

Industry & Trade Summary

Photographic Supplies

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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 photographic supplies covers the period 1986 through 1990 and represents one of approximately 250-300 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 miscellaneous manufactures sector.

<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2426 (GM-1)	November 1991	Toys and models
2476 (GM-2)	January 1992	Lamps and lighting fittings
2523 (GM-3)	June 1992	Prefabricated buildings
2540 (GM-4)	July 1992	Photographic supplies

¹The 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.

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INTRODUCTION

This report provides information on the domestic and foreign industries producing photographic supplies, U.S. and foreign tariff policies and nontariff measures in effect for these products, and the U.S. industry performance in domestic and foreign markets. The report covers the period 1986-90.

Products of the photographic industry are classified into two segments: equipment and sensitized materials. The equipment sector produces such items as still and motion picture cameras and accessories, projectors and screens, and micrographic equipment. The sensitized materials sector produces still and motion picture film, x-ray film, paper, and plates (See figure 1). This report deals only with the sensitized materials sector, specifically with such products as photographic film (including x-ray film), dry plates, photographic paper, and sensitized emulsions. Together, these products account for one-third of total U.S. shipments of photographic equipment and supplies. Unexposed photographic film and photographic paper comprise the largest part of this category, both in terms of domestic production and imports.

Photographic film, paper, and plates are light-sensitive materials used in conjunction with mechanisms designed to record or project such images of objects as cameras and projectors. Photographic film is available in the 110, 126, disc, instant print, and 35mm formats and is used by both amateur and

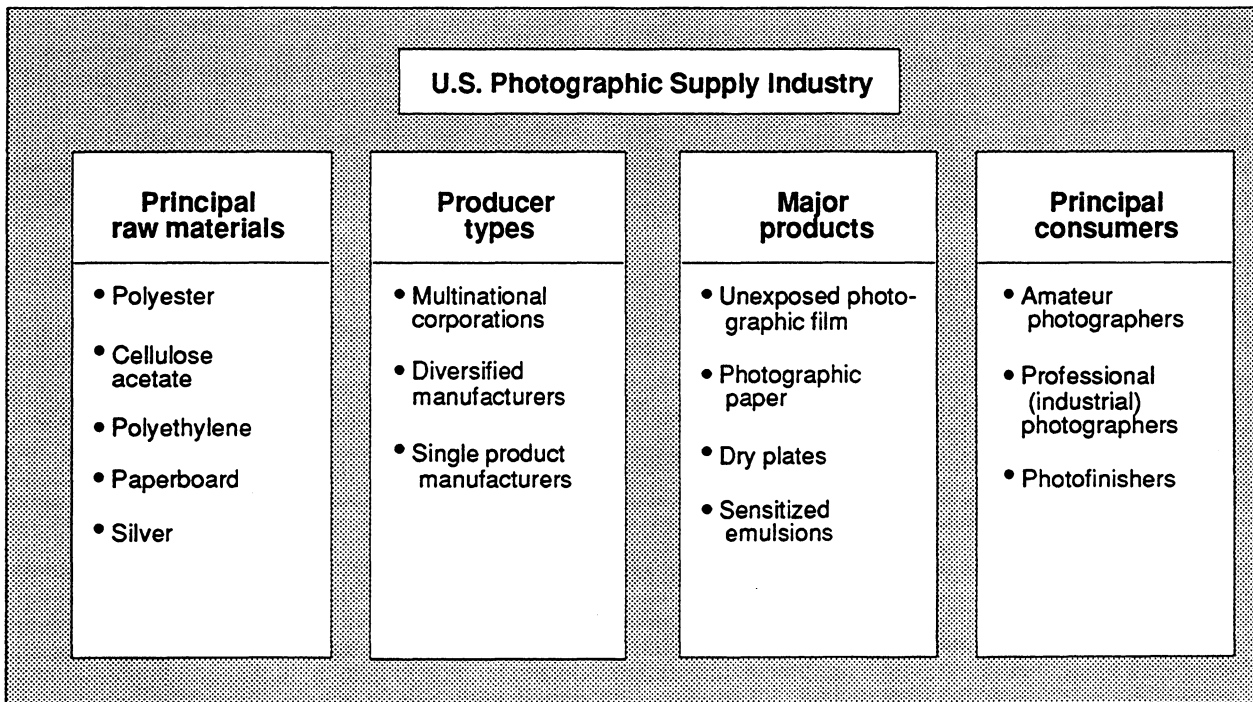
professional photographers with various point-and-shoot cameras. Amateur photographers record such events as family gatherings, vacations, holidays, celebrations, and other occasions. The 110, 126, and disc formats have declined in popularity; beginning photographers and more advanced amateurs use the 35mm format. Even professional photographers use 35mm cameras (and thus film) as backup or for preliminary work. The industry estimates that more than 72 percent of film rolls purchased and over 77 percent of exposures in 1990 were in the 35mm format.

Manufacturing processes for the photographic supply industry are complicated and highly technical. Further, because sensitized materials have more technical content than labor content, advanced countries with highly developed technological capacity have an edge in their production.

Photographic paper must have very special chemical and physical properties to satisfy the requirements for inertness, whiteness, and mechanical strength and durability. Other properties required of the paper are low moisture absorption to facilitate wet processing and drying; little curl before, during, and after chemical processing; and relatively low price compared to that of transparent film base. Manufacturers meet these diverse demands by using chemically pure, photographic-grade paper clad with polyethylene layers. They obtain the desired whiteness

Figure 1

U.S. photographic supply industry: Principal raw materials, producer types, major products, and principal consumers



Source: U.S. Department of Commerce, Bureau of the Census, *Census of Manufactures, 1987*; Industry sources.

by incorporating a white pigment and optical brightener in the front polyethylene layer. The resistance to curl is achieved by using a denser or thicker polyethylene layer on the back; this back layer counterbalances the bending force of the gelatin layers applied to the front side. The strength and long-term stability of the paper are enhanced by the use of various additives, including antioxidants, that minimize the destructive actions of chemical fumes, heat, humidity, and light.

Similarly, photographic film requires a transparent base that fulfills specific chemical and physical criteria. These include high optical clarity, low flammability, good dimensional stability, folding endurance, tear resistance, and permanence. The two plastics that best meet these requirements are cellulose acetate and polyethylene terephthalate (PET). Of the two, PET is preferred because it keeps more of its core set after processing (i.e., retains its original shape through exposure and processing) and has a much tougher base than cellulose acetate and much better dimensional stability and aging properties. Unlike polyester, the older cellulose acetate type bases have appreciably poorer physical properties, but are still used for amateur and other types of roll film because the water absorbent acetate base loses its core set during processing and lies flatter after drying. Polyester is also difficult to splice and causes more severe light piping (internal reflections of light which negatively affect image clarity) than does cellulose acetate.

The sensitizing or coating operation is the most intricate and difficult part of film manufacturing. It involves the application of multiple gelatin layers by a special extrusion process in total darkness. It is followed by finishing operations in which the wide, long master rolls of film are slit, cut, sometimes perforated, and packaged under precisely controlled conditions of temperature and humidity. The film base must be capable of maintaining an intimate and tenacious bond with the gelatin layers applied to it during sensitizing. This is accomplished with the aid of so-called substratum (bonding) layers applied during base manufacture.

U.S. INDUSTRY PROFILE

Industry Structure

The two segments of the photographic industry correspond with Standard Industrial Classification 3861, Photographic Equipment and Supplies. For purposes of the summary, the following major groups of products will be considered: sensitized film and plates, silver halide type; sensitized paper and cloth, silver halide type; sensitized film, paper, and cloth, except silver halide type; and x-ray film and plates.

It is estimated that in 1990 there were over 100 establishments primarily engaged in production of photographic supplies in the United States. However, only a few of these are considered to be major producers of sensitized materials. Photographic supply

manufacturing is by in large vertically integrated and the highly technical nature of film and paper production presents a formidable barrier to entry. Eastman Kodak Company, the industry leader, commands an estimated 50 to 60 percent overall market share in the total photographic business worldwide, and photographic film and paper account for an estimated two-thirds of its revenues. Kodak produces slightly more than half of its total requirements in the United States.

Approximately 15 percent of the sensitized goods that compete with Kodak products are made in the United States. Du Pont, one of the largest photographic supply manufacturers, withdrew from the amateur and professional sectors, but continues to be a major presence in the graphic arts and x-ray product markets. Polaroid Corporation continues to be the only manufacturer of instant photographic products and recently began to compete in the conventional film market. Minnesota Mining & Manufacturing Company (3M) manufactures negative and reversal color films (film which, upon development, yields an instant positive) and sells them both under the Scotch brand label and to private label customers. However, the company has limited its color print products to display films. Niche competitors (those that target specific segments of the market) include Xidex Corp. and Anitec Image Technology Corp.

Photographic companies have begun to move to offshore production (see Foreign Industry Profile). This relocation is influenced chiefly by lower labor costs, proximity to potential markets, and avoidance of restrictive foreign trade measures. As mentioned, although the United States is the largest single source of Kodak film and paper, the company manufactures in many geographic locations. These include Canada, Brazil, the United Kingdom, France, Australia, and Mexico. Fuji Photo Film Co., Ltd. paper-manufacturing plants account for the majority of shipments from the Netherlands, and the company established a photo-manufacturing facility in South Carolina. Agfa-Gevaert also plans to build a photofinishing plant in South Carolina. Konica Corporation recently constructed a paper-manufacturing facility in North Carolina. Finally, Polaroid formed a joint venture to do business in China.

Production of photographic supplies follows a traditional product cycle. Production has trickled own from advanced countries to newly industrialized countries and is reportedly shifting to less developed countries. However, this process will occur more slowly than in electronic or machine manufacturing, as sensitized materials production requires highly skilled technical workers.

The long-range future of the photographic industry lies in electronic imaging. Unlike traditional silver halide photography, in which film senses and records the image-forming light, this technology uses an electronic sensor chip to convert images to digital signals, and a separate magnetic or optical medium to record the picture for possible transmission to hard copy later. The technology has not advanced as rapidly

as expected, however. Current generation electronic still cameras, which are essentially prototypes, sell at significantly higher prices than conventional cameras, making them prohibitive for consumer use.

Strong impetus to the near-term growth of the imaging market is being provided by the expanding "hybrid-technology." While the exact meaning of the term has yet to be defined, it is generally accepted as covering that broad area where photographic imaging, data processing, and electronics converge. Several inputs are combined including silver halide images, prepared art, and copy using computerized processing. This technology assures a place for silver-halide technology in the approaching electronic imaging universe.

The domestic industry continues to be highly concentrated, with the U.S. companies mentioned accounting for 90 percent of the total value of industry shipments and 85 to 90 percent of the employment and production workers. They are geographically based in New York, Colorado, Massachusetts, and Illinois.

U.S. producers and importers of photographic film and paper sell their products in varying degrees to two distinctive market segments in the United States: a retail market that consists of mass merchandisers (e.g., K-Mart, Sears), specialty camera stores, distributors, mail order outlets; and a promotional/premium market that uses cameras and film to advertise and increase the sale of other products. U.S. sales of imports occur mainly through mass merchandisers and specialty camera stores.

Although exact employment figures for the photographic supply end of the industry are unavailable, the Commerce Department estimates that overall employment in the U.S. photographic industry decreased by 20 percent during 1982-86, but remained level from 1987 to 1989. During this period, the employment level for production workers, the largest category of workers in the photographic industry, declined by nearly 26 percent. Production workers represented 57 percent of total employment 10 years ago, but accounted for only about one-half the total in 1989. A modest downturn in total employment to an estimated 87,000 workers occurred in 1990. Some of this downturn reflects increasing productivity. Since the darkroom environment is highly automated (thus not lending itself to increasing labor inputs) and the industry is reaching new levels of automation and technology, productivity is growing. Although occasional quality control problems exist, quality control measures are improving, and the vendors of raw materials are shouldering more of the burden to sell quality components.

Consumer Characteristics And Factors Affecting Demand

The demand for film and paper, the largest segment of the photographic supply industry, is partially a function of the demand for cameras. Despite the fact that many sizes of film exist, various manufacturers of

film produce a range of sizes, and different brands of film can be used in a given machine, assuming a corresponding film size. Additionally, the 35mm format dominates the market and consumers have several sources, both domestic and foreign, for this product.

In terms of total exposures, the market for photographic supplies is approximately two-thirds amateur and one-third professional (or industrial). As such, the total market is weighted in favor of the amateur end. Because photographic supplies, and particularly film, are largely luxury items for amateur consumers, and such close substitutability exists between the high-end domestic and foreign product, the price elasticity of demand for U.S. imports of these products is considered to be fairly high. It is slightly less so for the professional product sector.

Since the photographic business principally serves the amateur consumer, it is directly dependent on per capita personal disposable income and general consumer confidence. That aside, the state of technology, price, quality, and other product-related factors are seen as equally important determinants of purchasing decisions. Brand loyalty is also a key factor.

Industry surveys have found that photo activity increases with increases in household income, education, number of people in household, and the number of full-time earners. Households with children use more photographic products than those without, and households with pets are above average in terms of photographic usage. Further, households with a personal computer, motor home, VCR, or cellular phone rate above average in picture-taking.

FOREIGN INDUSTRY PROFILE

The major foreign manufacturers of photographic film and paper used in the amateur and professional markets are: Agfa-Gevaert (German); Fuji Photo Film Co., Ltd., Konica, Mitsubishi, and Oriental Photo (all Japanese); and Ciba-Geigy/Ilford (Swiss). The first three of these manufacturers, together with Kodak, produce most of the color film and color paper used for the printing of color negatives. They also supply color reversal film and paper, and display-type color print film on transparent and translucent supports. Agfa and Konica sell private-label film. Fuji supplies reversal color film to Polaroid, while Mitsubishi and Oriental make and sell color paper directly and through third parties. Ciba-Geigy/Ilford makes Cibachrome type, direct positive color products that are used mostly in professional labs. These companies produce most of their photographic products in Japan and Europe.

Fuji, Japan's largest maker of photographic film and paper, is slowly increasing its penetration of the U.S. photo market. It has boosted its share in amateur color film to an estimated 11 percent. Fuji is also making significant inroads with professional photographers and in the graphic arts and medical imaging markets. However, it is believed that Fuji's

increased U.S. penetration has been at the expense of several smaller film makers rather than of Kodak.¹

In 1990, Japan supplied 41 percent of total U.S. photographic supply imports; the Benelux countries, 19 percent; Canada, 9 percent; and Germany, about 7 percent.

U.S. TRADE MEASURES

Table 1 shows the current U.S. rates of duty (as of January 1, 1991), applicable to imports of photographic supplies under the Harmonized Tariff Schedule of the United States (HTS). The table shows the column 1 duty rates for countries considered for general or Most Favored Nation treatment, as well as for countries qualifying under special tariff programs.

The 1991 U.S. general rate of duty for most photographic supplies under HTS chapter 37 is 3.7 percent ad valorem, except in the instance of dry photographic plates, on which the duty is 4.9 percent ad valorem, and of nonsilver-halide color and black and white photographic paper, on which the duties are 3.1 percent and 2.8 percent ad valorem, respectively. Sensitized emulsions carry a duty rate of 3 percent ad valorem, and no duty is assessed on reversal color or on motion-picture film.

All items in chapter 37 are eligible for duty-free treatment under the Generalized System of Preferences (GSP), the Caribbean Basin Economic Recovery Act, and the U.S.-Israel Free-Trade Agreement. The U.S.-Canada Free-Trade Agreement (CFTA) provides for staged reductions in tariffs for bilateral trade on these goods until 1998, by which time all duties between the two countries will be eliminated. In the case of chapter 37, all imports originating from Canada will be duty free by January 1, 1993. Currently, most items carry a 1.4 percent ad valorem duty rate under the CFTA.

There are no known U.S. nontariff trade measures that significantly influence trade in the products covered in this report.

FOREIGN TRADE MEASURES

Tariff Measures

The most significant trading partner of the United States in photographic supplies is Japan. As in the United States, Japanese duties on products of Chapter 37 are uniform; in fact, Japan assesses no duty on most of the products contained therein. The exceptions are 3702.10, photographic film for x-ray, where a 6.6 percent duty is assessed; 3703.10 and 3703.90, color and black and white photographic paper, which each carry a 5.3 percent duty; and sensitized emulsions of 3707.10, where a 4.6 percent duty rate is assessed.

¹ Value Line, May 24, 1991 p. 1562.

The European Community's (EC) rates of duty on photographic supplies generally fall in the 7.1 to 7.6 percent range, with the highest duties falling on instant print film and photographic paper of heading 3703. Certain categories of photographic film, especially under 3702.51 through 3702.55, carry a 5.3 percent duty. Sensitized emulsions are assessed a 6 percent duty.

Mexico levies a 10 to 15 percent ad valorem duty rate on most products listed in Chapter 37, with the bulk coming in at the 15 percent rate. Instant print and x-ray film, as well as certain photographic papers, fall in the lower range. Master rolls of graphic arts film carry a 5 percent ad valorem duty rate.

As previously noted, duty rates in both Canada and the United States are currently being reduced and are scheduled to be eliminated by January 1, 1998, for trade between the two countries. In 1991, remaining Canadian duty rates on photographic supply imports from the United States range from 1.1 to 1.9 percent, with the bulk of the products in the chapter carrying no duty or a minimal duty of 1.4 percent.

Nontariff Measures

Significant foreign nontariff barriers to U.S. exports may be broadly defined as government laws, regulations, policies, or practices (excluding tariffs and other import charges or policies) that either protect domestic producers from foreign competition or artificially stimulate exports of particular domestic products.

In the past, bans on foreign photographic products in Korea and local content restrictions in Latin American markets have presented problems to the photographic industry. Presently, there are no known Canadian or EC nontariff measures that influence trade with the United States in these products. However, in Japan, x-ray film of heading 3702.10 is subject to the Pharmaceutical Affairs Law, which requires the approval of the Ministry of Health and Welfare. Additionally, sensitized emulsions of HTS heading 3707 are governed by a law calling for the screening of chemical substances and the regulation of their manufacture. As a result, the Japanese Government must approve the chemicals used in their production.

In general, industry sources claim that currency controls and locally acquired foreign exchange requirements are often restrictively imposed against U.S. exports. These measures usually result because photographic products are seen as luxury items and not necessities.

U.S. MARKET

Consumption

Apparent U.S. consumption of photographic supplies increased at an average annual growth rate of 9.5 percent, from an estimated \$6.4 billion in 1986 to

Table 1

Photographic supplies: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1991; U.S. exports and imports, 1990

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1991		U.S. exports, 1990	U.S. imports, 1990
		General	Special ¹		
					<i>Million dollars</i>
3701.10.00	Photographic plates and films for x-ray	3.7%	Free (A, E, IL) 1.4% (CA)	182	151
3701.20.00	Instant print film	3.7%	Free (A, CA, E, IL)	74	102
3701.30.00	Other plates and film, with any side exceeding 255 mm . . .	3.7%	Free (A, E, IL) 1.4% (CA)	125	85
3701.91.00	Polychrome photographic plates and films	3.7%	Free (A, E, IL) 1.4% (CA)	58	5
3701.99.30	Dry plates	4.9%	Free (A, E, IL) 1.9% (CA)	0	31
3701.99.60	Non-polychrome graphic arts film	3.7%	Free (A, E, IL) 1.4% (CA)	39	57
3702.10.00	Photographic film in rolls for x-ray	3.7%	Free (A, E, IL) 1.4% (CA)	24	39
3702.20.00	Instant print film	3.7%	Free (A, CA, E, IL) 1.4% (CA)	4	1
3702.31.00	Polychrome film of a width not exceeding 105 mm	3.7%	Free (A, E, IL) 1.4% (CA)	30	11
3702.32.00	Non-polychrome film with silver halide emulsion	3.7%	Free (A, CA, E, IL)	40	52
3702.39.00	Film without silver halide emulsion	3.7%	Free (A, E, IL) 1.4% (CA)	15	7
3702.41.00	Polychrome film of a width exceeding 610 mm and of a length exceeding 200 m	3.7%	Free (A, CA, E, IL)	163	65
3702.42.00	Film of width exceeding 610 mm and of a length exceeding 200 m, other than polychrome	3.7%	Free (A, CA, E, IL)	108	111
3702.43.00	Film of a width exceeding 610 mm and of a length not exceeding 200 m	3.7%	Free (A, E, IL) 1.4% (CA)	26	18
3702.44.00	Film of a width exceeding 105 mm but not exceeding 610 mm	3.7%	Free (A, E, IL) 1.4% (CA)	106	42
3702.51.00	Polychrome film of a width not exceeding 16 mm and of a length not exceeding 14 m	3.7%	Free (A, E, IL) 1.4% (CA)	7	3
3702.52.00	Polychrome film of a width not exceeding 16 mm and of a length exceeding 14 m	3.7%	Free (A, CA, E, IL)	19	3
3702.53.00	Polychrome film of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m for slides	3.7%	Free (A, E, IL) 1.4% (CA)	20	13

¹ See footnote at end of table.

Table 1—Continued
Photographic supplies: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1991; U.S. exports
and imports, 1990

HTS subheading	Description	Col. 1 rate of duty As of Jan. 1, 1991		U.S. exports, 1990	U.S. imports, 1990
		General	Special ¹		
3702.54.00	Polychrome film of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m, other than for slides	3.7%	Free (A, E, IL) 1.4% (CA)	61	134
3702.55.00	Polychrome film of a width exceeding 16 mm but not exceeding 35 mm and of a length exceeding 30 m	Free		109	30
3702.56.00	Polychrome film of a width exceeding 35 mm	Free		20	5
3702.91.00	Non-polychrome film of a width not exceeding 16 mm and of a length not exceeding 14 m	3.7%	Free (A, E, IL) 1.4% (CA)	3	1
3702.92.00	Non-polychrome film of a width not exceeding 16 mm and of a length exceeding 14 m	3.7%	Free (A, CA, E, IL)	3	3
3702.93.00	Non-polychrome film of a width exceeding 16 mm but not exceeding 35 mm and of a length not exceeding 30 m	3.7%	Free (A, E, IL) 1.4% (CA)	11	9
3702.94.00	Non-polychrome film of a width exceeding 16 mm but not exceeding 35 mm and of a length exceeding 30 mm	Free		14	17
3702.95.00	Non-polychrome film of a width exceeding 35 mm	3.7%	Free (A, E, IL) 1.4% (CA)	19	8
3703.10.30	Silver halide papers	3.7%	Free (A, CA, E, IL)	52	55
3703.10.60	Non-silver-halide papers	3.1%	Free (A, CA, E, IL)	7	26
3703.20.30	Silver halide papers for color photography	3.7%	Free (A, CA, E, IL)	120	153
3703.20.60	Non-silver-halide papers for color photography	1.1%	Free (A, CA, E, IL)	9	4
3703.90.30	Silver halide papers	3.7%	Free (A, E, IL) 1.4% (CA)	170	65
3703.90.60	Non-silver-halide papers	2.8%	Free (A, E, IL)	45	91
3707.10.00	Sensitized emulsions for photographic uses	3%	1.1% (CA) Free (A, CA, E, IL)	19	32

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: Generalized System of Preferences (A); Automotive Products Trade Act (B); Agreement on Trade in Civil Aircraft (C); United States-Canada Free-Trade Agreement (CA); Caribbean Basin Economic Recovery Act (E); and United States-Israel Free Trade Area (IL).

Source: U.S. exports and imports compiled from data of the U.S. Department of Commerce.

an estimated \$9.2 billion in 1990 (table 2). However, 1990 was, by most measures of total photographic industry performance, a year of little growth. The two segments of the photographic industry, like other major industries, suffered from the effects of the recession. Despite this fact, photography showed only a slight decrease in its annual rate of growth instead of the double-digit decreases in sales suffered by other major industries. Given the basic strength of the American photographic market, it is very likely that as the recession ends, the combined segments of the industry will resume their traditional growth pattern of about 5 percent annually.

Another factor affecting both the nature and the direction of future market growth is the changing technology, from the older mechanical-chemical processes to the newer hybrid systems combining electronic technology with silver-halide imaging. New innovations are expected to provide consumers with a continuing stream of attractive product introductions, and retain the photographic industry's position of strength and solidity and its above-average growth potential.

The United States is the world's major photographic market, accounting for about 50 percent of sales. The ratio of imports to apparent U.S. consumption of photographic supplies has remained fairly constant over the period under discussion, falling slightly from 16.1 percent in 1986 to 15.3 percent in 1990.

In terms of the global marketplace, state of technology, price, quality, and other product-related factors are seen as equally important determinants of competitive advantage. Because highly skilled technical workers are needed in order to produce sensitized materials, such technologically advanced countries as the United States and Japan, as well as the EC, dominate the industry. These countries also benefit from a long-standing presence in the industry, because, in domestic markets, brand loyalty is a key factor in consumer preferences. Kodak's success in the United States and Fuji's share of the Japanese film market demonstrate this fact. Effective distribution

capabilities constitute a key factor in countries lacking infrastructure, a situation which again favors established companies.

Production

U.S. production, as reflected in domestic shipments of photographic supply products, rose from an estimated \$6.6 billion in 1986 to approximately \$9.5 billion in 1990 (table 2). The increase represents both increased demand and the success of the photographic industry's response to competitive international pressures. Reportedly, the U.S. industry, spearheaded by Kodak, has taken an aggressive, bottom-line approach. It instituted new, more flexible and responsive product development, increased R&D expenditures (which range between 6.5 and 7.5 percent of sales), reduced its workforce, and diversified to meet its goals.

Typically, diversity in the industry's products and markets results in steady overall photographic production. However, recent growth in the U.S. photographic industry is partially a reflection of start-up production of sensitized photographic paper and plates by Japanese-owned plants in the United States.

Imports

U.S. imports of photographic supply products were concentrated in several categories in 1990, including 35mm polychrome film and silver halide papers, where silver halide papers alone accounted for \$342 million of U.S. imports. Photographic plates and films for x-ray and instant print film were also large categories, together accounting for \$253 million of U.S. imports of photographic supplies in 1990.

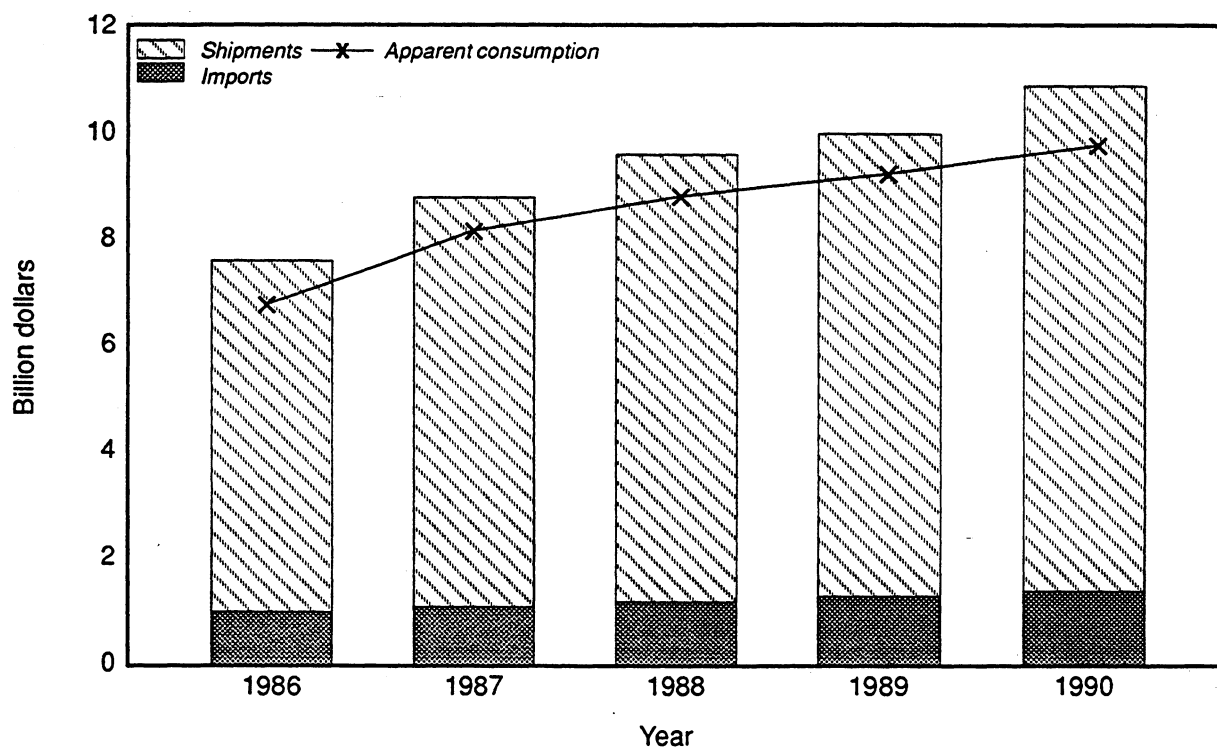
U.S. imports of photographic supplies increased slightly at an average annual growth rate of 8.8 percent during 1986-90, rising from \$1.0 billion in 1986 to \$1.4 billion in 1990 (table 2, figure 2). The ratio of imports to consumption remained fairly constant, measuring 16.1 percent in 1986 and declining to 15.3 percent by 1990.

Table 2
Photographic supplies: U.S. shipments, exports of domestic merchandise, imports for consumption, and apparent U.S. consumption, 1986-90

Year	U.S. shipments ¹	U.S. exports	U.S. imports	Apparent	Ratio of
				U.S. consumption	imports to consumption
				Percent	
	Million dollars				
1986	6,635	1,268	1,032	6,399	16.1
1987	7,775	1,317	1,152	7,610	15.1
1988	8,435	1,429	1,270	8,276	15.3
1989	8,795	1,499	1,330	8,626	15.4
1990	9,500	1,719	1,409	9,190	15.3

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

Figure 2
Photographic supplies: U.S. imports, domestic shipments and apparent consumption, 1986-90



¹ Apparent consumption = producers' shipments + imports - exports.

Source: Imports compiled from official statistics of the U.S. Department of Commerce. U.S. shipments estimated by the staff of the U.S. International Trade Commission.

A few photographic supply products receive preferential trade treatment. The predominant form of such treatment is GSP, which covers an average of less than 3 percent of import value annually. The second largest form of preferential treatment is given under HTS subheading 9802.00.80, where less than \$5,000 of the products covered entered duty-free in 1989. The value of both CBERA and LDDC trade during 1986-90 was less than 0.5 percent of total summary products.

The largest supplier to the United States in 1990 was Japan. Imports of photographic supplies into the United States from Japan amounted to \$579 million in 1990, which constituted 41 percent of U.S. imports of these commodities (table 3). Japan retained its rank as the leading supplier of these products throughout 1986-90, beginning in 1986 when it accounted for 43 percent of all photographic supply imports. Japan's percentage of total photographic industry imports has declined somewhat over time since many Japanese-owned manufacturing facilities are now in other locations, such as China, Malaysia, and Hong Kong.

Other suppliers have maintained stable shares of the U.S. market. The Benelux countries supplied

18 percent of imports in 1986 and 19 percent in 1990. Similarly, Canada supplied 10 percent of imports in 1986 and 9 percent in 1990. The major EC suppliers (the United Kingdom, France, and Germany) supplied 7 percent of imports in 1990. These figures showed minimal change from 1986, when the United Kingdom provided 5 percent, France 6 percent, and Germany 8 percent of photographic supply imports.

U.S. shipments of imports occur mainly through mass merchandisers and specialty camera stores.

FOREIGN MARKETS

Foreign Market Profile

Research on geographical photographic markets shows that the global industry can continue to expand. In Europe, for example, only 55 to 80 percent of households in principal countries have cameras, compared with more than 90 percent in the United States.

A major development likely to affect U.S. photographic exports is the upcoming single European

market.² The removal of frontier controls within the EC market after 1992 will facilitate freer movement for European goods, services, people, and capital, resulting in a unified market of 350 million consumers. Industry sources state that the removal of these controls within the EC is likely to increase demand for photographic supplies and cause some relocation of production facilities and shifts in patterns of trade.

Germany, France, and the United Kingdom currently vie for market leadership in all photographic product and services areas within the EC. Germany leads, or is competitive, in all areas, accounting for 26 percent of film sales and 25 percent of color negative exposure volume.

Japanese companies continue to be the primary suppliers of the Japanese photographic market. Over the past five years, Fuji has increased its share of amateur color film sales in Japan from 70 percent to 73 percent, and Konica retains about 12 percent of the market. Kodak has approximately 16 to 18 percent of the market.

In terms of the less developed countries, the industry finds that its products are expensive to promote and that sales of consumer products are somewhat restricted because of low disposable income levels. Brazil and China are seen as the fastest growing LDC markets for the U.S. photographic industry.

U.S. Exports

Increased exports were recorded in several categories of photographic supplies in 1990. The principal products exported were photographic plates and film for x-ray, at \$182 million; silver halide papers

² Previous studies by the U.S. International Trade Commission include *The Effects of Greater Economic Integration Within the European Community on the United States: Report to the Committee on Ways and Means, U.S. House of Representatives, and the Committee on Finance, U.S. Senate, on Investigation No. 332-267 under Section 332 of the Tariff Act of 1930*, USITC publications 2268, March 1990, and 2318, September 1990.

of HTS subheading 3703.90.30, at \$170 million; and polychrome film exceeding 610mm in width of HTS subheading 3702.41.00, at \$163 million.

U.S. exports of photographic supplies rose steadily over the period from \$1.3 billion in 1986 to \$1.7 billion in 1990. Japan was the leading destination for U.S. exports in 1990, at \$308 million. The second-ranked recipient of U.S. exports of photographic supplies in 1990 was Canada, at \$226 million; Canada's share was \$165 million in 1989. Total exports to the EC rose over the period from \$596 million to \$821 million, at an average annual growth rate of 8.3 percent.

As mentioned, although export markets exist outside of the advanced economies, product promotion is expensive, and low disposable income levels limit sales of consumer products. However, even though increasing export totals are somewhat reflective of intra-industry trade (in this case, trade within firms), they indicate that U.S. photographic companies have met with some success in increasing sales to traditional and some nontraditional foreign markets.

Major U.S. exporters tend to be the large manufacturers, both domestic and foreign, that have U.S.-based facilities. A significant share of U.S. exports is believed to be accounted for by leading U.S. manufacturers that have foreign subsidiaries and/or foreign assembly operations.

U.S. TRADE BALANCE

The U.S. trade balance for photographic supplies registered a surplus throughout the period under discussion, and reached \$310 million in 1990 (table 3). The trade surplus almost doubled from 1989 to 1990; in 1989, exports exceeded imports by only \$169 million. Steadily increasing exports to Japan and Canada, as well as to the EC, resulted from increased consumer demand and were major contributing factors to the improved surplus.

Table 3
Photographic supplies: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries and country groups, 1986-90¹
(Million dollars)

<i>Item</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>
U.S. exports of domestic merchandise:					
Japan	246	247	261	329	308
Canada	127	149	159	165	226
United Kingdom	214	212	250	235	255
France	184	183	160	182	230
Netherlands	103	114	116	88	144
Belgium	21	19	29	35	89
Germany	56	53	70	94	72
Singapore	14	14	84	87	94
Italy	11	13	14	17	20
Mexico	28	21	22	33	34
All other	264	291	262	233	248
Total	1,268	1,317	1,429	1,499	1,719
EC-12	596	603	647	658	821
OPEC	32	34	34	27	34
ASEAN	19	21	91	92	99
CBERA	19	21	20	17	19
Eastern Europe	0	0	0	0	0
U.S. imports for consumption:					
Japan	439	466	515	559	579
Canada	99	108	133	108	130
United Kingdom	52	81	84	75	95
France	63	76	89	111	101
Netherlands	33	55	77	109	107
Belgium	149	137	127	139	160
Germany	83	100	66	73	94
Singapore	1	0	1	1	0
Italy	25	27	35	52	54
Mexico	9	15	25	26	37
All other	80	86	117	7	51
Total	1,032	1,152	1,270	1,330	1,409
EC-12	412	480	485	562	617
OPEC	2	2	2	1	1
ASEAN	1	0	2	1	1
CBERA	0	0	0	0	0
Eastern Europe	0	0	1	0	1
U.S. merchandise trade balance:					
Japan	-193	-219	-254	-230	-271
Canada	28	41	26	57	96
United Kingdom	162	131	166	160	160
France	121	107	71	71	129
Netherlands	70	59	39	-21	37
Belgium	-128	-118	-98	-104	-71
Germany	-27	-47	4	21	-22
Singapore	13	14	83	86	94
Italy	-14	-14	-21	-35	-34
Mexico	19	6	-3	7	-3
All other	184	205	145	156	197
Total	236	165	159	169	310
EC-12	184	123	162	96	204
OPEC	30	32	32	26	33
ASEAN	18	21	89	91	98
CBERA	19	21	20	17	19
Eastern Europe	0	0	-1	0	1

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."

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

APPENDIX A
EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS

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 on 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 countries except those enumerated in general note 3(b) to the HTS, whose products are dutied at the rates set forth in *column 2*. Goods from Armenia, Bulgaria, the People's Republic of China, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, the Ukraine and Yugoslavia are currently eligible for MFN treatment. 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 July 4, 1993. 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 desig-

nated beneficiary developing countries, as set forth in general note 3(c)(ii) 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 3(c)(v) 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 3(c)(vi) of the HTS. When 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 rates of duty in the special duty rates subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods originating in the territory of Canada under the *United States-Canada Free-Trade Agreement* (CFTA), as provided in general note 3(c)(vii) to the HTS.

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 3(c)(ix) to the HTS.

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 3(c)(iii))

and the *Agreement on Trade in Civil Aircraft* (ATCA) (general note 3(c)(iv)), and *articles imported from freely associated states* (general note 3(c)(viii)).

The *General Agreement on Tariffs and Trade* (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is the multilateral agreement setting forth basic principles governing international trade among its more than 90 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, anti-dumping 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, manmade 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 more than 30 supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.

