosswise and lengthwise stretch, whereas warp knits tend only to have crosswise stretch.

Knitting machines contain a series of needles that hook around the yarn to form the loops. The needles on circular knitting machines are arranged in a circle to produce continuous tubes of fabric without selvedges, or edges, in the lengthwise direction.[5] One or more yarns are fed from spools to the needles, which move in sequential order forming loops along the circumference of the fabric. Warp knitting differs in that up to several thousand yarns are fed into a machine from warp beams, much like those used on weaving looms. The needles are arranged in a straight line and move simultaneously to loop the yarn in the lengthwise direction. Warp knitting is more flexible than circular knitting, allowing for the production of a wider range of patterns and constructions.

[4] A woven fabric made with elastic yarn can have the stretch of a knit fabric. Likewise, certain knit fabric can be constructed with little stretch and with the stability of a woven fabric.

[5] Flat weft knits are made on flat bar machines, in which the needles are arranged in a straight line but produce the same loop pattern as circular machines.

Figure 1
Knit fabric: Types and end uses

Circular knit fabric: Single knit, double knit, and fleece

Apparel:

- Underwear and T-shirts
- Fleece apparel (sweatshirts and sweatpants)
- Outerwear (tops, bottoms, dresses, and suits)
- Flannel apparel
- Thermal underwear

Warp knit fabric: Tricot and raschel

Apparel:

- Lingerie, bras, and panties
- Outerwear (tops, bottoms, dresses, and suits)

Industrial:

- Automotive headliners
- Coated fabrics
- Netting and webbing
- Filters
- Linings (e.g., luggage and shoes)
- Bandages and tapes

Home furnishings:

- Window coverings
- Upholstery
- Mattress ticking
- Sheets
- Wall coverings
- Comforters

Pile knit fabric (circular and warp): Terry cloth, velour, and fake fur

Apparel:

- Outerwear (tops, bottoms, dresses, and suits)
- Lingerie

Industrial:

- Automotive upholstery and interiors
- Stuffed animals

Elastic knit fabric (circular and warp):

Apparel:

- Swimwear
- Bike pants
- Leotards

Source: Compiled by the staff of the U.S. International Trade Commission.

Warp knitting involves an additional process called warping, which consists of winding the yarn onto warp beams. Warping requires additional production equipment and floor space that is not necessary in circular knitting. Also, warp knitting mainly uses filament yarn of manmade fibers, whereas circular knitting uses mostly spun yarn of cotton and/or manmade fibers. Two factors that limit the use of spun yarn in warp knitting are (1) during the warping process, cotton spun yarn produces lint that cannot be as effectively controlled in knitting as it can in weaving; and (2) warp knitting requires a very uniform yarn, which is characteristic of filament yarn. Slight variations in thickness are inherent to spun yarn.

Knit fabric typically undergoes various finishing processes that require a wide range of technology and equipment. The fabric may be bleached, dyed, or printed. It may also be embossed or napped to impart a three-dimensional design or appearance. For example, the surface-protruding loops on knit pile fabric are cut and brushed or sheared for velour and fleece and left uncut for terry. The application of other finishing processes allows fabric having different features to be developed, such as flame resistance, water repellency or, in the case of all-cotton knits, shrinkage control.

U.S. INDUSTRY

Industry Structure

Establishments that knit, dye, or finish circular and other weft knit fabric are classified in Standard Industrial Classification (SIC) 2257, Weft Knit Fabric Mills. Establishments that produce, dye, or finish warp knit fabric or lace goods are classified in SIC 2258, Lace and Warp Knit Fabric Mills. Because of differences in production processes, mills generally produce either circular or warp knit fabric. Some large firms produce both types of knit fabric, but in separate mills.

Figure 2 illustrates the interrelationship of the knit fabric industry with the other principal segments of the U.S. textile chain. The knit fabric industry consists of direct mills, commission mills, and converters or jobbers. Most establishments in the industry are direct mills, which buy materials, produce fabric, and sell the fabric. A few large manufacturers are vertically integrated back to the yarn formation stage. Converters or jobbers perform the entrepreneurial functions of a direct mill, such as buying yarn and selling fabric. However, converters or jobbers do not produce fabric but rather purchase unfinished fabric, dye and finish the material, and then sell it to fabricators of end-use products. Commission mills are contractors that process materials of other firms, whether knitting fabric or dyeing and finishing it. Direct mills use commission mills to help fill sales orders and to minimize direct labor costs. Direct mills also perform contract work for other firms during periods of slow production activity.

Many large producers manufacture a wide range of knit fabric. For example, Guilford Mills and Fab Industries produce knit fabric for intimate apparel, swimwear, outerwear, home furnishings, and industrial applications. Other large firms tend to focus on specific market segments. For example, Malden Mills Industries has exclusive production of Polartec™ fabric, which is used in the production of high-performance activewear and skiwear. Small firms tend to produce in niche areas such as novelty knits for apparel or specialty fabrics for industrial uses.

Most large knit fabric mills are affiliates of larger U.S. textile companies, as shown in table 1. The smaller mills generally are privately owned. In recent years, many small mills have been acquired by larger knit fabric producers or other textile companies. Very few U.S. producers of knit fabric have production facilities abroad or are affiliated with foreign firms.

Industry Trends

The U.S. knit fabric industry has undergone significant consolidation during the past two decades, although the restructuring has slowed considerably in recent years. Between 1988 and 1992, the number of mills fell by an estimated 7 percent to about 500 while the size of the workforce remained fairly stable at an estimated 54,000 workers (table 2). Between 1972 and 1987, however, the number of mills and employees declined by roughly 40 percent.

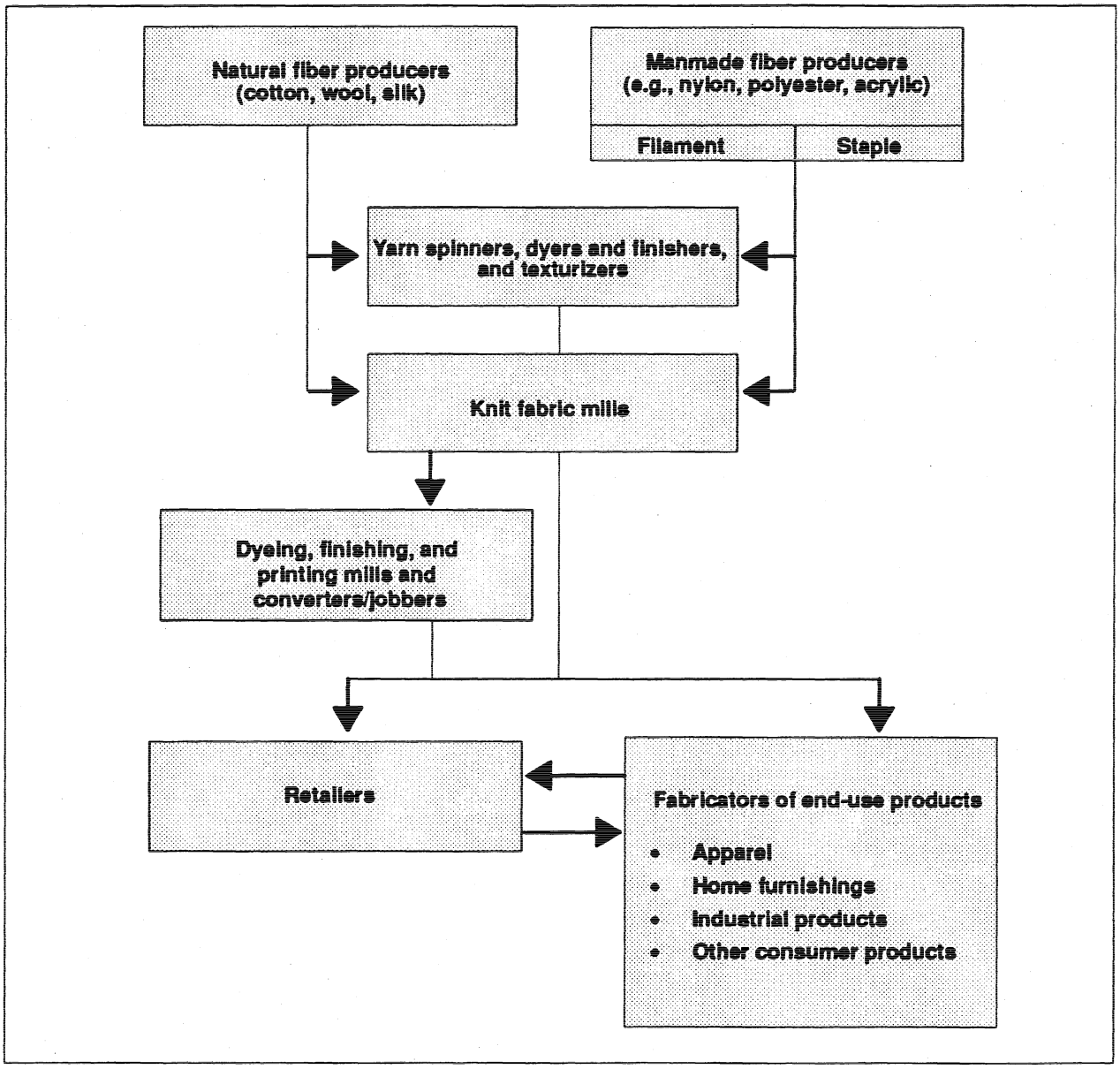
Most of the mills closed during the past two decades were small producers of commodity-type knit fabric, especially circular knits for apparel. A number of mills left the industry following the end of the "double knit" boom in the early 1970s when the industry had slightly more than 900 mills. More mills have since left the industry, unable to compete with mills that had adopted more efficient production systems and expanded their scale of production. At the same time, the growth in U.S. imports of low-cost knit apparel slowed the expansion of the domestic market for knit fabric. Because many mills now knit fabric efficiently and with consistent quality, fabric quality has become a "given." Hence, price now is the most important determinative of competitiveness in the marketplace for most knit fabric.

The knit fabric industry comprises a few large firms and many small and medium-sized companies. The 10 largest firms generated just over one-third of total industry shipments in 1992.[6] The larger mills (i.e., those that employ at least 100 workers each) are believed to be located primarily in North Carolina. About 70 percent of the mills in the industry employ fewer than 100 workers each; almost 35 percent employ fewer than 20 workers each.[7] Many of these small mills are located in New Jersey and New York. Only 3 mills employ at least 1,000 workers.

[6] Estimated by the staff of the U.S. International Trade Commission based on data from industry sources.

[7] U.S. Bureau of the Census, *County Business Patterns 1990*, Jan. 1993.

Figure 2
Structure of the U.S. knit fabric industry and market



Source: Compiled by the staff of the U.S. International Trade Commission.

Table 1
Knit fabric: Leading U.S. producers, by types of fabric produced and by certain company characteristics

Company	Circular knit production	Warp knit/ lace production	Integration	Foreign affiliation
Alamac	X		Subsidiary of West Point Stevens, a major textile producer.	None.
Burlington Knitted Fabrics	X		Division of Burlington Industries, Inc., a major textile producer.	Mexico.
Cleveland Mills	X		Subsidiary of Spartan Mills, a major woven fabric producer.	None.
Collins & Aikman Corp.		X	Subsidiary of Collins & Aikman Group, Inc., a major textile producer.	Belgium.
Dan River, Inc.	X		Also major woven fabric producer.	None.
Dyersburg Fabrics, Inc.	X		None.	None.
Fab Industries	X	X	Subsidiaries produce tapes/ labels, knit apparel, coated fabric, and sheets/blankets.	None.
Guilford Mills, Inc.	X	X	Producer of synthetic fiber and woven fabric.	Subsidiaries in the UK, Spain, and Belgium, and a joint venture in Mexico.
Liberty Fabrics, Inc.	X		Subsidiary of Courtaulds Textiles US, Inc., a major producer of manmade fiber.	Parent company--Courtaulds Textiles PLC, UK.
Malden Mills Industries	X		None.	None.
Milliken & Co.	X		A major textile producer.	None.

Table 1—Continued
Knit fabric: Leading U.S. producers, by types of fabric produced and by certain company characteristics

Company	Circular knit production	Warp knit/ lace production	Integration	Foreign affiliation
Stevecoknit Fabrics	X		Division of Delta Woodside, a major textile and apparel producer.	None.
Ti–Caro Knits	X		Subsidiary of Dixie Yarns, Inc., a major producer of spun yarn.	None.

Source: Compiled by the staff of the U.S. International Trade Commission from *America's Corporate Families 1993*, Dun & Bradstreet (New Jersey: 1993); Jeffery S. Arpan and David A. Ricks, *Directory of Foreign Manufacturers in the United States*, 5th ed. (Atlanta: Georgia State University Business Press, 1993); and *Ward's Business Directory of U.S. Private and Public Companies*, Vols. 1 and 2, 1991.

Table 2
Knit fabric: U.S. industry profile, 1988-92

Item	1988	1989	1990	1991	1992
All knit fabric (SICs 2257 and 2258):					
Number of establishments[1]	536	525	521	508	(2)
Number of employees (1,000)	53.5	56.0	53.0	53.2	[3]54.0
Number of production workers (1,000)	48.8	51.1	44.7	44.8	[3]46.0
Value of product shipments (million dollars):					
Nominal value	5,491.6	6,574.9	5,922.5	6,541.8	[3]6,759.0
Constant 1988 value	5,491.6	6,464.9	5,745.7	6,274.3	[3]6,666.0
Circular knit fabric (SIC 2257):					
Number of establishments[1]	303	302	300	294	(2)
Number of employees (1,000)	34.7	34.0	30.7	30.8	[3]32.0
Number of production workers (1,000)	29.6	29.1	26.0	26.0	[3]27.0
Value of product shipments (million dollars):					
Nominal value	3,309.8	3,986.3	3,569.8	3,844.0	[3]3,867.0
Constant 1988 value	3,309.8	3,978.3	3,534.5	3,794.7	[3]3,825.0
Warp knit fabric (SIC 2258):					
Number of establishments[1]	233	223	221	214	(2)
Number of employees (1,000)	18.8	22.0	22.3	22.4	[3]22.4
Number of production workers (1,000)	15.3	18.7	18.7	18.8	[3]18.8
Value of product shipments (million dollars):					
Nominal value	2,181.8	2,588.6	2,352.7	2,697.8	[3]2,892.0
Constant 1988 value	2,181.8	2,486.6	2,211.2	2,479.6	[3]2,841.0

[1] Compiled from official statistics of the U.S. Bureau of Labor Statistics.

[2] Not available.

[3] Estimated by the staff of the U.S. International Trade Commission.

Source: Compiled from official statistics of the U.S. Bureau of the Census, except as noted.

Production

U.S. production of knit fabric increased from 367 million kilograms (kg) in 1988 to 451 million kg in 1992. The increase reflected strong consumer demand for knit apparel, particularly T-shirts and fleece apparel. After increasing significantly in the late 1980s, production of knit fabric fell in 1990 as demand weakened with the onset of the economic recession. Production recovered in 1991 and reached a new high in 1992, again reflecting the continued strong demand for T-shirts and fleece apparel. In 1993, however, the growth in knit fabric production slowed down because of soft demand for T-shirts and fleece apparel, as producers of these products faced excess capacity and pricing softness.[8]

Circular knits accounted for almost all the growth in U.S. knit fabric production during 1988-92. Strong demand for T-shirts and fleece apparel boosted production of circular knit fabric by 43 percent during the period to 324.4 million kg, or 72 percent, of total knit fabric output in 1992 (figure 3). Production of warp knit fabric, which declined from 1980 to 1989, rebounded slightly in 1991 and 1992, when it totaled 66.6 million kg. Stagnant demand for warp knits reflected increased import penetration in markets for warp knit apparel.

[8] 1993 third quarter report of VF Corp., one of the largest apparel producers in the United States. In the report, VF announced a $13 million charge in the third quarter for a reduction in fleece and T-shirt capacity at its Bassett-Walker division.

Major Factors of Production

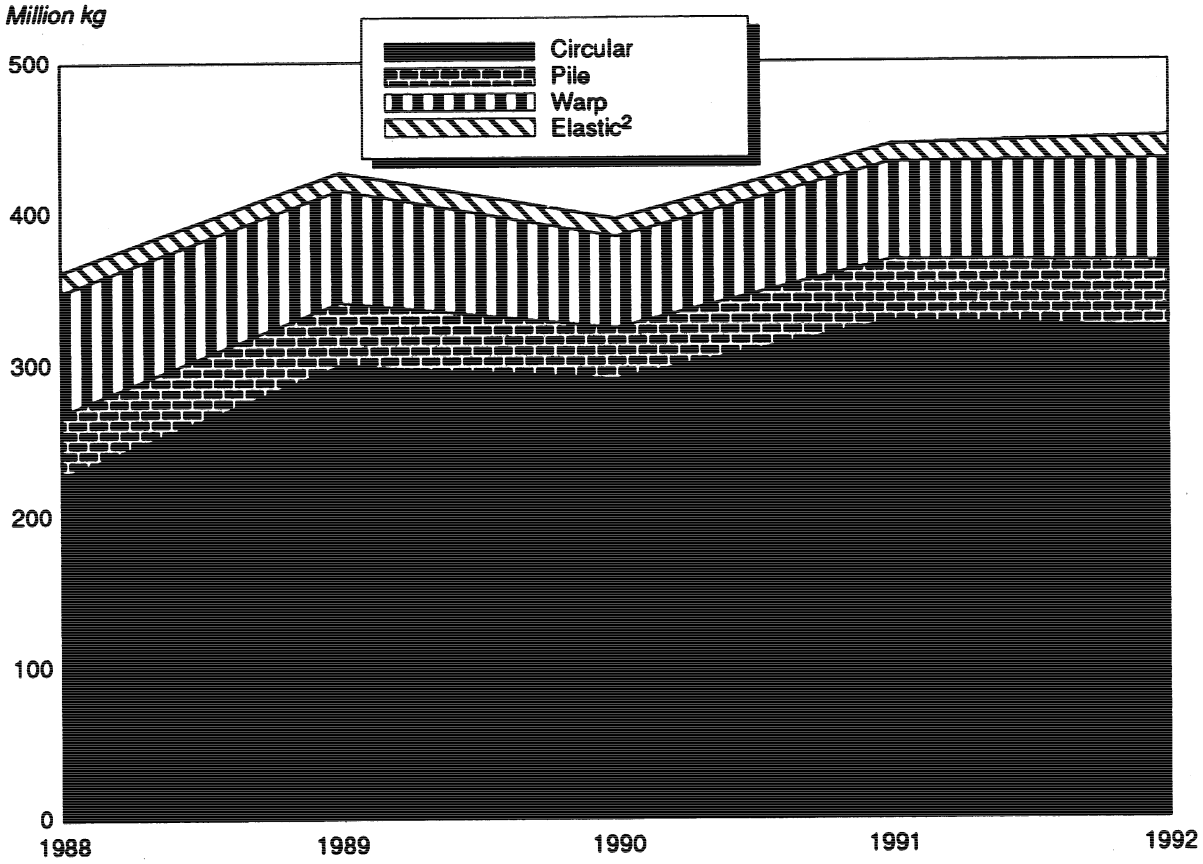
The competitive ability of the U.S. knit fabric industry largely reflects (1) a reliable supply of competitively priced raw materials, (2) investment in new capital equipment, and (3) a highly skilled workforce.

Raw Materials

The United States is one of the world's largest producers of raw materials for knit fabric production, providing a wide variety of fiber and yarn at competitive prices. U.S. knit fabric mills have ready access to reliable domestic supplies of raw materials in terms of product quality and delivery dates. As knit fabric mills face increasing pressure from their customers to shorten production lead times, they likely will continue to rely heavily on domestic fiber and yarn supplies.

Most large knit fabric mills are vertically integrated back to the yarn spinning stage. These mills benefit from economies of scale and more control over their raw material supply and quality. They may also produce yarn to ensure a supply of critical material or to develop proprietary yarns for use in their fabric. Many large knit fabric producers have working relationships with major U.S. fiber and yarn producers such as DuPont, BASF, and Dixie Yarns to develop

Figure 3
Knit fabric:[1] U.S. production, by major types, 1988-92



[1] Excludes narrow knit fabric.
[2] Data for elastic circular knit fabric included in "circular" for 1988 and 1989.
Source: Compiled from official statistics of the U.S. Bureau of the Census.

materials and production methods to enhance fabric production. DuPont, for example, has worked extensively with mills to develop methods to produce high-quality elastic knit fabric using DuPont Lycra®. Likewise, Cotton Incorporated, which promotes the use of cotton, works with mills in all aspects of the production process from fiber to the end products.

Capital Expenditures

The industry's capital expenditures on new plants and equipment totaled $205.5 million in 1991 (figure 4). Such capital expenditures accounted for 3 percent of the industry's total sales, which was the same proportion for capital spending in the overall U.S. textile mill sector. During the past 10 years, capital expenditures by the knit fabric industry have been geared toward modernization and automation and also some expansion of capacity in circular knitting

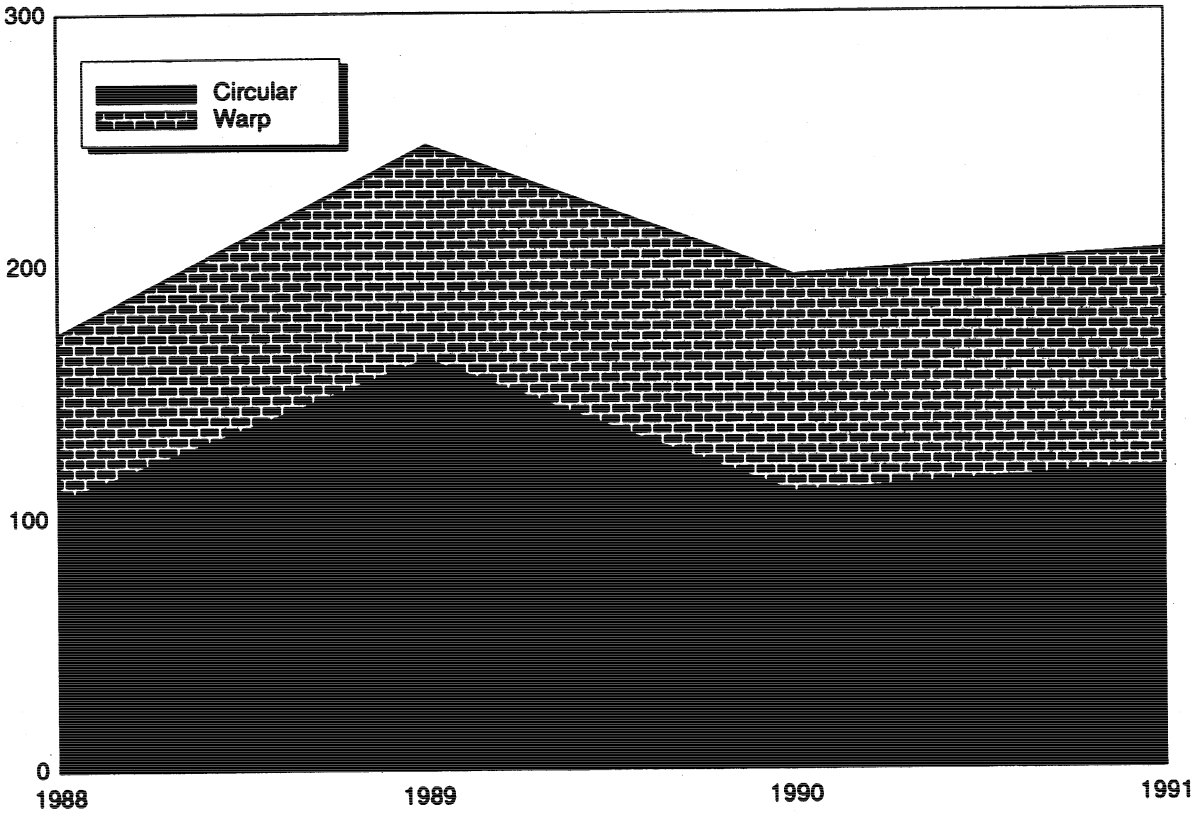
New capital expenditures in the knit fabric industry increased significantly in 1989. The 50-percent increase in such expenditures for circular knitting, from $109 million in 1988 to $163 million in 1989, stemmed largely from strong demand for knit apparel, particularly T-shirts and fleece apparel. In 1990, however, capital expenditures for circular knitting fell back to the 1988 level, reflecting overexpansion in T-shirt and fleece apparel capacity and a temporary glut of these garments in the market. New capital expenditures for warp knitting rose by 29 percent from $66 million in 1988 to $85 million in 1989 and remained at that level in 1990 and 1991.

The U.S. knit fabric industry is highly capital intensive, particularly compared with domestic apparel production and certain other textile mill industry segments. In response to the needs of apparel manufacturers and retailers, many mills have adopted quick response programs. Because the life cycle of knitwear fashions can be short as styles change rapidly, many knit fabric mills have invested in new equipment with increased production speeds, greater flexibility, and improved quality in order to respond quickly to changing demand requirements.[9] Knit fabric

[9] Producers of commodity knit fabric typically emphasize machine speed and durability, whereas knitters of specialty and fashion fabrics and commission mills generally seek equipment with flexibility and multiple uses.

Figure 4
Knit fabric: New capital expenditures by the U.S. industry, 1988-91

Million dollars



Source: U.S. Bureau of the Census, *Annual Survey of Manufactures*, 1988-91 eds.

machinery has become increasingly computerized and stages of production have become increasingly integrated. Most knitting machinery comes from Germany, Japan, or Italy. The mills rely heavily on foreign machinery manufacturers for innovations in technology.

Labor

Technological advances in knit fabric production have led to improvements in labor productivity and contributed to the sharp decline in industry employment over the years. The nature of the production process now requires fewer, but more skilled workers. As a result, wages have risen with the increase in worker skills. In circular knitting, the average hourly wage for production workers increased by 58 percent from $5.30 in 1980 to $8.35 in 1991. As labor productivity has increased, the relative importance of labor costs has declined. In 1991, employee compensation as a share of U.S. knit fabric industry sales averaged 12 percent, down from 16 percent in 1980. The value added per production worker hour averaged $26.32 in 1991, up 78 percent from $14.81 in 1980.

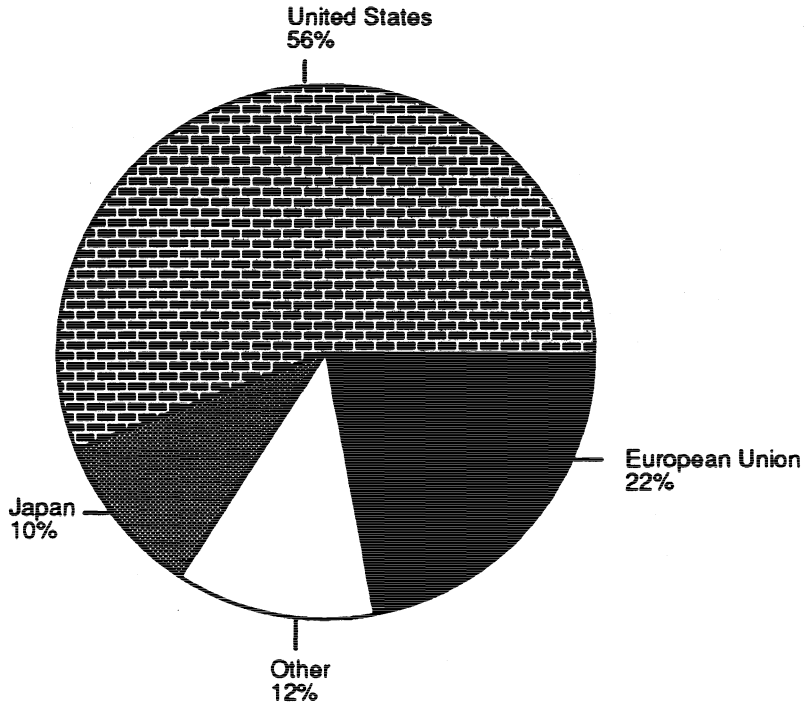
FOREIGN INDUSTRY

The United States is the largest producer of knit fabric in the world. U.S. production of 914 million kg accounted for 56 percent of reported world knit fabric production in 1990 (figure 5). Other large producers were the European Union, with 354 million kg, and Japan, with 168 million kg.

Unlike the knit fabric industry in the United States, which focuses on high volume, mass-market goods, the industries in the European Union and Japan concentrate on lower volume, high-value-added goods. The most technologically advanced knit fabric industries in the world are in Italy and Germany, the headquarters for the world's leading producers of knitting machinery.

Many innovations in knit fabric originate in Europe, which ranks among the fashion leaders in the world. Designers from the United States and other countries travel to Europe for the latest in fabric designs, color schemes, and fashion trends. In recent years, the United States has increasingly become a fashion leader in casual and activewear.

Figure 5
Knit fabric: World production shares, by major producing regions, 1990



(Total quantity: 1.6 billion kg)

Note.—World production data of the United Nations (UN) do not include knit fabric produced by nonmarket economies. Production data include knit fabric produced by vertically integrated producers of knit apparel, but the data do not include elastic or pile knit fabric. Although not recorded in UN production data, India reportedly produced about 154 million kg of knit fabric in 1990.

Source: Compiled from statistics in United Nations, *Industrial Statistics Yearbook, 1990* (New York: 1992).

Knit fabric production in the less developed countries (LDCs) primarily comprises circular knit fabric. In comparison to warp knits, the machinery for circular knits is less expensive and the technology is less complicated. In addition, world demand for circular knits has grown much faster than that for warp knits. To a large extent, the manufacture of knit fabric in the LDCs has been encouraged by local production of knit apparel for export.

Barriers to entry in the knit fabric industry are relatively low, given the ready access to knitting machinery and technology and the broad availability of raw materials. Hence, the production processes for knit fabric are similar throughout the world. Generally, the developed countries have a competitive advantage in fabric design and product innovation, dyeing and most other finishing processes, and market response to customer demands and shifting fashions. Because dyeing and finishing processes usually require highly specialized equipment and workers, LDCs generally produce either unfinished or commodity types of knit fabric.

Table 3 gives a comparative analysis of knit fabric production costs in selected countries. Much of the difference is in labor costs. In the United States, Italy, and Japan, labor costs range from 12 to 21 percent of total costs, compared with 2 to 3 percent in the other selected countries.

Cost differences are also found in raw materials and energy costs. Knit fabric manufacturers in major cotton-producing countries, such as the United States and India, have a cost advantage over manufacturers in countries like Italy, Japan, and Korea that do not produce cotton. Such manufacturers import cotton at world prices and incur additional charges for customs tariffs and freight. U.S. cotton prices closely track world market prices. Prices in India for locally grown cotton, however, are substantially lower than world prices because of a government-established price ceiling. In Brazil, the government has set a price floor

Table 3
Knit fabric: Total production costs, by specified countries, 1993

Item	Brazil	India	Italy	Japan	Korea	Thailand	United States
	Dollars per yard of fabric						
Waste	0.075	0.034	0.061	0.064	0.064	0.064	0.056
Labor	0.019	0.010	0.229	0.186	0.025	0.018	0.123
Energy	0.043	0.076	0.087	0.156	0.063	0.076	0.054
Auxiliary	0.046	0.043	0.046	0.052	0.050	0.058	0.046
Capital (depreciation and interest)	0.301	0.401	0.309	0.336	0.312	0.336	0.370
Raw material (cotton)	0.435	0.256	0.365	0.387	0.387	0.384	0.351
Total	0.919	0.820	1.097	1.181	0.901	0.936	1.000
	Percent of total cost						
Waste	8	4	6	5	7	7	6
Labor	2	2	21	16	3	2	12
Energy	5	9	8	13	7	8	5
Auxiliary	5	5	4	4	5	6	5
Capital (depreciation and interest)	33	49	28	29	35	36	37
Raw material (cotton)	47	31	33	33	43	41	35
Total	100	100	100	100	100	100	100

Note.—Based on an interlock circular knit fabric with 33 courses per inch and 65 inches unfinished width. Includes open-end rotor yarn production.

Source: International Textile Manufacturers Federation, *1993 International Production Cost Comparison Spinning/Weaving/Knitting* (Zurich: Sept. 1993).

for locally produced cotton that is higher than world market prices, making raw material costs for local knit fabric mills relatively high.[10]

Energy costs also are an important factor in knit fabric production. In Japan, for example, although the knit fabric industry has invested in highly energy-efficient equipment to help offset high energy costs, its energy cost to produce one yard of knit fabric is almost three times higher than in the United States. In LDCs, knit fabric mills tend to use older equipment that is less efficient and requires more energy to operate.

U.S. INDUSTRY PERFORMANCE IN DOMESTIC AND FOREIGN MARKETS

U.S. Market

The U.S. industry supplies almost the entire domestic market for knit fabric, which rose by 22 percent during 1988-92 to an estimated $6.6 billion (table 4). Imports are relatively small, but growing. Between 1988 and 1992, imports expanded their share of the domestic market from 1.9 percent to an estimated 3.3 percent.

All but a small part of the knit fabric sold in the United States during 1988-92 went into the production of apparel, especially T-shirts, underwear, and fleece apparel. As a share of U.S. retail apparel sales, knitwear rose from just under 49 percent in 1986 to 53 percent in 1992.[11] Consumer demand for knitwear largely reflected the importance of fashion trends, such as the popularity of T-shirts and sweatshirts. Growing interest in physical fitness, sports and leisure activities, and so-called activewear styles spurred demand for fleece apparel such as sweatshirts, sweatpants, and warm-up suits. Demand for most knitwear also reflects its ease-of-care properties and comfort and the availability of shrink-resistant all-cotton knits and high-quality elastic knit fabric. Demand for knit apparel likely will continue to grow as the desirability of these features takes on added importance among consumers.

Less than 5 percent of U.S. knit fabric sales during 1988-92 went to the home furnishings and industrial markets. Demand for knit fabric has increased in industrial markets, growing by about 3 percent annually during the past decade, but has declined in the home furnishings market in recent years. The principal industrial consumer of knit fabric is the automotive sector, mainly for automotive upholstery and headliners. Other major industrial uses are coated fabrics, filters, linings, bandages, tapes, and webbing. Environmental applications are an important growth area for knit fabric, such as in filters for industrial emissions.

[10] Interview with Terry Townsend, International Cotton Advisory Committee, Dec. 13, 1993. Raw material costs for Brazil in table 5 are overstated somewhat as they reflect the price of locally grown cotton only. The costs do not account for the use of imported cotton, which is valued at the lower world market price.

[11] Cotton Incorporated, based on data compiled by The NPD, Inc.

Table 4
Knit fabric: U.S. shipments, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1988-92

Year	U.S. shipments	U.S. exports	U.S. imports	Apparent U.S. consumption	Ratio of imports to consumption
	Million dollars				*Percent*
1988	5,491.6	136.2	101.6	5,457.0	1.9
1989	6,574.9	120.5	117.4	6,571.8	1.8
1990	5,922.5	218.0	143.6	5,848.1	2.5
1991	6,541.8	287.0	182.9	6,437.7	2.8
1992	[1]6,758.8	327.5	217.1	[1]6,648.4	[1]3.3

[1] Estimated by the staff of the U.S. International Trade Commission.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

Major uses for knit fabric in home furnishings are window treatments, bedspreads, and upholstery. The sale of fabric in retail outlets for home sewing has softened over the years, largely reflecting the increased number of women working outside the home, who generally now have less time to sew.

Consumer Characteristics and Factors Affecting Demand

Knit fabric sold in the United States is used almost entirely by the apparel industry. This industry is highly fragmented, comprising thousands of mostly small firms throughout the country. As such, demand for knit fabric is derived from demand for knit apparel. Price and changes in fashion and consumer spending are major determinants of demand for such apparel.

Consumer expenditures on apparel and other nondurable goods reflect prevailing economic conditions. Between 1988 and 1992, real consumer spending on clothing and shoes rose at an average annual rate of 2 percent.[12] Consumers were more cautious in their spending habits during much of the period, reflecting the sluggish pace of economic activity and the attendant rise in unemployment and fall in consumer confidence. At the same time, consumer debt was at historically high levels and gains in disposable income were relatively low. In 1993, however, consumer spending on apparel and shoes began rising.

Apparel products often have short life cycles at retail because of rapidly changing fashions. Many apparel firms have set up quick response programs with their fabric suppliers and retail customers in an effort to exploit opportunities in changing fashions and to respond quickly to retailer demands. Fashion now is influencing demand for products traditionally less sensitive to changing styles, such as T-shirts and fleece apparel. In recent years, these goods have become value-priced fashion items. During the 1990-91 recession, demand for T-shirts and sweatshirts displaced sales of more expensive shirts and sweaters.

[12] U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, Vol. 73, No. 7, July 1993 and Vol. 72, No. 7, July 1992.

Demand for knitwear is increasingly being supplied by low-cost imports. Increased import penetration in knit apparel affects the U.S. knit fabric industry to the extent that such imports substitute foreign-produced knit fabric for domestic fabric. Although imports of knit fabric are relatively small, imports of knit apparel are substantial. Thus, whereas the competitive strengths of the knit fabric industry have allowed it to maintain a high share of the knit fabric market, increased imports of knit apparel reduce demand by domestic apparel producers for such fabric.

Similarly, the increase in production of knit apparel by vertically integrated U.S. knitwear producers also affects the knit fabric industry. Vertically integrated producers such as Russell, Fruit of the Loom, Sara Lee (Hanes knitwear), and Oneita account for a substantial and growing share of the knit apparel market. In fact, the knit fabric industry supplies less than one half of the knit fabric used in the United States for production of knit apparel. Over 50 percent of the knit fabric is produced and consumed by integrated apparel firms. As such, these integrated firms account for much of the underwear, T-shirts, and fleece apparel produced in the United States.

A major development affecting demand for knit fabric in recent years has been the growing role of retailers in many of the entrepreneurial functions traditionally performed by apparel producers. With retail sales volume becoming concentrated among fewer but bigger retail firms, the influence of these retailers and direct-mail catalog companies is expanding considerably in product development, fabric procurement, and garment production. The growing bargaining power of these large retail firms tends to reduce the flexibility of knit fabric mills in scheduling production and negotiating prices and delivery dates.

U.S. Imports

U.S. imports of knit fabric increased by 114 percent from $101.6 million in 1988 to $217.1 million in 1992 (table 5). Most of the increased imports came from Taiwan, Hong Kong, and Canada, the major suppliers with 56 percent of total imports in 1992. Imports from Canada have grown sharply since the inception of the United States-Canada Free-Trade Agreement (CFTA) in 1989. Combined imports from

Table 5
Knit fabric: U.S. imports for consumption, by principal sources, 1988-92[1]

Source	1988	1989	1990	1991	1992
			Quantity (1,000 kg)		
Taiwan	(2)	4,198	10,980	6,137	6,552
Hong Kong	(2)	1,793	2,944	3,268	4,047
Canada	(2)	1,024	1,264	1,516	2,872
Korea	(2)	934	2,272	1,396	1,313
Guatemala	(2)	451	889	2,040	2,573
Pakistan	(2)	75	468	722	2,517
Italy	(2)	1,166	1,090	315	370
Japan	(2)	318	365	267	290
Germany	(2)	1,007	613	484	361
France	(2)	608	479	133	143
All other	(2)	5,853	4,098	4,515	4,993
Total	20,794	17,426	25,462	20,793	26,000
			Value (1,000 dollars)		
Taiwan	(2)	15,922	33,411	53,839	56,365
Hong Kong	(2)	14,658	21,299	29,334	34,633
Canada	(2)	7,648	12,802	17,790	30,244
Korea	(2)	10,047	15,659	16,865	16,729
Guatemala	(2)	1,470	2,654	8,531	11,836
Pakistan	(2)	343	1,207	3,125	9,329
Italy	(2)	14,370	11,020	8,362	8,456
Japan	(2)	6,409	6,042	5,680	6,643
Germany	(2)	10,455	6,916	5,065	6,330
France	(2)	5,398	7,293	4,276	5,254
All other	(2)	30,649	25,317	30,080	31,271
Total	101,575	117,419	143,621	182,948	217,069
			Unit value (dollars per kg)		
Taiwan	(2)	3.79	3.04	8.77	8.64
Hong Kong	(2)	8.18	7.23	8.98	8.56
Canada	(2)	7.52	10.13	11.74	10.52
Korea	(2)	10.75	6.89	12.08	12.74
Guatemala	(2)	3.26	2.99	4.18	4.60
Pakistan	(2)	4.55	2.58	4.33	3.71
Italy	(2)	12.32	10.11	26.55	22.88
Japan	(2)	20.17	16.57	21.29	22.87
Germany	(2)	10.38	11.28	10.47	17.55
France	(2)	8.88	15.21	32.08	36.84
All other	(2)	5.24	6.18	6.66	6.26
Average	4.88	6.74	5.64	8.80	8.35

[1] Import values are based on U.S. customs value. U.S. trade with East Germany is included in "Germany."

[2] Country-level detail is provided only for years in which there are actual trade data under the Harmonized Tariff Schedule of the United States (HTS).

Note.—Because of rounding, figures may not add to the totals shown.

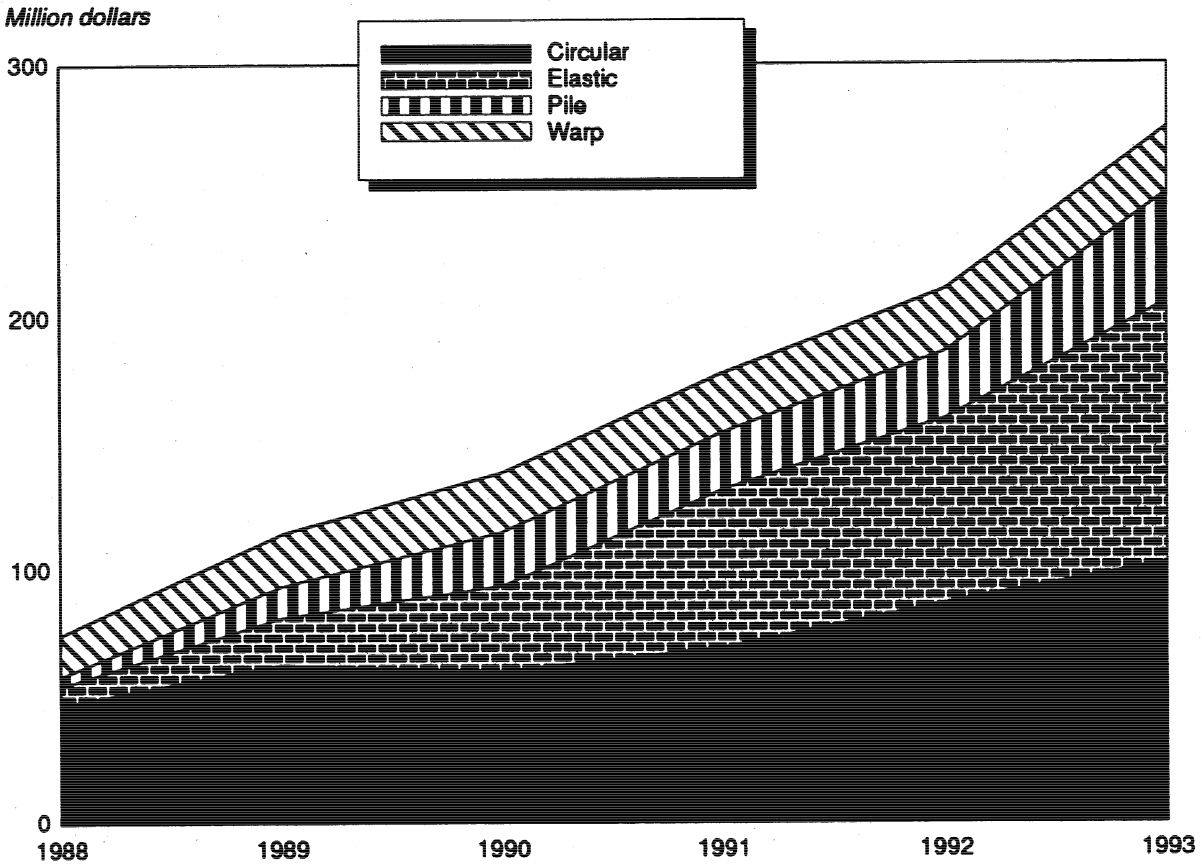
Source: Compiled from official statistics of the U.S. Department of Commerce.

Guatemala and Pakistan, consisting mostly of low-cost cotton circular knits, rose by almost elevenfold during 1989-92. In contrast, imports from the European Union, mainly from Italy, Germany, and the United Kingdom, fell by 27 percent during the period, from $33 million to $24 million.

The growth in imports of knit fabric during 1988-92 largely reflected strong demand (and a tight domestic supply) for wide elastic fabric and circular knits. Imports of these fabrics accounted for 74 percent, or $160 million, of total imports in 1992 (figure 6). Imports of elastic fabric rose from $7 million in 1988 to $73 million in 1992. Imports of circular knits, although relatively stable in 1990 and 1991, amounted to $87 million in 1992, up by 85 percent from $47 million in 1988.

Taiwan, Hong Kong, Canada, and Korea supplied a large share of the imported circular knit fabric and the higher priced wide elastic fabric in 1992. As a result, imports of knit fabric from these sources ranged from $8.56 to $12.74 per kg. Imports from the European Union and Japan ranged from $17.55 to $36.84 per kg, reflecting larger shares of higher priced warp knit fabric and generally higher value-added knit fabric.

Figure 6
Knit fabric[1]: U.S. imports for consumption, by major types, 1988-93[2]



[1] Excludes narrow knit fabric.
[2] Imports for 1993 are projected.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

U.S. Tariff and Nontariff Measures

The trade-weighted average tariff on U.S. imports of knit fabric is 14.3 percent ad valorem, based on 1992 imports. The 1993 U.S. column-1 general rates of duty for knit fabric are presented in table 6 and are summarized into broad product categories as follows (in percent ad valorem):

Item	Rate of duty
Wide elastic	8-14
Circular	14-19
Pile	8-19.5
Warp	14-19
Narrow elastic	9.3-10
Narrow nonelastic	7.5-16

U.S. tariffs for knit fabric from Canada are being phased out under the CFTA. In 1993, U.S. tariffs under the CFTA were one-half the column-1 general rates. Tariffs for knit fabric from Israel are also being phased out under the United States-Israel Free-Trade Implementation Act of 1985. In addition, U.S. imports of certain knit fabric are eligible for preferential tariff treatment under the Caribbean Basin Economic Recovery Act (CBERA) and the Andean Trade Preference Act. The North American Free Agreement (NAFTA), as implemented by the North American Free Trade Agreement Implementation Act (Public Law 103-182, approved Dec. 8, 1993), provides for the phaseout of U.S. duties over a 6-year period beginning January 1, 1994, on imported knit fabric from Mexico.

The recently completed (December 1993) GATT Uruguay Round of trade negotiations may result in further reductions in U.S. duties on the articles covered by this summary. The Uruguay Round schedule of U.S. concessions was not available when this summary was prepared.

The principal nontariff measure relating to U.S. trade in knit fabric and other textile goods is the Multifiber Arrangement (MFA). The MFA is a multilateral agreement negotiated under the auspices of the General Agreement on Tariffs and Trade (GATT). The MFA provides a general framework and guiding principles for the negotiation of bilateral textile agreements between importing and exporting countries, or for unilateral action by an importing

Table 6
Knit fabric: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. imports for consumption, 1992

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1993		U.S. exports, 1992	U.S. imports, 1992
		General	Special[1]		
				1,000 dollars	
	Pile fabrics:				
	"Long pile" fabrics:				
6001.10.20	Of man-made fibers	19.5%	2% (IL) 9.7% (CA)	[2]1,718	745
6001.10.60	Other	11.1%	Free (E*,J*) 0.8% (IL) 5.5% (CA)	[2]191	589
	Looped pile fabrics:				
6001.21.00	Of cotton	11.1%	1.1% (IL) 5.5% (CA)	690	5,832
6001.22.00	Of man-made fibers	19.5%	2% (IL) 9.7% (CA)	58,501	12,588
6001.29.00	Of other textile materials	8%	Free (E*,J*) 0.8% (IL) 4% (CA)	469	90
	Other pile fabrics:				
6001.91.00	Of cotton	21%	Free (IL) 10.5% (CA)	5,120	1,167
6001.92.00	Of man-made fibers	19.5%	2% (IL) 9.7% (CA)	16,329	5,548
6001.99.00	Of other textile materials	8%	Free (E*,J*) 0.8% (IL) 4% (CA)	24,362	36
	Other knitted or crocheted fabrics:				
	Of a width not exceeding 30 cm, containing by weight 5 percent or more of elastomeric yarn or rubber thread:				
6002.10.40	Of cotton	10%	1% (IL) 5% (CA)	3,182	139
6002.10.80	Other	9.3%	Free (E*,IL,J*) 4.6% (CA)	16,253	1,523
	Other, of a width not exceeding 30 cm:				
6002.20.10	Open-work fabrics, warp knit	16%	1.9% (IL) 8% (CA)	43	1,021
	Other:				
6002.20.30	Of cotton	10%	1% (IL) 5% (CA)	359	805
6002.20.60	Of man-made fibers	8.6%	0.9% (IL) 4.3% (CA)	3,994	2,281
6002.20.90	Other	7.5%	Free (E*,J*) 0.8% (IL) 3.7% (CA)	807	122

See footnotes at end of table.

Table 6—Continued
Knit fabric: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. imports for consumption, 1992

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1993		U.S. exports, 1992	U.S. imports, 1992
		General	Special[1]		
				1,000 dollars	
	Other knitted or crocheted fabrics—*Continued*:				
	Of a width exceeding 30 cm, containing by weight				
	5 percent or more of elastomeric yarn or rubber thread:				
6002.30.20	Containing elastomeric yarn	14%	Free (E*,J*) 1.4% (IL) 7% (CA)	[2]15,587	71,980
6002.30.90	Other	8%	Free (E*,J*) 0.8% (IL) 4% (CA)	[2]1,732	1,255
	Other fabrics, warp knit:				
6002.41.00	Of wool or fine animal hair	19%	0.5% (IL) 9.5% CA)	38	1,134
6002.42.00	Of cotton	14%	Free (IL) 7% (CA)	26,587	3,922
6002.43.00	Of man-made fibers	14%	Free (IL) 7% (CA)	32,718	19,276
6002.49.00	Other	14%	Free (E*,IL,J*) 7% (CA)	1,276	58
	Other:				
6002.91.00	Of wool or fine animal hair	19%	0.5% (IL) 9.5% (CA)	534	751
6002.92.00	Of cotton	14%	Free (IL) 7% (CA)	43,703	48,730
6002.93.00	Of man-made fibers	14%	0.8% (IL) 7% (CA)	64,536	37,292
6002.99.00	Other	14%	Free (E*,J*) 0.5% (IL) 7% (CA)	8,797	188

[1] Programs under which special tariff treatment may be provided, and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn, are as follows: United States-Canada Free-Trade Agreement (CA); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Area (IL); and Andean Trade Preference Act (J).
[2] Export data are available at the 6-digit HTS level only. Allocations at the 8-digit level were made by the staff of the U.S. International Trade Commission.
Source: U.S. exports and imports compiled from official statistics of the U.S. Department of Commerce.

country if an agreement cannot be reached. In effect since 1974, the MFA was established to deal with problems of market disruption in textile trade, while permitting developing countries to share in expanded export opportunities.

Under the MFA, developed countries are able to negotiate bilateral agreements with exporting developing countries for the purpose of setting quantitative limits (quotas) on particular products and/or groups of products. In the absence of an agreement, developed countries are able to impose unilateral quotas for up to 2 years to prevent market disruption. The quotas are a departure from the GATT as they are applied on a country-specific basis in contradiction to the nondiscrimination principle requiring that all GATT member countries be treated equally when quotas or other trade restrictions are applied.

In December 1993, the GATT announced an extension of the MFA, for a sixth time, for 1 additional year through 1994. Upon the implementation of the Uruguay Round Agreement on Textiles and Clothing, the MFA will be phased out over a 10-year period and textile trade will be returned to normal GATT rules.

Bilateral agreements negotiated by the United States under the MFA govern most U.S. imports of knit fabric, which are monitored under quota category 222 (knit fabric, except pile fabric, of cotton or manmade fibers) and category 224 (pile and tufted fabric, including woven fabric). The only countries currently subject to quotas specifically for knit fabric are Singapore for category 222 and Egypt for category 224. In 1992, Singapore and Egypt each supplied less than 1 percent of the import volume in these categories.

A number of bilateral agreements provide for group limits that restrict shipments of several different MFA categories at a specified aggregate level. For the major suppliers of knit fabric, Taiwan, Hong Kong, and Korea, the group limits that included categories 222 and 224 were binding in 1992. Knit fabric accounted for a very small portion of the imports covered by these group limits.

Foreign Markets

World knit fabric consumption increased by 26 percent during 1980-90 to 1.6 billion kg (figure 7). The United States is the largest market for knit fabric in the world, accounting for 56 percent of world consumption in 1990. The European Union and Japan together accounted for 30 percent of 1990 world consumption. Between 1980 and 1990, consumption of knit fabric increased by 29 percent in the European Union, to roughly 335 million kg, and by 9 percent in Japan, to 154 million kg.

Demand for knit fabric in the European Union and Japan is supplied mostly by home-market producers. The major producers in the European Union are Italy, Germany, France, and the United Kingdom. Whereas the United States is a large market for moderate cost fabrics, the European Union and Japan are smaller, higher value-added fabric markets. This emphasis on high value-added fabrics tends to limit the ability of producers in other countries, such as the United States, to penetrate these markets.

Most other knit fabric markets in Asia focus on supplying fabric for the production of apparel for export. In recent years, the knit fabric markets in Hong Kong, Taiwan, and Korea have become more oriented toward apparel for domestic consumption.

U.S. Exports

U.S. exports of knit fabric rose by 140 percent during 1988-92 to $327.5 million (table 7). This increase primarily reflected larger shipments to the European Union and CBERA countries. In 1990 the United States ranked as the fifth largest exporter of knit fabric in the world, after Hong Kong, the European Union, Korea, and Japan.[13] However, most of the reported exports from Hong Kong are believed to be reexports.

Major export markets for U.S. knit fabric included Canada, the European Union, CBERA countries, and Mexico. The United States supplied 72 percent of Canada's knit fabric imports in 1992. Following the inception of the CFTA in 1989, U.S. knit fabric exports to Canada slightly more than doubled in 1990 to $93.8 million before leveling off at just under $100 million in 1991 and 1992.

The United States is the principal supplier of knit fabric to CBERA countries and Mexico, where most of the fabric is processed into apparel and returned to the United States. U.S. exports of knit fabric to the CBERA countries and Mexico tripled from $28 million in 1989 to $85 million in 1992. The implementation of NAFTA likely will encourage further growth in U.S. knit fabric exports to Mexico as a result of NAFTA-induced investment in Mexican production of apparel for local and U.S. consumption.

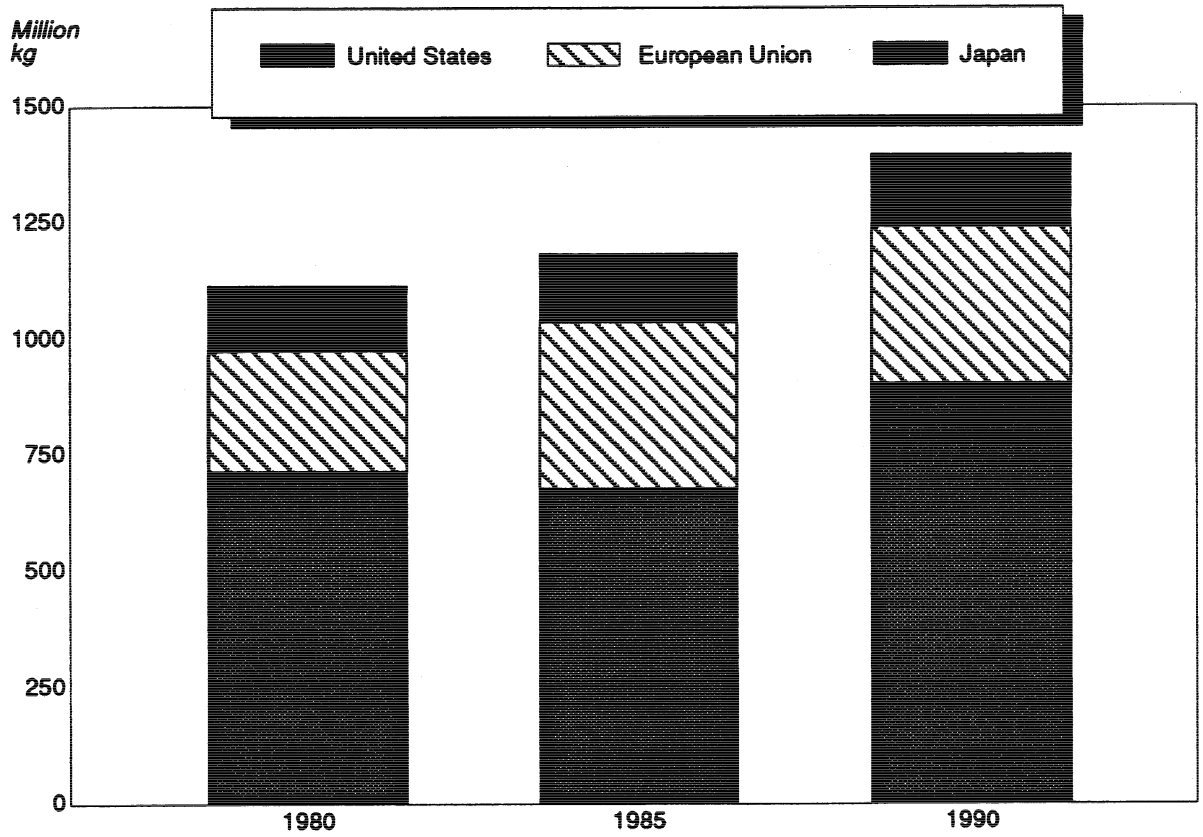
U.S. knit fabric exports to the European Union, mainly to the United Kingdom, Italy, Germany, and France, more than quadrupled from $15 million in 1989 to $65 million in 1992. U.S. exports to Japan also experienced strong growth, more than doubling to $9 million.

Circular knits and warp fabrics are the principal U.S. knit fabric exports and they also accounted for most of the export growth during 1988-92. Exports of these two fabrics totaled $225 million, or 69 percent, of total exports in 1992 (figure 8). The growth in exports of circular knits reflected larger shipments to the CBERA countries and Mexico, mainly inexpensive apparel fabrics. The increase in exports of warp fabrics mostly resulted from larger sales to the European Union and also to Mexico and Canada.

Despite the rapid growth in U.S. exports of knit fabric in recent years, foreign sales accounted for less than 5 percent of U.S. production in 1992. Although the U.S. knit fabric industry historically concentrated on serving the large domestic market, the recent export

[13] United Nations, *1990 International Trade Statistics Yearbook* (New York: 1992).

Figure 7
Knit fabric: Apparent consumption, by major world markets, 1980, 1985, and 1990



Note.—Production data used in calculating apparent consumption include knit fabric produced by both knit fabric mills and vertically integrated producers of knit apparel.

Source: Compiled by the staff of the U.S. International Trade Commission from production and trade data of the U.S. Department of Commerce and the United Nations.

growth reflects the industry's focus on foreign markets for sales growth. Most large U.S. producers of knit fabric have export divisions. Substantial quantities of knit fabric also are exported by trading firms, which are independent operators that represent domestic firms without foreign divisions or that purchase knit fabric from any available source to satisfy foreign demand.

Foreign Tariff and Nontariff Measures

Tariffs are the only significant trade barrier affecting U.S. exports of knit fabric in major world markets. In general, the tariffs of the United States for knit fabric are higher than those of the European Union and Japan, but lower than those of Canada. Canada is the largest export market for U.S. knit fabric. Under the CFTA, Canada is phasing out its tariffs for U.S. knit fabric over 10 years. The Canadian general rate of duty for most knit fabric is 25 percent ad valorem. In 1993 the rate for U.S. knit fabric had been cut in half, to 12.5 percent ad valorem.

Other major export markets for U.S. knit fabric are the European Union, Japan, the CBERA countries, and Mexico. The European Union levies a duty of 12 percent ad valorem on most imports of knit fabric. The textile rules of origin governing trade between the European Union and the European Free Trade Association (EFTA) countries also may impede U.S. knit fabric exports to member countries. In general, apparel made in the European Union from third-country knit fabric and exported to an EFTA nation would not be eligible for preferential tariff treatment, thereby discouraging apparel firms in the European Union from using U.S. fabric. Japan's general rates of duty on knit fabric imports are 30 percent ad valorem; however, its "temporary" rates range from 5.6 to 15.7 percent. Most U.S. exports of fabric to the CBERA countries and Mexico enter these nations duty-free under programs in which the fabric is cut and assembled into apparel for subsequent reexport to the United States. Under NAFTA, effective January 1, 1994, Mexico is obligated to phase out its 20-percent duty on imports of knit fabric from the United States over a 6-year period.

Table 7
Knit fabric: U.S. exports of domestic merchandise, by principal markets, 1988-92[1]

Market	1988	1989	1990	1991	1992
			Quantity (1,000 kg)		
Canada	(2)	8,912	14,537	14,851	14,419
Dominican Republic	(2)	1,394	2,024	3,165	4,654
Mexico	(2)	1,203	1,931	2,244	2,492
United Kingdom	(2)	1,237	1,534	1,092	2,106
Italy	(2)	184	662	1,919	2,759
Costa Rica	(2)	307	456	595	1,248
Germany	(2)	225	606	1,337	2,180
France	(2)	178	649	1,416	2,226
Japan	(2)	345	478	672	709
Hong Kong	(2)	407	716	1,352	1,069
All other	(2)	9,215	12,075	13,148	14,529
Total	31,438	23,606	35,668	41,792	48,391
			Value (1,000 dollars)		
Canada	(2)	37,922	93,829	98,973	97,434
Dominican Republic	(2)	8,489	13,740	25,534	35,996
Mexico	(2)	6,524	12,048	16,830	19,010
United Kingdom	(2)	7,504	10,822	11,651	18,568
Italy	(2)	1,510	3,909	12,311	13,996
Costa Rica	(2)	2,460	3,120	7,184	13,736
Germany	(2)	2,079	5,567	9,697	10,787
France	(2)	1,475	5,735	8,202	9,893
Japan	(2)	3,715	6,051	6,741	8,760
Hong Kong	(2)	3,233	8,020	12,326	8,612
All other	(2)	45,612	55,133	77,526	90,736
Total	136,201	120,522	217,973	286,974	327,527
			Unit value (dollars per kg)		
Canada	(2)	4.26	6.45	6.66	6.76
Dominican Republic	(2)	6.09	6.79	8.07	7.73
Mexico	(2)	5.42	6.24	7.50	7.63
United Kingdom	(2)	6.07	7.05	10.67	8.82
Italy	(2)	8.22	5.91	6.42	5.07
Costa Rica	(2)	8.00	6.84	12.06	11.01
Germany	(2)	9.25	9.18	7.25	4.95
France	(2)	8.29	8.84	5.79	4.44
Japan	(2)	10.76	12.65	10.02	12.36
Hong Kong	(2)	7.94	11.20	9.12	8.06
All other	(2)	4.95	4.57	5.90	6.25
Average	4.33	5.11	6.11	6.87	6.77

[1] Export values are based on f.a.s. value, U.S. port of export. U.S. trade with East Germany is included in "Germany."

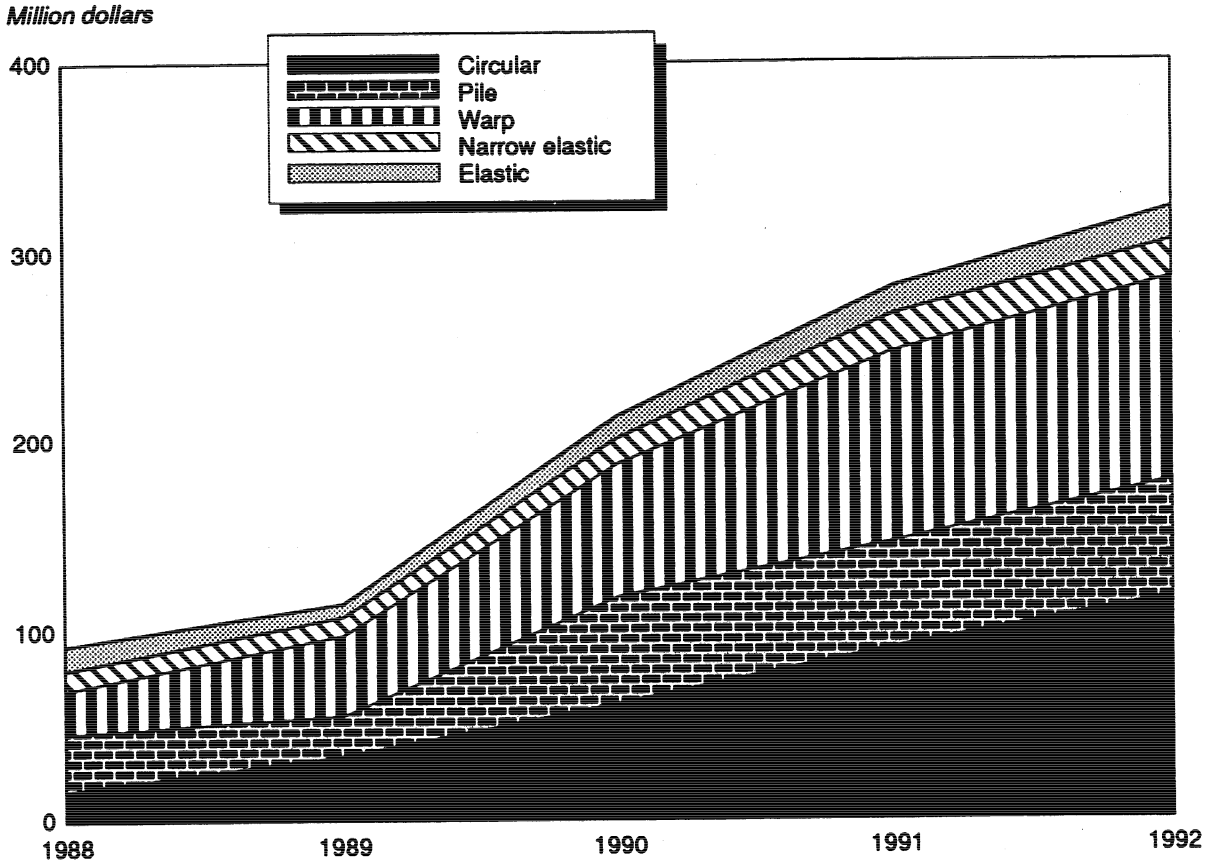
[2] Country-level detail is provided only for years in which there are actual trade data under the new Schedule B (based on the Harmonized Tariff Schedule of the United States).

Note.—Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Figure 8
Knit fabric[1]: U.S. exports, by major types, 1988-92

Million dollars



[1] Excludes narrow knit fabric.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

U.S. Trade Balance

The U.S. trade surplus for knit fabric increased significantly from $34 million in 1988 to $111 million in 1992, as exports increased faster than imports (table 8). The largest trade surpluses were with Canada, the CBERA countries, and the European Union; the largest trade deficits were with Taiwan, Hong Kong, and Korea. Canada and the European Union are the major trading partners of the United States in knit fabric. The trade surplus with the CBERA nations and also Mexico is largely offset by trade deficits with these countries in knit apparel, the main end use of the exported fabric. The trade deficits with the three Asian countries approximated their shipments to the United States, as U.S. exports to these markets were fairly small.

Table 8
Knit fabric: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1988-92[1]

(Million dollars)

Item	1988	1989	1990	1991	1992
U.S. exports of domestic merchandise:					
Canada	(2)	38	94	99	97
Taiwan	(2)	1	1	1	1
Hong Kong	(2)	3	8	12	9
Dominican Republic	(2)	8	14	26	36
Mexico	(2)	7	12	17	19
Italy	(2)	2	4	12	14
United Kingdom	(2)	8	11	12	19
Korea	(2)	3	2	2	2
Germany	(2)	2	6	10	11
Japan	(2)	4	6	7	9
All other	(2)	46	61	90	111
Total	136	121	218	287	328
European Union	(2)	15	32	49	65
OPEC	(2)	10	5	8	14
ASEAN	(2)	4	4	4	8
CBERA	(2)	21	28	45	66
Eastern Europe	(2)	(3)	1	1	(3)
U.S. imports for consumption:					
Canada	(2)	8	13	18	30
Taiwan	(2)	16	33	54	56
Hong Kong	(2)	15	21	29	35
Dominican Republic	(2)	0	0	(3)	(3)
Mexico	(2)	1	3	5	4
Italy	(2)	14	11	8	8
United Kingdom	(2)	2	3	5	4
Korea	(2)	10	16	17	18
Germany	(2)	10	7	5	6
Japan	(2)	6	6	37	7
All other	(2)	34	31	37	51
Total	102	117	144	183	217
European Union	(2)	34	31	24	24
OPEC	(2)	(3)	(3)	(3)	(3)
ASEAN	(2)	2	3	2	1
CBERA	(2)	2	3	2	1
Eastern Europe	(2)	1	1	1	2
U.S. merchandise trade balance:					
Canada	(2)	30	81	81	67
Taiwan	(2)	-15	-32	-53	-55
Hong Kong	(2)	-12	-13	-17	-26
Dominican Republic	(2)	8	14	26	36
Mexico	(2)	6	9	12	15
Italy	(2)	-12	-7	4	6
United Kingdom	(2)	6	8	8	16
Korea	(2)	-7	-14	-15	-15
Germany	(2)	-8	-1	5	5
Japan	(2)	-2	0	1	2
All other	(2)	12	30	53	60
Total	34	4	74	104	111
European Union	(2)	-19	1	25	41
OPEC	(2)	10	5	8	14
ASEAN	(2)	2	1	2	7
CBERA	(2)	19	25	34	52
Eastern Europe	(2)	-1	(3)	(3)	-2

[1] Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export. U.S. trade with East Germany is included in "Germany" but not "Eastern Europe."

[2] Country-level detail is provided only for years in which there are actual trade data under the Harmonized Tariff Schedule of the United States (HTS) and the new Schedule B (based on the HTS).

[3] Less than $500,000.

Note.—The countries shown are those with the largest total U.S. trade (U.S. imports plus exports) in these products. Because of rounding, figures may not add to the totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

APPENDIX A
EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS

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TARIFF AND TRADE AGREEMENT TERMS

The ***Harmonized Tariff Schedule of the United States*** (HTS) replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989. Chapters 1 through 97 are based upon the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description, with additional U.S. product subdivisions at the 8-digit level. Chapters 98 and 99 contain special U.S. classification provisions and temporary rate provisions, respectively.

Rates of duty in the ***general*** subcolumn of HTS column 1 are most-favored-nation (MFN) rates; for the most part, they represent the final concession rate from the Tokyo Round of Multilateral Trade Negotiations. Column 1-general duty rates are applicable to imported goods from all nonembargoed countries except those enumerated in general note 3(b) to the HTS plus Serbia and Montenegro, whose products are dutied at the rates set forth in ***column 2***. Goods from Albania, Armenia, Belarus, Bulgaria, the People's Republic of China, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Poland, Romania, Russia, Slovakia, Turkmenistan, Ukraine, and Uzbekistan are currently eligible for MFN treatment, as are the other republics of the former Socialist Federal Republic of Yugoslavia. Among articles dutiable at column 1-general rates, particular products of enumerated countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the ***special*** subcolumn of HTS column 1. Where eligibility for special tariff treatment is not claimed or established, goods are dutiable at column 1-general rates.

The ***Generalized System of Preferences*** (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 and renewed in the Trade and Tariff Act of 1984, applies to merchandise imported on or after January 1, 1976 and before September 30, 1994. Indicated by the symbol "A" or "A*" in the special subcolumn of column 1, the GSP provides duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries, as set forth in general note 4 to the HTS.

The ***Caribbean Basin Economic Recovery Act*** (CBERA) affords nonreciprocal tariff preferences to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984; this tariff preference program has no expiration date. Indicated by the symbol "E" or "E*" in the special subcolumn of column 1, the CBERA provides duty-free entry to eligible articles, and reduced-duty treatment to certain other articles, which are the product of and imported directly from designated countries, as set forth in general note 7 to the HTS.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "IL" are applicable to products of Israel under the ***United States-Israel Free Trade Area Implementation Act*** of 1985 (IFTA), as provided in general note 8 to the HTS. Where no rate of duty is provided for products of Israel in the special subcolumn for a particular provision, the rate of duty in the general subcolumn of column 1 applies.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn of column 1 followed by the symbol "J" or "J*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the ***Andean Trade Preference Act*** (ATPA), enacted in title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 11 to the HTS.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods of Canada, and those followed by the symbol "MX" are applicable to

eligible goods of Mexico, under the ***North American Free Trade Agreement***, as provided in general note 12 to the HTS, effective January 1, 1994.

Other special tariff treatment applies to particular ***products of insular possessions*** (general note 3(a)(iv)), goods covered by the ***Automotive Products Trade Act*** (APTA) (general note 5) and the ***Agreement on Trade in Civil Aircraft*** (ATCA) (general note 6), and ***articles imported from freely associated states*** (general note 10).

The ***General Agreement on Tariffs and Trade*** (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is a multilateral agreement setting forth basic principles governing international trade among its signatories. The GATT's main obligations relate to most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national (nondiscriminatory) treatment for imported products; the GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, antidumping and countervailing duties, and other measures. Results of GATT-sponsored multilateral tariff negotiations are set forth by way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as Schedule XX.

Officially known as "The Arrangement Regarding International Trade in Textiles," the ***Multifiber Arrangement*** (MFA) provides a framework for the negotiation of bilateral agreements between importing and producing countries, or for unilateral action by importing countries in the absence of an agreement. These bilateral agreements establish quantitative limits on imports of textiles and apparel, of cotton and other vegetable fibers, wool, man-made fibers and silk blends, in order to prevent market disruption in the importing countries—restrictions that would otherwise be a departure from GATT provisions. The United States has bilateral agreements with many supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.