THE US CURRENT ACCOUNT

A Sectoral Assessment of Performance and Prospects

Prepared for
The US Trade Deficit Review Commission

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Chapter 1: Objectives and Methodology of the Study

Introduction

International trade, the exchange of both goods and services among nations, has been increasing rapidly in recent decades and is a key factor in the growth of world living standards. The United States is the largest exporter and the largest importer of both goods and services. But continuing and recent record US trade deficits have hit some US industries hard and resulted in a large and growing US international debtor position. Some feel that this large debtor position could, at some point, result in international trade and financial instability that could pose a potential problem for both the United States and its trading partners. To aid in an assessment of US trade performance and prospects, this study presents both historical macroeconomic data for US and world goods and services trade and disaggregated, product-group by product-group data.

Objectives of the Study

The task of this study is not only to survey overall US trade performance but also to identify the contributions of individual US sectors and industries and the principal trading partner export destinations and import sources. The study presents disaggregated data often not examined in other studies. This "bottom up" analysis is intended to supplement and complement the more aggregated "top down" analyses of historical data and the projections of future prospects based on econometric models that are more frequently done. This disaggregated approach should help to identify those sectors and product groups most affected by the current downturn in US trade performance and those most likely to be critical to -- and to benefit from -- improved performance. In addition, this approach may provide information that will assist in determining the causes of changing competitiveness of the United States and other nations in world markets and policies that could improve US trade performance.

Specific questions examined include the following:

- How has trade performance affected the external balances -- the international investment positions -- of the US and key trading partners?
- What are the relative roles of the US and other key trading nations in world trade? Which countries are experiencing enlarging roles? What is the relative importance of international trade to selected key trading nations and how are their economies affected by changes in world trade patterns and growth?
- What is the composition of the US international investment position? Does the makeup of its international assets and liabilities make the United States vulnerable to capital flight?
- What are the volume, value, and composition of world trade? What volume and value growth rates have occurred?
- Which broad areas of trade -- for example commercial services, and the raw materials, fuels, agriculture, manufactures components of goods trade -- are most significant in US and world trade? Which are growing more rapidly? Which are declining? Which are most volatile in value and volume? How may these changes affect US trade performance prospects?
- What is the composition of world services trade and how does its importance vary among key trading nations?
- What is the product composition of world manufactures trade and how does its importance vary among key trading nations? Which manufactures and other product groups are most significant in US and world trade?

- What is the geographic composition of world trade in manufactures and how has it been changing? How do these changes affect US trade performance and prospects? Which countries are major players in world manufactures trade?
- Which goods and services sectors contributed most to the decline of US trade performance in the late 1990s? Which have experienced improved performance?
- What are the policy implications for the United States and its competitors of the likely continued dominance of manufactures in US and world trade? Are US services surpluses likely to continue to grow? How much can continued gains in services trade contribute to improved US current account balances?
- How much of any overall improvement in US trade performance is likely to occur through export expansion and how much by recapture of US markets by US-based production?
- In light of the size of potential world markets and the strength of foreign competitors, which services components and which manufactured goods product groups offer the most potential for improved US trade performance? Are performance gains more likely by increasing US exports or by the recapture of US markets by US-based production? Which seem likely to experience deterioration from lagging exports or increased import penetration of US markets?
- Within individual product groups, what are the likely main sources of improvement in US trade performance? Dollar depreciation? Increased foreign direct investment in the United States? Increased US direct investment in foreign markets? Improved US productivity and price competitiveness? Other factors?

Methodology

This study disaggregates US and world trade into its goods and services components as a means to determine trends and the relative importance of each. The major components of the services balances of the US current account are shown at a level of detail that allows assessment of their relative importance and variability in past and future performance. Merchandise trade, the major determinant in current account performance, is similarly decomposed, revealing manufactures trade as the key factor in US trade performance in both the goods account and overall US trade performance as measured by current account balances.

In light of its critical role in US trade performance, the study examines US manufactures trade both in the aggregate and at different levels of disaggregation. It first examines total manufactures trade -- Standard International Trade Classifications (SITC) 5 through 8 -- and then two major groupings: basic manufactures (SITC 5 and 6) and finished goods (SITC 7 and 8). Manufactures trade is then examined for each of the four SITC groups. Performance in selected two-digit SITC product groups within the manufactures grouping is then assessed and more detailed information is also provided on the trade performance of selected three-digit subcategories within key two-digit product groups.

Data Sources

This study relies on published official statistics of the World Trade Organization, the International Monetary Fund and the US Department of Commerce.

Data comparing the current account performance and trade-to-GDP ratios of selected countries were drawn from the International Monetary Fund's "International Financial Statistics" and "Balance of Payments Statistics" publications and databases. These data typically cover performance through 1998.

More detailed analyses of US current account performance utilized US Department of Commerce data, with preliminary results for 1999 available.

The data used in making inter-country comparisons of goods and services exports and imports, export and import trade shares, inter-country trade flows, and trade growth rates are drawn primarily from the World Trade Organization's 1999 Annual Report, "International Trade Statistics," supplemented where practical with information from the 1995 report. These data cover trade through 1998.

US Department of commerce data was also utilized for the disaggregated analysis of US goods and services trade performance. Preliminary 1999 data for most elements of the analysis are available. Some international investment position data, however, were not available until July 2000.

The methodology and conclusions also draw heavily on the data and analysis in "Narrowing the US Current Account Deficit: A Sectoral Analysis", a 1992 publication of the Institute for International Economics. Other key data sources include: "US Industry and Trade Outlook, 2000", a joint publication of the US Department of Commerce and the McGraw-Hill Company, and "Shifts in US Merchandise Trade In 1999", US International Trade Commission Publication 3220, August 1999.

Organization of the Study

To provide an international perspective for the large US Trade and current account deficits Chapter 2 provides an overview of world trade, describing its growth, and product and geographical composition and the effects of a nation's trade performance on its international investment position.

To focus on the areas critical to the current decline and future improvement of US trade and international investment position performance, Chapter 3 identifies and assesses the roles and performance of each of the four major components of the US current account.

With the critical role of manufactures trade in overall US trade performance identified by previous chapters, Chapter 4 provides data that demonstrates the growing and critical role of manufactures trade in world trade, its importance to key US trading partners, and its changing product and geographical composition.

Chapter 5 undertakes a disaggregation of US manufactures trade, focusing on those relatively few product groups that account for the vast majority of manufactures exports, imports, surpluses and deficits. The objective is to determine potential for, and the means of, accomplishing improved performance in those product groups that are the primary drivers of overall performance because they generate large deficits that can be reduced or surpluses that may be expanded.

Chapter 6 provides the conclusions of the study.

Chapter 2: Trends, Importance and Composition of World Trade

Background

To provide perspective for the large US trade and current account deficits and other indicators of US trade performance, this chapter presents an overview of world trade. It describes in broad terms the growth and the product and geographical composition of world trade. It also notes the effects of trade performance on the international investment positions of the US and some other key trading nations.

World Goods and Services Trade

World trade involves the exchange of both goods and commercial services among nations. Goods (merchandise) trade is the movement of tangible goods (agricultural products, mining products, and manufactures) across national borders. Services trade includes a wide variety of international receipts and payments (sometimes referred to as "invisibles") resulting from transportation services, travel services, and a wide variety of other private commercial services. These "other commercial services" include construction, communication, insurance, financial, computer and information services and a wide variety of other business, professional and technical services and royalties as well as receipts from license fees.

In dollar value terms, goods exports account for about four-fifths of total world trade; services for about one-fifth. In addition to trade in goods and services, international transactions reported in a nation's current account include payments and receipts that are interest and dividends on cross border investments as well as unrelated financial transfers between governments (unilateral transfers).

According to World Trade Organization (WTO) data, total world exports of goods and services in 1998 totaled $6.74 trillion, up by 94.8 percent from the 1988 total of $3.46 trillion **(Table 2.1)**. Merchandise (goods) exports of $5.42 trillion were 80.4 percent of the 1998 goods and services total, down modestly from the 82.7 percent 1988 share, indicating a slightly more rapid growth of services exports.

Table 2.1 World Goods and Services Exports, 1988-1999

(Billion dollars)

												% of Total	
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	*1988*	*1998*
Goods	2859	3087	3439	3506	3755	3742	4241	5073	5345	5529	5422	***82.7%***	***80.4%***
Services	600	658	783	827	923	942	1038	1188	1271	1321	1318	***17.3%***	***19.6%***
Total	3459	3745	4222	4333	4678	4684	5279	6261	6616	6850	6740	***100.0%***	***100.0%***

Source: WTO Annual Report, 1999

The division of trade between goods and services varies widely among countries. In 1998 services were 23.6 percent of US exports, a relatively high portion compared to other major trading nations and above the world average of 19.6 percent. On the import side, services were 15.3 percent of total US imports, compared to the world average of 19.7 percent **(Table 2.2).** Tourism (travel) is a major services export for a number of countries. For some small countries that are major international tourist destinations, travel receipts make services a large portion of their total exports. Examples include: Greece, services, 63.1 percent of goods and services exports; turkey, 42.6 percent; Austria, 34.1 percent **(Table 2.2).**

Table 2.2 Share of Goods and Commercial Services In the Total Trade of Selected Regions and Economies, 1998

(Billion dollars and percentage, based on balance of payments data)

	Exports			Imports		
	$ Total	Goods as % of Total	Commercial Services as % of Total	$ Total	Goods as % of Total	Commercial Services as % of Total
World	6730	80.4	19.6	6620	80.3	19.7
North America	1160	76.7	23.3	1325	84.8	15.2
Canada	248	87.8	12.2	240	85.3	14.7
United States	913	73.7	26.3	1085	84.7	15.3
Latin America	340	84.4	15.6	400	82.7	17.3
Argentina	31	85.5	14.5	38	77.3	22.7
Brazil	59	87.0	13.0	76	75.5	24.5
Chile	19	79.8	20.2	21	81.2	18.8
Colombia	13	84.6	15.4	17	80.4	19.6
Mexico	129	90.8	9.2	138	90.8	9.2
Venezuela	19	93.4	6.6	19	74.6	25.4
Western Europe	2950	78.4	21.6	2787	78.7	21.3
Austria	95	65.9	34.1	97	68.8	31.2
Belgium-Luxembourg	189	81.2	18.8	180	81.1	18.9
Denmark	62	76.2	23.8	59	74.2	25.8
Finland	50	86.4	13.6	39	79.3	20.7
France	386	78.1	21.9	341	80.8	19.2
Germany	619	87.3	12.7	586	78.7	21.3
Greece	16	36.9	63.1	26	83.0	17.0
Ireland	72	90.5	9.5	61	67.5	32.5
Italy	309	78.5	21.5	270	76.7	23.3
Netherlands	223	76.8	23.2	200	76.7	23.3
Norway	55	74.4	25.6	54	72.0	28.0
Portugal	35	75.3	24.7	45	85.1	14.9
Spain	159	69.3	30.7	156	82.4	17.6
Sweden	103	82.6	17.4	89	75.6	24.4
Switzerland	125	78.4	21.6	114	85.9	14.1
Turkey	54	57.4	42.6	55	82.8	17.2
United Kingdom	372	72.9	27.1	384	79.5	20.5
Africa	152	82.5	17.5	165	77.0	23.0
Egypt	12	35.9	64.1	21	71.3	28.7
Morocco	10	74.4	25.6	11	87.0	13.0
Nigeria	16	95.0	5.0	14	66.3	33.7
South Africa	33	85.4	14.6	32	82.8	17.2
Tunisia	8	68.3	31.7	9	87.2	12.8
Asia	1684	84.8	15.2	1493	78.6	21.4
Australia	72	77.8	22.2	78	78.5	21.5
China	208	88.4	11.6	166	82.6	17.4
Hong Kong, China a	208	83.6	16.4	208	89.1	10.9
India	45	75.5	24.5	59	76.0	24.0
Indonesia	55	92.1	7.9	44	73.4	26.6
Japan	436	85.8	14.2	362	69.4	30.6
Korea, Rep. of	156	84.7	15.3	114	79.2	20.8
Malaysia	83	87.1	12.9	67	81.5	18.5
New Zealand	16	76.9	23.1	16	71.4	28.6
Philippines	37	79.8	20.2	40	74.5	25.5
Singapore a	129	85.8	14.2	114	84.3	15.7
Taipei, Chinese	127	86.9	13.1	123	81.1	18.9
Thailand	66	80.1	19.9	48	75.4	24.6
Memorandum item:						
European Union (15)	2689	79.0	21.0	2533	78.4	21.6

a Trade in goods includes significant re-exports or imports for re-exports.

Note: Trade in goods is derived from balance of payments statistics and does not correspond to the merchandise trade statistics given elsewhere in this report. It is likely that for most economies trade in commercial services is understated. See the Technical Notes.

Source: WTO Annual Report, 1999

World Merchandise Trade

Growth in the exchanges of both goods and services has consistently exceeded the growth of world production in recent decades. Turning first to goods trade, from 1990 to 1998 the volume of merchandise (goods) exports increased at an annual 6.5 percent rate, more than treble the 2.0 percent annual gain in world goods production, demonstrating the increasing importance of international trade to the world economy **(Table 2.3**).

Table 2.3 Growth In The Volume of World Merchandise Exports and Production by Major Product Group, 1990-1998

(Annual percentage change)

	1990-98	1995	1996	1997	1998
World merchandise exports	6.5	9.0	6.0	10.0	4.0
Agricultural products	4.0	4.5	4.5	5.5	-0.5
Mining products	5.5	9.0	6.0	8.5	5.5
Manufactures	7.0	9.0	6.0	11.5	3.5
World merchandise production	2.0	3.0	3.0	4.5	1.5
Agriculture	2.0	2.0	3.5	2.5	0.0
Mining	2.0	2.0	2.5	3.5	1.5
Manufacturing	2.0	3.5	3.0	5.5	1.5
World GDP	2.0	2.0	3.0	3.0	2.0

Note: World merchandise production differs from world GDP in that it excludes services and construction.

Source: WTO Annual Report, 1999

World Trade Organization (WTO) data divide merchandise (goods) exports into three broad categories **(Table 2.3)**: agricultural products, mining products and manufactures. The growth of international trade exceeded the growth of world production in each category. The 4.0 percent volume growth of agricultural exports over the 1990-98 period was double the 2.0 percent growth in world agriculture production. The annual 5.5 percent increase in mining products exports was nearly three times the 2.0 percent growth in world mining output. The fastest trade growth, however was in manufactured goods, with a 7 percent annual rate three and one-half times the 2.0 percent world production growth rate. The faster manufactures volume growth rate indicates that manufactures trade is a consistently growing portion of total world goods exports, continuing a trend that began in the 1970s.

Table 2.4 provides value and volume indices of world merchandise exports and world GDP changes since 1950, demonstrating in greater detail how goods trade growth has outpaced production growth. Moreover, the data indicate a continuing long term enlargement of manufacturing's share since 1950. With 1990 = 100, the agricultural exports value index rose from 2 in 1950 to 133 in 1998, mining products from 2 to 104, and manufactures from 1 to 168.

Table 2.4 World Merchandise Exports, Production and Gross Domestic Product, 1950-1998

	Value				Volume								
	Exports				Exports				Production				
	Total[a]	Agri. Products	Mining Products	Manu-factures	Total[a]	Agri. Products	Mining Products	Manu-factures	Total	Agri-culture	Mining	Manu-factures	World GDP
1950	2	7	2	1	9	26	18	5	18	37	29	13	19
1951	2	9	2	1	9	27	18	6	20	37	32	14	21
1952	2	7	3	1	10	27	22	6	21	38	32	15	21
1953	2	7	3	1	11	27	23	6	22	40	33	16	23
1954	3	8	3	2	11	27	25	7	22	40	33	16	23
1955	3	8	3	2	13	30	27	7	24	42	37	19	25
1956	3	8	4	2	13	31	29	8	25	44	39	20	26
1957	3	9	4	2	15	34	31	9	26	44	40	20	27
1958	3	8	4	2	14	35	29	9	26	47	39	20	27
1959	3	9	4	2	16	39	32	10	28	48	41	22	28
1960	4	10	4	3	18	41	39	11	30	49	45	24	30
1961	4	10	5	3	19	44	40	11	31	50	48	26	31
1962	4	10	5	3	20	44	42	12	34	52	51	28	33
1963	5	11	5	3	22	45	44	14	36	53	53	29	35
1964	5	11	6	4	25	48	48	16	39	55	57	32	37
1965	6	12	6	4	26	50	49	17	41	55	60	35	39
1966	6	12	7	5	29	52	52	19	44	57	63	38	41
1967	6	12	7	5	30	53	58	20	46	59	64	40	43
1968	7	13	8	6	33	56	65	23	49	61	69	43	45
1969	8	14	9	7	37	59	69	27	51	61	70	47	48
1970	9	15	10	8	41	61	77	29	54	63	76	49	50
1971	10	16	12	9	44	62	78	32	57	65	79	51	53
1972	12	20	13	11	47	66	83	35	59	65	81	55	56
1973	17	29	19	14	53	67	92	40	64	68	86	60	60
1974	25	35	44	19	56	64	90	43	66	69	88	62	61
1975	26	36	42	21	52	65	79	42	65	72	82	60	61
1976	29	40	49	23	58	70	85	47	69	73	89	65	65
1977	33	45	54	27	60	72	87	49	72	74	92	68	68
1978	39	51	56	32	63	77	92	52	75	77	93	71	70
1979	48	63	81	39	66	80	97	55	78	78	101	74	73
1980	59	71	115	45	68	86	91	58	78	78	99	75	74
1981	58	70	112	45	68	90	82	60	78	81	91	75	75
1982	54	65	100	43	66	88	77	59	77	84	85	74	76
1983	53	64	92	43	68	89	77	62	78	84	84	76	78
1984	57	67	91	47	73	91	80	69	83	88	87	81	82
1985	56	63	88	49	75	90	79	72	86	90	86	84	85
1986	62	70	67	59	78	89	86	75	88	92	89	87	87
1987	72	81	74	70	83	94	88	80	91	93	90	91	90
1988	82	92	75	82	89	96	93	87	95	94	95	96	94
1989	89	96	87	87	95	99	97	94	99	98	99	99	98
1990	100	100	100	100	100	100	100	100	100	100	100	100	100
1991	102	101	94	103	104	103	103	104	100	100	100	99	101
1992	108	108	93	112	109	109	107	109	100	103	100	99	102
1993	107	104	88	111	113	111	108	112	100	103	102	99	103
1994	122	119	91	128	124	120	115	126	104	107	107	102	105
1995	146	139	108	152	136	126	125	137	107	109	109	106	107
1996	153	143	127	159	144	131	133	145	110	113	112	109	110
1997	159	141	130	167	159	138	144	163	115	115	116	115	114
1998	156	133	104	168	166	138	152	168	117	115	117	117	116

a Includes unspecified products.

Note: World merchandise production differs from world GDP in that it excludes services and construction. For sources and methods, see the Technical Notes.
Source: WTO Annual Report, 1999

World trade growth rates vary by region and country. Assessed by region, 1990-98 merchandise export volume growth was most rapid in Latin America (8.5 percent) **(Table 2.5)** and Asia (7.5 percent), both above the world 6.5 percent rate. Western Europe (6.0 percent) was slightly below the world growth rate but lagging well behind was Japan (2.5 percent).

Table 2.5 Growth In The Volume of World Merchandise Trade By Selected Region, 1990-1998

(Annual percentage change)

Exports				Imports		
1990-98	1997	1998		1990-98	1997	1998
6.5	10.0	4.0	World	6.5	9.5	4.0
7.0	11.0	3.5	North America [a]	8.0	13.0	10.5
8.5	11.0	7.0	Latin America	12.5	22.0	9.0
6.0	9.5	5.0	Western Europe	5.5	8.0	7.5
6.0	9.5	5.5	European Union (15)	5.5	7.5	7.5
5.0	9.5	7.0	C./E. Europe/Baltic States/CIS	5.0	13.5	5.0
7.5	12.0	2.0	Asia	6.5	6.0	-8.0
2.5	12.0	-1.5	Japan	4.0	1.5	-5.5
10.5	10.0	2.5	Six East Asian traders	8.0	6.5	-12.0

a Excluding Mexico throughout this report.

Source: WTO Annual Report, 1999

Import volume annual growth rates for the period were highest in Latin America (12.5 percent) and North America (8.0 percent). Western Europe's import volumes grew at 5.5 percent annually, one percentage point below the world average, but Japan's 4.0 percent annual increase rate was significantly lower than the world rate. Even so, Japan's 4.0 import volume growth rate exceeded its 2.5 percent export growth rate.

Dollar value data show similar rapid growth of world goods (merchandise) trade and expanding dominance of the manufactures portion. In dollar value terms, world merchandise trade grew by 6.0 percent annually over the 1990 to 1998 period **(Table 2.6)** and c.i.f. imports (including cost, insurance and freight) also at an annual 6.0 percent rate. Export growth rates for the period were highest for Mexico (14.1 percent) and China (14.5 percent). China and Mexico also experienced high import growth rates. **(WTO Annual Report, 1999, p13)**

Table 2.6 Growth In The Value of World Merchandise Trade by Region, 1998

(Billion dollars and percentage)

Exports					Imports			
Value	Annual percentage change				Value	Annual percentage change		
1998	1990-98	1997	1998		1998	1990-98	1997	1998
5270	6	3	-2	World	5465	6	3	-1
897	7	9	-1	North America [a]	1152	8	10	5
276	8	10	-2	Latin America	340	14	19	5
2348	5	-1	3	Western Europe	2367	4	-1	5
2181	5	-1	3	European Union (15)	2172	4	-1	5
214	6	4	-5	C./E. Europe/Baltic States/CIS	242	9	6	-2
101	8	6	9	Central and Eastern Europe	132	12	6	11
113	4	2	-14	Baltic States and the CIS	110	6	6	-14
107	1	2	-15	Africa	134	5	6	3
137	0	4	-22	Middle East	144	5	8	-5
1293	7	5	-6	Asia	1086	5	0	-18
388	4	2	-8	Japan	280	2	-3	-17
184	15	21	1	China	140	13	3	-2
504	8	3	-8	Six East Asian traders	437	6	1	-25

a Excluding Mexico throughout this report.

Note: It should be mentioned at the outset that there are breaks in the continuity of the figures at the country and regional levels.

Source: WTO Annual Report, 1999

World Services Trade

Dollar value exports of Commercial services grew over the 1990-98 period at a 7 percent annual rate **(Table 2.7)**, slightly faster than the 6 percent total goods rate but equivalent to the 7 percent manufactures growth rate.

Table 2.7 Growth In The Value of World Trade In Commercial Services By Selected Regions, 1998

(Billion dollars and percentage)

Exports					Imports			
Value	Annual percentage change				Value	Annual percentage change		
1998	1990-98	1997	1998		1998	1990-98	1997	1998
1320	7	4	0	World	1305	6	3	1
270	8	8	2	North America [a]	201	6	10	6
53	8	8	5	Latin America	69	9	17	4
636	5	2	6	Western Europe	593	5	0	7
564	5	1	6	European Union (15)	547	6	0	7
27	5	1	-3	Africa	38	4	4	0
255	9	5	-15	Asia	320	8	2	-11
62	5	3	-9	Japan	111	3	-5	-9
24	20	19	-2	China	29	28	34	-4
117	8	3	-26	Six East Asian traders	112	6	-16	-14

a Excluding Mexico throughout this report.

Note: It should be mentioned at the outset that there are numerous breaks in the continuity of the figures at the country and regional levels due to frequent revisions to the trade in services data.

Source: WTO Annual Report, 1999

On a regional basis, 1990-98 services export growth was most rapid in Asia (9 percent per annum), particularly in China (20 percent). Latin America and Asia, particularly China, also had services import growth rates above the world rate. Asian and Chinese growth is from a small base, however, with China achieving only a 1.9 percent share of World Commercial services exports and failing to appear in the top 50 importers.

At $310 billion, exports of Transportation services were 23.3 percent of the total world services exports, down from 28.4 percent in 1990 **(Table 2.8)**. At $430 billion, travel services exports were 32.5 percent of the total, down only modestly from the 1990 level of 33.7 percent. Other Commercial Services was both the largest component ($580 billion, 44.2 percent), up from 38.0 percent of the 1990 total, and the fastest growing, averaging a 9 percent annual rate of increase over the 1990-98 period.

Table 2.8 World Exports of Commercial Services by Category, 1998

(Billion dollars and percentage)

	Value	Share		Annual percentage change			
	1998	1990	1998	1990-98	1996	1997	1998
All commercial services	1320.0	100.0	100.0	7	7	4	0
Transportation	310.0	28.4	23.3	4	2	2	-2
Travel	430.0	33.7	32.5	6	8	0	0
Other commercial services	580.0	38.0	44.2	9	9	8	1

Source: WTO Annual Report, 1999

Key Players In World Trade

The United States, with a 12.6 percent share, was the world's largest merchandise exporter in 1998, **(Table 2.9)** followed by Germany (10.0 percent) and Japan (7.2 percent). The United States (16.8 percent) and Germany (8.3 percent) were also the top 1998 importers. The 3.6 percent share margin of US imports over exports, of course, reflects the large US merchandise trade deficit. Japan (5.0 percent)

ranked only fifth in imports, behind the United Kingdom (5.6 percent) and France (5.1 percent). Japan's 1.2 percentage point margin share of exports over imports is evidenced in its large merchandise trade surplus.

The bulk of international trade involves only a few countries. WTO data indicate that the top ten countries accounted for 59.3 percent of 1998 goods exports. The same ten countries accounted for 58.5 percent of 1998 imports. The top twenty countries accounted for 79.2 percent of exports and 77.1 percent of imports. The top fifty countries had 95.5 percent of world exports; 92.3 percent of the goods imports.

Table 2.9 Leading Exporters and Importers In World Merchandise Trade, 1998

(Billion dollars and percentage)

Exporters					Importers				
Rank		Value	Share	Annual Percentage Change	Rank		Value	Share	Annual Percentage Change
1	United States	682.5	12.6	-1	1	United States	944.4	16.8	5
2	Germany	539.7	10.0	5	2	Germany	466.6	8.3	5
3	Japan	387.9	7.2	-8	3	United Kingdom	315.2	5.6	2
4	France	304.8	5.6	5	4	France	286.3	5.1	6
5	United Kingdom	272.9	5.0	-3	5	Japan	280.5	5.0	-17
6	Italy	242.3	4.5	1	6	Italy	215.6	3.8	3
7	Canada	214.3	4.0	0	7	Canada	206.2	3.7	3
8	Netherlands	198.7	3.7	3	8	Hong Kong, China	186.8	3.3	-12
9	China	183.8	3.4	1		retained imports [a]	36.5	0.6	-30
10	Belgium-Luxembourg	178.5	3.3	2	9	Netherlands	184.2	3.3	4
					10	Belgium-Luxembourg	166.5	3.0	3
11	Hong Kong, China	174.9	3.2	-7	11	China	140.2	2.5	-2
	domestic exports	24.6	0.5	-10	12	Spain	132.8	2.4	8
	re-exports	150.3	2.8	-7	13	Mexico	129.0	2.3	14
12	Korea, Rep. of	132.3	2.4	-3	14	Taipei, Chinese	104.2	1.9	-9
13	Mexico	117.5	2.2	6	15	Singapore	101.6	1.8	-23
14	Singapore	109.9	2.0	-12		retained imports [a]	55.1	1.0	-31
	domestic exports	63.4	1.2	-12	16	Korea, Rep. of	93.3	1.7	-35
	re-exports	46.5	0.9	-12	17	Switzerland	80.2	1.4	6
15	Taipei, Chinese	109.9	2.0	-9	18	Sweden	68.2	1.2	4
16	Spain	109.0	2.0	5	19	Austria	68.2	1.2	5
17	Sweden	84.7	1.6	2	20	Australia	64.7	1.2	-2
18	Switzerland	78.9	1.5	4					
19	Russian Fed. [b]	73.9	1.4	-16					
20	Malaysia	73.3	1.4	-7					
21	Ireland	63.8	1.2	19	21	Brazil	61.0	1.1	-6
22	Austria	62.2	1.1	6	22	Russian Fed. [b]	59.2	1.1	-19
23	Australia	55.9	1.0	-11	23	Malaysia	58.3	1.0	-26
24	Thailand	53.6	1.0	-7	24	Poland	47.1	0.8	11
25	Brazil	51.1	0.9	-4	25	Denmark	45.9	0.8	3
26	Indonesia	48.8	0.9	-9	26	Turkey	45.4	0.8	-7
27	Denmark	47.8	0.9	-2	27	Ireland	44.3	0.8	13
28	Finland	42.9	0.8	5	28	Thailand	43.0	0.8	-32
29	Saudi Arabia [c]	42.3	0.8	-29	29	India	42.2	0.8	3
30	Norway	39.6	0.7	-18	30	Norway	36.2	0.6	1
31	India	32.9	0.6	-4	31	Portugal	34.1	0.6	2
32	Philippines	29.3	0.5	17	32	Finland	32.2	0.6	5
33	South Africa [d]	28.3	0.5	-9	33	Philippines	31.7	0.6	-17
34	Poland	28.2	0.5	3	34	Argentina	31.4	0.6	3
35	Czech Rep.	26.4	0.5	16	35	South Africa [d]	29.9	0.5	-9
36	Turkey	25.9	0.5	-1	36	Israel	29.3	0.5	-5
37	Argentina	25.2	0.5	-4	37	Czech Rep. [e]	28.7	0.5	6
38	Portugal	23.3	0.4	1	38	United Arab Emirates [c]	27.5	0.5	-8
39	Israel	23.3	0.4	3	39	Indonesia	27.4	0.5	-34
40	Hungary	23.0	0.4	20	40	Saudi Arabia [c]	26.4	0.5	-8
41	United Arab Emirates [c]	22.5	0.4	-24	41	Greece	25.8	0.5	2
42	Venezuela [c]	17.2	0.3	-20	42	Hungary	25.7	0.5	21
43	Chile	14.9	0.3	-12	43	Chile	18.8	0.3	-4
44	Ukraine [b]	12.6	0.2	-11	44	Egypt	16.2	0.3	22
45	Iran, Islamic Rep. of [c]	12.6	0.2	-32	45	Venezuela [c]	15.7	0.3	8
46	New Zealand	12.1	0.2	-14	46	Ukraine [b]	14.7	0.3	-14
47	Colombia	10.8	0.2	-6	47	Colombia	14.6	0.3	-5
48	Slovak Rep.	10.7	0.2	11	48	Slovak Rep. [e]	13.0	0.2	11
49	Greece	10.3	0.2	-4	49	Iran, Islamic Rep. of [c]	12.9	0.2	-8
50	Algeria [c]	10.3	0.2	-26	50	New Zealand	12.5	0.2	-14
	Total of above [f]	5177.0	95.5	-		Total of above [f]	5185.0	92.3	-
	World [f]	5422.0	100.0	-2		World [f]	5615.0	100.0	-1

a Retained imports are defined as imports less re-exports. See the Technical Notes.
b Includes trade with the Baltic States and the CIS.
c Secretariat estimates.
d Throughout this report the merchandise figures refer to the Customs Union of Southern Africa.
e Imports are valued f.o.b.
f Includes significant re-exports or imports for re-export.

Source: WTO Annual Report, 1999

Noteworthy are the changing merchandise trade export and import shares of some countries and regions **(Table 2.10).** Expressed in dollar terms, share calculations are affected by the dollar exchange rate.

Other things equal, a stronger dollar increases both the US export and import shares because other currencies convert to fewer dollars and, hence, to lower shares. Perhaps reflecting in part the strong US currency, in dollar terms the US share of world exports actually increased from 11.6 percent in 1990 to 12.9 percent in 1998. Although the US export share increased by 1.3 percentage points from 1990 to 1998, reaching 12.9 percent, its import share increased even more, from 14.8 percent to 17.3 percent, a 2.5 percentage point rise **(Table 2.11)**.

Asia's share of world goods exports increased from 21.8 percent in 1990 to 24.5 percent in 1998, notwithstanding a decline in Japan's share from 8.5 to 7.4 percent. China's share of world exports rose from 1.8 percent to 3.5 percent. The Asian share of world imports declined over the same period from 20.3 percent to 19.9 percent, with Japan's share declining from 6.8 percent to 5.1 percent.

Table 2.10 World Merchandise Exports By Region, 1998

(Billion dollars and percentage)

	Value	Share		Annual Percentage Change
	1998	1990	1998	1990-98
World	5270	100.0	100.0	6
North America	897	15.4	17.0	7
United States	682	11.6	12.9	7
Latin America	276	4.3	5.2	8
Mexico	118	1.2	2.2	14
Western Europe	2348	48.4	44.5	5
European Union (15)	2181	44.6	41.4	5
C./E. Europe/Baltic States/CIS	214	3.1	4.1	6
Central and Eastern Europe	101	1.4	1.9	8
Baltic States and the CIS	113	1.7	2.1	4
Africa	107	3.0	2.0	1
South Africa	28	0.7	0.5	2
Middle East	137	3.9	2.6	0
Asia	1293	21.8	24.5	7
Japan	388	8.5	7.4	4
China	184	1.8	3.5	15
Six East Asian traders	504	7.9	9.6	8
Memorandum item:				
NAFTA (3)	1014	16.6	19.2	8
MERCOSUR (4)	80	1.4	1.5	7
ASEAN (10)	329	4.3	6.2	11

Source: WTO Annual Report, 1999

The export share of "Six East Asian Traders" rose from 7.9 percent in 1990 to 9.6 percent in 1998, although their import share remained constant at 8.0 percent **(Table 2.11)**.

Table 2.11 World Merchandise Imports By Region, 1998

(Billion dollars and percentage)

	Value	Share		Annual Percentage Change
	1998	1990	1998	1990-98
World	5465	100.0	100.0	6
North America	1152	18.4	21.1	8
United States	944	14.8	17.3	8
Latin America	340	3.6	6.2	14
Mexico	129	1.2	2.4	16
Western Europe	2367	48.8	43.3	4
European Union (15)	2172	44.7	39.8	4
C./E. Europe/Baltic States/CIS	242	3.3	4.4	9
Central and Eastern Europe	132	1.4	2.4	12
Baltic States and the CIS	110	1.9	2.0	6
Africa	134	2.7	2.4	5
South Africa	30	0.5	0.5	6
Middle East	144	2.8	2.6	5
Asia	1086	20.3	19.9	5
Japan	280	6.8	5.1	2
China	140	1.5	2.6	13
Six East Asian Traders	437	8.0	8.0	6
Memorandum item:				
NAFTA (3)	1280	19.5	23.4	8
MERCOSUR (4)	99	0.8	1.8	16
ASEAN (10)	279	4.7	5.1	7

Source: WTO Annual Report, 1999

Services trade is dominated by a relatively few countries. The United States is the world's largest exporter and importer of commercial services, with 1998 shares of 18.2 percent and 12.7 percent respectively **(Table 2.12).** The UK is the second ranking services exporter, 7.6 percent of the 1998 world total. Germany is the second largest importer (9.6 percent) followed by Japan (8.5 percent). The top ten services trading countries made 60.9 percent of 1998 world services exports and 57.8 percent of services imports.

Table 2.12 Leading Exporters and Importers In World Trade In Commercial Services, 1998

(Billion dollars and percentage)

Exporters					Importers				
Rank		Value	Share	Annual Percentage Change	Rank		Value	Share	Annual Percentage Change
1	United States	240.0	18.2	2	1	United States	165.8	12.7	8
2	United Kingdom	100.5	7.6	9	2	Germany	125.0	9.6	3
3	France	84.6	6.4	5	3	Japan	110.7	8.5	-9
4	Germany	78.9	6.0	3	4	United Kingdom	78.8	6.0	11
5	Italy	66.6	5.1	0	5	France	65.4	5.0	5
6	Japan	61.8	4.7	-9	6	Italy	62.9	4.8	7
7	Netherlands	51.6	3.9	2	7	Netherlands	46.6	3.6	4
8	Spain	48.7	3.7	12	8	Canada	35.2	2.7	-4
9	Belgium-Luxembourg	35.4	2.7	4	9	Belgium-Luxembourg	33.9	2.6	8
10	Hong Kong, China	34.2	2.6	-10	10	Austria	30.1	2.3	6
11	Austria	32.4	2.5	11	11	China	28.8	2.2	-4
12	Canada	30.3	2.3	2	12	Spain	27.5	2.1	13
13	Switzerland	27.1	2.1	6	13	Korea, Rep. of	23.8	1.8	-18
14	China	24.0	1.8	-2	14	Taipei, Chinese	23.3	1.8	-3
15	Korea, Rep. of	23.9	1.8	-6	15	Hong Kong, China	22.7	1.7	-2
16	Turkey	23.2	1.8	21	16	Sweden	21.8	1.7	12
17	Singapore	18.2	1.4	-40	17	Ireland	20.0	1.5	33
18	Sweden	17.9	1.4	2	18	Brazil	18.7	1.4	6
19	Taipei, Chinese	16.6	1.3	-2	19	Singapore	17.9	1.4	-7
20	Australia	16.0	1.2	-13	20	Australia	16.8	1.3	-9
21	Denmark	14.8	1.1	6	21	Russian Fed.	16.1	1.2	-15
22	Norway	14.0	1.1	-3	22	Switzerland	16.1	1.2	10
23	Thailand	13.1	1.0	-16	23	Denmark	15.3	1.2	12
24	Russian Fed.	12.9	1.0	-9	24	Norway	15.2	1.2	4
25	Mexico	11.9	0.9	6	25	India	14.2	1.1	16
26	India	11.1	0.8	24	26	Mexico	12.6	1.0	7
27	Malaysia	10.7	0.8	-28	27	Malaysia	12.4	0.9	-29
28	Greece a	9.8	0.7	…	28	Thailand	11.9	0.9	-31
29	Israel	9.0	0.7	8	29	Indonesia	11.6	0.9	-28
30	Poland	8.9	0.7	-1	30	Philippines	10.1	0.8	-28
31	Portugal	8.5	0.6	13	31	Israel	9.6	0.7	5
32	Egypt	7.8	0.6	-14	32	Turkey	9.4	0.7	17
33	Brazil	7.6	0.6	13	33	Saudi Arabia	8.7	0.7	-40
34	Philippines	7.5	0.6	-51	34	Argentina	8.7	0.7	3
35	Czech Rep.	7.3	0.6	3	35	Finland	8.0	0.6	-2
36	Ireland	6.9	0.5	14	36	Poland	7.1	0.5	25
37	Finland	6.8	0.5	-5	37	Portugal	6.7	0.5	11
38	Hungary	4.9	0.4	1	38	Egypt	5.9	0.5	1
39	South Africa	4.8	0.4	-1	39	South Africa	5.6	0.4	-7
40	Argentina	4.4	0.3	2	40	Czech Rep.	5.4	0.4	2
	Total of above	1210.0	91.8	-		Total of above	1180.0	90.4	-
	World	1320.0	100.0	0		World	1305.0	100.0	1

a Secretariat estimate.

Note: Figures for a number of countries and territories have been estimated by the Secretariat. Annual percentage changes and rankings are affected by continuity breaks in the series for a large number of economies, and by limitations in cross-country comparability.
Source: WTO Annual Report, 1999

Importance of Trade to Individual Countries

International trade has been increasingly important to the overall economic performance of most nations. US goods and services exports as a percent of GDP rose from 9.9 percent in 1992 to 11.6 percent in 1997 and 11.0 percent in 1998 **(Table 2.13)**. Imports increased from 10.5 percent of GDP in 1992 to 12.9 percent in 1997 and 1998 **(Table 2.14)**.

Table 2.13 Exports of Goods and Services

(Percent of GDP)

	1992	1993	1994	1995	1996	1997	1998
United States	9.9	9.8	10.1	10.9	11.1	11.6	11
Canada	27.3	30.7	34.8	38.8	40	39.3	41.1
Japan	10.3	9.5	9.5	9.6	10.2	11.4	11.5
France	24.1	22.8	25.4	23.4	23.5	25.9	26.7
Germany	25.2	23.4	24.3	25.1	25.5	28	29
Ireland	60.2	64.9	69.6	75.2	75.9	78.3	84.5
Italy	19.4	22.5	24.1	27.2	26.2	26.8	26.5
Netherlands	54.7	53.5	55.2	56.1	57.4	60.7	59.2
Switzerland	41.5	40.9	40.3	40.1	41.1	47	46
U.K.	23.7	25.4	26.5	28.4	29.2	28.5	26.5
Australia	17.7	18.3	18.1	19	19.3	20.5	19.8
China	16.8	20.1	22	21	20.9	22.9	21.5
India	9.2	9.4	9.5	10.1	10.3	10.4	
Korea	27.6	27.5	27.8	30.1	29.5	34.6	48.9
Malaysia	76.9	82	91.3	95.5	92.2	94.9	
Singapore	168.6	167.4	173.2	177.2	170.4	168.9	152.4
Thailand	37.1	37.8	38.8	41.8	38.6	48.6	59.2
Argentina	6.7	7	7.5	9.7	10.5	10.6	10.4
Brazil	10.2	9.9	9	7.5	6.8	7.4	7.6
Mexico	15.3	15.2	16.9	31.2	32.4	30.3	31.2

Source: International Monetary Fund

Trade is even more important to most US trading partners. In 1998 Canada's exports were 41.1 percent of its GDP, up from 27.3 percent in 1992; imports were 39.8 percent of GDP, up from 27.5 percent in 1992. Over the same period Mexican exports grew from 15.3 percent of GDP to 31.2 percent; imports from 20.4 percent to 33.4 percent. These large increases may reflect in part the North American Free Trade Agreement.

Japan's image as an export juggernaut whose economic fate is inordinately dependent on exports does not match the fact that in 1992 its exports were only 10.3 percent of GDP and 11.5 percent in 1998, with the latter figure only slightly above the 11.0 percent US figure. Japan's imports in 1992 were 8.1 percent of GDP; in 1998, 9.0 percent.

Table 2.14 Imports of Goods and Services

(Percent of GDP)

	1992	1993	1994	1995	1996	1997	1998
United States	10.5	10.9	11.5	12.3	12.5	12.9	12.9
Canada	27.5	30.2	32.9	34.2	34.4	37.6	39.8
Japan	8.1	7.2	7.4	8.2	9.7	10.3	9.6
France	22.5	20.9	21.1	21.5	21.5	22.7	23.6
Germany	25.5	23.0	23.7	24.3	24.4	26.6	27.3
Ireland	52.7	54.5	60.0	64.1	64.8	66.0	72.7
Italy	19.4	19.2	20.5	23.0	21.1	22.7	23.1
Netherlands	50.8	47.8	49.2	50.0	51.2	53.8	53.0
Switzerland	37.8	36.1	35.3	35.5	36.9	41.6	41.3
Australia	18.0	18.8	19.5	20.5	19.5	20.1	21.6
China	15.7	22.8	20.6	19.8	18.8	18.5	17.2
India	10.9	10.6	11.4	12.8	13.8	13.5	
Korea	29.1	27.4	28.4	31.7	33.5	36.0	35.7
Malaysia	75.5	88.1	92.9	99.5	91.1	93.5	
Singapore	158.7	159.5	158.2	161.6	156.8	150.1	134.6
Thailand	41.8	42.3	44.0	48.8	45.1	48.6	48.6
Argentina	8.4	9.3	10.6	10.1	11.0	12.7	12.9
Brazil	7.2	8.0	8.0	9.0	8.5	9.4	9.6
Mexico	20.4	19.2	22.0	28.7	30.4	30.5	33.4

Source: International Monetary Fund

European export trade-to-GDP percentages are typically considerably higher; e.g., for 1998, Germany, 29.0 percent; France, 26.7; Italy, 26.5; United Kingdom, 26.5; Netherlands, 59.2; Ireland 84.5. These countries also have very high import-to-GDP percentages, indicating their dependence on imports of fuels, raw materials and semi-finished goods for further processing and re-export, as well as high volumes of intra-European trade.

Trade-to-GDP ratios are still higher, however, in some small, rapidly developing countries whose economic fate is even more dependent on trade. Malaysian exports in 1997 were equivalent to 94.9 percent of its GDP; Singapore's were 152.4 percent of GDP, down from 177.2 percent in 1995.

Rising trade-to-GDP portions often accompany fast economic growth in developing nations. China's exports-to-GDP ratio reached 21.5 percent in 1998, up from 16.8 percent in 1992. India's increased from 9.2 percent in 1992 to 10.4 percent in 1997.

The Current Account

The current account is the broadest measure of a nation's international trade performance. It provides an annual measurement of a nation's exports and imports of both goods and services. It also reflects a nation's receipts (income) from investments abroad and payments to its foreign investors, as well as the government's international receipts and transfers. When a country's total exports of goods and services exceed its total goods and services imports, it is producing more goods and services than it is consuming and is exporting the balance. Conversely, a country that is importing more goods and services than it is exporting is producing less goods and services than it is consuming and importing the shortfall. Countries with current account surpluses, including the balances on international investment income and payments and government transfers, are lending abroad. Countries with current account deficits are borrowing abroad.

The balance of goods and services exports and imports, international investment income and payments, and governmental transfers indicated by a nation's annual current account alters its international investment position -- the net of its external assets and liabilities. Changes in the net dollar value calculations of international investment positions are also affected by other factors, including exchange rate changes, and changes in the market prices of a country's assets abroad as well as changes in the valuation of in-country assets owned by foreigners. Other things equal, however, current account surpluses act to increase a net creditor position or decrease a net debtor position. Current account deficits decrease a net creditor position or increase a net debtor position.

Theoretically, if measurements standards and accuracy were perfect in all reporting countries, the sum of annual country current account surpluses would match the sum of deficits accrued by other countries in the same year. In fact, however, in addition to the measurement problems noted above, measurement standards and accuracy are evolving and vary among individual countries. Nevertheless, the current account balances of a few major trading countries can be helpful in understanding the changing debtor/creditor roles of individual nations in the world economy.

Current account balances of the US are contrasted with those of several other nations in **Table 2.15.**

Table 2.15 Current Account Balances

(Billions of US Dollars)

	1992	1993	1994	1995	1996	1997	1998	1999 [a]	Change 92-98
U.S.	-50.6	-85.3	-121.7	-113.6	-129.3	-143.9	-220.6	-338.9	-93.3
Japan	112.6	131.6	130.2	111.0	65.9	94.4	120.7	106.9	8.1
Canada	-21.2	-21.8	-13.0	-4.3	3.3	-10.3	-11.2	-2.9	10.0
Australia	-11.2	-9.8	-17.3	-19.6	-15.8	-12.5	-18.0	-22.4	-5.3
France	3.9	9.0	7.4	10.8	20.6	39.5	40.2	36.8	36.3
Germany	-19.1	-13.9	-20.9	-18.9	-5.6	-1.5	-3.4	n.a.	15.7
Italy	-29.2	7.8	13.2	25.1	40.0	32.4	20.0	8.2	49.2
Netherlands	7.4	13.6	17.9	24.1	21.6	27.5	28.6	22.6	12.5
Switzerland	14.2	17.9	17.4	21.6	21.2	27.0	24.5	n.a.	10.3
U. K.	-18.2	-16.0	-2.0	-6.0	-0.7	10.8	-1.1	-20.6	20.0
China	6.4	-11.6	6.9	1.6	7.2	29.7	29.3	n.a.	22.9
Korea	-3.9	1.0	-3.9	-8.5	-23.0	-8.2	40.6	n.a.	44.5
Argentina	-5.5	-8.0	-10.9	-4.9	-6.5	-12.0	-14.3	-12.2	-8.8
Brazil	6.1	0.0	-1.2	-18.1	-23.2	-30.5	-33.8	n.a.	-39.4
Mexico	-24.4	-23.4	-29.7	-1.6	-2.3	-7.5	-16.0	n.a.	8.4

Source: International Monetary Fund

a Source: IFS, June 2000

Table 2.16 shows changes in the International Investment positions of the United States and several key trading nations. Notwithstanding large current account deficits in 1993 and 1994, the US debtor position shrank, largely the result of a Treasury Department survey and re-benchmarking of portfolio investment values. Current account deficits over the period since 1981 have acted to move the United States from an international investment position of $153 billion in 1984 to that of the largest debtor nation, with a negative position of $1.537 trillion in 1998. The 1999 US current account deficit of $338.9 billion (preliminary data) will add to this debtor position. As a consequence of this accumulating debt, as will be seen in the next chapter, the investment income component of the current account has moved from a long history of net receipts (inflows) to net payments (outflows) beginning in 1998.

Table 2.16 International Investment Positions

(Billions of US Dollars)

	1991	1992	1993	1994	1995	1996	1997	1998
U. S.	-263.0	-455.0	-180.0	-174.0	-423.0	-548.0	-1066.0	-1537.0
Japan	384.0	515.0	612.0	690.0	818.0	891.0	959.0	1153.0
France	-59.0	-36.0	-50.0	-8.0	-16.0	-8.0	34.0	26.0
Germany	312.0	263.0	205.0	195.0	119.0	79.0	65.0	n.a.
Italy	-106.0	-110.0	-84.0	-71.0	-52.0	-34.0	2.0	-20.0
Netherlands	66.0	55.0	59.0	58.0	60.0	39.0	21.0	n.a.
Switzerland	236.0	235.0	243.0	273.0	304.0	336.0	304.0	n.a.
U.K.	6.0	34.0	54.0	35.0	12.0	-3.0	-137.0	-112.0
Australia	-150.0	-145.0	-164.0	-188.0	-201.0	-237.0	-201.0	-209.0
Korea	-3.0	-3.0	-7.0	-9.0	n.a.	n.a.	n.a.	n.a.
Malaysia	-17.0	-13.0	-9.0	-6.0	n.a.	n.a.	n.a.	n.a.

Source: International Monetary Fund

Conversely, consistent large surplus positions over recent decades have transformed Japan from a debtor nation in the years after World War II to the world's largest creditor nation. At end year 1998 the US debtor position of $1.537 trillion contrasted with Japan's $1.15 trillion creditor position. Japan's 1998 creditor position was equivalent to about 23.3 percent of its GDP, compared to the US debtor position equivalent to about 18.1 percent of its GDP. At $209 billion, however, Australia's 1998 net debtor position was equivalent to about 57 percent of its GDP.

Summary

- World trade involves the exchange of both goods and commercial services among nations. Total world trade in 1998 was $6.74 trillion, about 80 percent in goods and 20 percent in commercial services.
- Growth in both goods and services trade has consistently exceeded the growth of world production in recent decades. Goods trade increased at an annual 6.5 percent rate in the 1990s; services trade at a slightly faster annual rate of 7 percent. Both were well above the 2.0 percent annual growth rate of world GDP.
- Trade growth rates vary among countries and regions but a relatively few countries account for the great majority of both goods and services trade and the United States remains the largest exporter and importer of both goods and services.
- In 1998 the United States held a 12.5 percent share of world merchandise exports, followed by Germany with 10.5 percent. US imports were 15.8 percent of the world total, with Germany again in second place with an 8.3 percent share.
- In 1998 services exports the United States was first, 18.2 percent of world total; followed by the UK, 7.5 percent. US services imports were a 12.7 percent share, followed by Germany, 9.5 percent.
- International trade has become increasingly important to most nations. US goods and services exports have risen from 9.9 percent of GDP in 1992 to 11.0 percent in 1998; imports from 10.5 percent to 12.8 percent.
- Trade is even more important to most US trading partners. In 1998 Canada's exports were 41.1 percent of its GDP, up from 27.3 percent in 1992. Over the same period Mexican exports grew from 15.3 percent of GDP to 31.2 percent. These ratios are much higher for many other countries, however, with Singapore's 1998 exports equivalent to 134.6 percent of its GDP.

- Japan's image as an export juggernaut whose economic fate is inordinately dependent on exports does not match the fact that in 1992 its exports were only 10.3 percent of GDP and 11.5 percent in 1998, the latter figure only slightly above the 11.0 US figure. Japan's imports, however, were only 8.1 percent of GDP in 1992 and 9.0 percent in 1998.
- The current account is the broadest measure of a nation's international trade performance. Consistent current account deficits in recent years have moved the United States from a position of world's largest creditor nation to that of world's largest debtor nation, with a net debtor position of $1.537 trillion at end-1998, equivalent to about 18.1 percent of US GDP. At $209 billion, however, Australia's 1998 net debtor position was equivalent to about 57 percent of its GDP and Japan's $1.15 trillion net creditor position was about 23.3 percent of its GDP.

Chapter 3: The US Current Account In Perspective

This chapter identifies and assesses the roles and performance of each of the four major components of the current account. We first disaggregate and analyze each of the non-goods trade components. We then decompose goods trade into its major categories. These examinations identify the key role of manufactures trade in both goods trade and overall current account performance. The tables and analysis in this chapter utilize preliminary current account data for 1999. Revised data issued in mid-2000 lowered the current account deficit for 1999 from $338.9 billion to $331.5 billion and also made minor changes in some individual components of the current account. These minor revisions, however, do not alter the conclusions of the analysis in this chapter.

Roles and Performance of Major Components of the US Current Account

The current account is the broadest measure of US international transactions. The US Department of Commerce groups these international transactions into four basic categories. In descending order of dollar volumes they are: merchandise (goods) trade, services trade, international investment income, and unilateral transfers. Goods (merchandise) trade is the both the largest component in US international transactions and the most variable in performance. In 1999, goods trade was 55.3 percent of US international receipts transactions, down from 64.4 percent in 1978 but little changed from the 1988 portion **(Table 3.1).**

Goods imports in 1999 were 65.4 percent of total current account payment transactions, down from the 74.7 percent 1978 level but also little changed from the 64.8 percent 1988 portion.

Table 3.1 Composite of US Current Account

Percent of Total Receipts and Payments

	1978	1988	1998	1999	Change 92-98
Receipts					
Goods	64.4	56.5	56.2	55.3	-9.1
Services	16.5	19.4	22.1	22.4	5.9
Income	19.1	24.1	21.7	22.2	3.1
USDIA	11.1	10.3	8.6	9.4	-1.7
Total	100.0	100.0	100.0	100.0	
Payments					
Goods	74.7	64.8	64.9	65.4	-9.3
Services	13.7	14.3	12.8	12.6	-1.1
Income	9.2	17.2	19.1	19.0	9.8
FDIUS	1.8	1.8	3.1	3.7	1.9
Unilateral Transfers	2.5	3.8	3.1	3.0	0.5
Total	100.0	100.0	100.0	100.0	

Source: US Department of Commerce

The *services* portion of US current account receipts (exports of US services to foreign destinations) increased from 16.5 percent of total in 1978 to 22.4 percent in 1999. Payments for services (imports of services from foreign sources) were 12.6 percent of 1999 payments, not markedly different from the 1978 and 1988 levels.

Income receipts from all types foreign investments were 19.1 percent of 1978 international transactions, rising to 24.1 percent in 1988 but declining to 22.2 percent in 1999. Over that 1978-1998 period the portion of current account receipt transactions represented by income receipts from US private sector

direct investments in foreign countries (US direct investments abroad, or USDIA) declined from 11.1 percent to 9.4 percent.

Reflecting both increased foreign direct investments in the United States (FDIUS) and the rapidly growing amounts of other US assets held by foreign individuals, companies, and governments, the income payments portion of total US current account payments rose from 9.2 percent in 1978 to 17.2 percent in 1988 and 19.0 percent in 1999. Growth in payments to foreign direct investors accounted for only a small portion of this increase, with payments rising from 1.8 percent of the 1978 total to only 3.7 percent in 1999.

Unilateral transfers remained a relatively small portion of total international payments over the period, up from 2.5 percent in 1978 to 3.0 percent in 1999.

Turning to current account dollar balances, the effect of goods trade on current account outcomes is evident. The last US goods trade surplus was $8.9 billion in 1975. Over the 24 years 1976-1999 consistent goods trade deficits totaled almost $2.7 trillion. However, for a few years after the beginning of goods trade deficits, offsetting services surpluses kept the US current account in surplus. The last US current account surplus was a modest $4.3 billion in 1991 **(Table 3.2)**. But since 1981, excepting 1991, persistent large US merchandise trade deficits have overwhelmed the more modest services surpluses and resulted in US current account deficits.

Driven by generally enlarging US merchandise trade deficits during the 1980s, current account performance deteriorated to a deficit of $162.6 Billion in 1987 before improving to a $4.3 billion surplus in 1991. This temporary improvement was primarily a result of smaller goods trade deficits **(Table 3.2)**. Current account deficits then began to enlarge again as a result of renewed increases in goods deficits. The current account deficit reached $338.9 billion in 1999, the result of a $246.9 billion merchandise (goods) trade deficit.

In 1999 still another record merchandise trade deficit of $347 billion (balance of payments basis) resulted in another new record current account deficit of $338.9 billion. Current account balances for the twenty-one years 1979 through 1999 sum to a $1.998 trillion deficit.

The record 1999 current account deficit, equivalent to about 3.7 percent of GDP, reflects a services surplus of $79.6 billion, down by $3.1 billion from the 1998 level of $82.7 billion, and a merchandise trade deficit of $347.1 billion, $100.2 billion more than the 1998 deficit of $246.9 billion. First-half data indicate significant further growth in the merchandise trade and current account deficits in the year 2000.

The performance and prospects of each of the four components of the current account is more fully examined, in ascending order of dollar amount importance, in the remainder of this chapter.

Table 3.2 Summary of US International Transactions

(Billions of Dollars)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Goods											
Exports	362.1	389.3	416.9	440.4	456.8	502.4	575.8	612.1	679.7	670.2	683.0
Imports	477.4	498.3	491.0	536.5	589.4	668.6	749.6	803.3	876.4	917.2	1030.2
Balance	**-115.2**	**-109.0**	**-74.1**	**-96.1**	**-132.6**	**-186.2**	**-173.7**	**-191.3**	**-196.7**	**-246.9**	**-347.1**
Services											
Exports	126.2	146.8	163.0	175.6	185.0	199.7	217.6	237.7	258.8	263.7	277.1
Imports	102.5	117.7	118.5	116.5	122.3	131.9	141.4	150.8	166.9	181.0	197.5
Balance	**23.7**	**29.1**	**44.6**	**59.1**	**62.7**	**67.8**	**76.2**	**87.0**	**91.9**	**82.7**	**79.6**
Goods & Service Bal	**-91.5**	**-79.9**	**-29.5**	**-37.0**	**-69.9**	**-98.4**	**-97.5**	**-104.3**	**-104.7**	**-164.3**	**-267.5**
International Inv. Income											
Receipts	161.6	172.1	149.6	132.5	134.6	166.0	212.2	224.5	258.7	258.3	273.9
Payments	141.8	143.6	125.6	110.3	111.4	150.1	192.8	207.4	255.4	270.5	298.6
Balance	**19.7**	**29.4**	**24.0**	**22.3**	**23.2**	**15.9**	**19.4**	**17.2**	**3.2**	**-12.2**	**-24.8**
Of Which											
Direct Inv.:											
Receipts	62.3	66.3	59.1	58.0	67.7	78.0	96.0	103.3	115.8	102.8	116.7
Payments	7.4	3.9	-1.7	3.3	9.1	23.5	32.2	35.6	46.6	43.4	58.3
Balance on Direct Inv.	**54.9**	**62.4**	**60.8**	**54.7**	**58.6**	**54.5**	**63.8**	**67.7**	**69.2**	**59.4**	**-58.5**
Total Goods, Services, Income											
Exports	645.9	708.1	729.5	748.4	775.4	868.0	1005.7	1074.4	1197.2	1192.2	1233.9
Imports	721.7	759.5	735.0	763.2	823.2	950.5	1083.8	1161.5	1296.7	1368.7	1526.3
Balance	**-75.8**	**-51.4**	**-5.5**	**-14.8**	**-47.8**	**-82.5**	**-78.1**	**-87.1**	**-99.5**	**-176.5**	**-292.4**
Unilateral Transfers	**27.1**	**27.8**	**-9.8**	**35.9**	**38.5**	**39.2**	**35.4**	**42.2**	**42.0**	**44.1**	**46.6**
Bal. On Current Acct.	**-98.9**	**-79.3**	**4.3**	**-50.6**	**-85.3**	**-121.7**	**-113.6**	**-129.3**	**-143.5**	**-220.6**	**-338.9**

Source: US Department of Commerce, Preliminary Data

Unilateral Transfers

Unilateral transfers is consistently a relatively small portion of US current account dollar payments, about 3.0 percent in 1999. The unilateral transfers account consists primarily of outlays for foreign aid and other external grants, as well as payments to US pensioners living abroad. Because these outlays are normally offset by very few and very small receipts, only payments are shown in this account, which is normally in deficit.

Movements in exchange rates do not greatly affect the unilateral transfers account. The deficit has risen steadily from $5.0 billion in 1968 to $46.6 billion in 1999 **(Table 3.2).** The normal trend of gradually increasing deficits has been broken only in one year, 1991, which produced a $9.1 billion surplus resulting from foreign government payments in compensation for US costs incurred in the Gulf War. The 1998 unilateral transfers deficit of $44.1 billion was made up of $13.1 billion of government grants, $4.4 billion of government pension payments, and $26.7 billion of private remittances and other transfers.

Reflecting in part the growing number of pensioners living abroad and continued likely increases in the remittances to their home countries by immigrants and foreign workers in the United States, gradual continued growth of the deficits in the unilateral transfers account seems likely.

International Investment Income

The international investment income account records interest and dividend payments to foreign holders of several kinds of US financial assets (e.g., stocks, bonds, direct investments, bank deposits, and US treasury securities) and income received by US holders of similar kinds of foreign assets. In 1999, this account represented 22.2 percent of current account receipts and 19.0 percent of payments **(Table 3.1).**

For many years -- indeed, for decades -- this account consistently yielded surpluses. The surpluses rose from only $6.0 billion in 1968 to a 1993 peak of $36.3 billion and then began a consistent decline to a 1997 surplus of only $3.2 billion, followed by a 1998 deficit of $12.2 billion and expansion to a $24.8 billion deficit in 1999 **(Table 3.2).** Further enlarging of the investment income deficit appears inevitable as the result of the expected further enlarging of the US international debtor position.

The substantial earlier surpluses in US international investment income have eroded as the US has shifted from a large creditor to a large debtor position, but not as rapidly as might have been expected. The reason is the large and long-standing stock of US direct investments abroad (USDIA) continues to out-earn the growing stocks of foreign direct investment in the United States (FDIUS). US direct investment assets abroad typically earn higher rates of return on their book values than do foreign direct investments in the United States, much of which has been in place for a shorter period of time.

Indeed, as shown in **Table 3.2** the net balance on the direct investments portion of investment income and payments in 1999 was a large surplus of $58.5 billion, down only moderately from the 1997 peak of $69.2 billion. The cause of that decline is uncertain but could well be a result of slow European and Asian economies, depressing the earnings of US facilities abroad, as well as the strong US dollar, which results in foreign currency profits translating into fewer US dollars. The balance on direct investment income improved in 1999 and could further modestly improve as a result of renewed economic growth abroad and/or dollar depreciation. The foreign direct investment portion of the investment income component thus may continue to produce substantial US surpluses for the foreseeable future. However, some narrowing of the surplus margin may occur as stocks of foreign direct investments in the United States continue to grow and mature and increase their earning power.

The additional detail of international income payments and receipts provided by **Table 3.3** indicates, however, a likely continued deterioration in the balances of other elements of the investment income account.

Table 3.3 US Current Account Income Receipts and Payments

(Billions of Dollars)

	1978	1991	1992	1993	1994	1995	1996	1997	1998	1999
Income Receipts	**42.1**	**149.6**	**132.5**	**134.6**	**166.0**	**212.1**	**224.6**	**258.7**	**258.3**	**273.9**
FromAssets Abroad	42.1	148.3	131.1	133.2	164.4	210.5	222.9	256.9	256.5	272.0
US Direct Investmnts	25.5	59.1	58.0	67.7	77.9	96.0	103.3	115.8	102.8	115.7
Other PrivateReceipts	14.8	81.2	66.0	60.4	82.4	109.8	115.0	137.5	150.0	152.1
US Gov't Receipts	1.8	8.0	7.1	5.1	4.1	4.7	4.6	3.6	3.6	3.2
Comp. Of Employees		1.3	1.4	1.4	1.5	1.8	1.8	1.8	1.9	1.9
Income Payments	**21.7**	**125.6**	**110.3**	**111.4**	**150.1**	**192.8**	**207.4**	**255.4**	**270.5**	**298.6**
From Assets in US	21.7	121.6	105.5	106.3	144.1	186.6	201.1	248.6	263.4	291.2
Foreign Direct Invest.	4.2	-1.7	3.3	9.1	23.5	32.2	35.6	46.6	43.4	58.3
Other Private Paymnts	8.8	82.5	63.1	57.8	76.5	97.0	97.9	114.1	128.9	137.8
US Govt Payments	8.7	40.9	39.1	39.4	44.2	57.4	67.5	88.1	91.2	95.1
Comp. Of Employees		4.0	4.8	5.1	6.0	6.3	6.3	6.8	7.1	7.5
Income Balances	**20.4**	**24.0**	**22.3**	**23.2**	**15.9**	**19.4**	**17.2**	**3.2**	**-12.2**	**-24.8**
Assets US & Abroad	20.4	26.7	25.6	26.9	20.3	23.9	21.8	10.3	-6.9	-19.3
Direct Investments	21.3	60.8	54.7	58.6	54.4	63.8	67.7	69.2	59.4	57.3
Other Private Invest.	6.0	-1.3	2.9	-7.4	5.9	12.8	17.1	23.4	21.1	14.3
US Government	-6.9	-32.9	-32.0	-34.3	-40.1	-52.7	-62.9	-84.5	-87.6	-91.9
Comp. Of Employees		-2.7	-3.4	-4.7	-5.5	-4.5	-4.5	-5.0	-5.2	-5.6

Source: US Department of Commerce

Turning to those other elements of the income account, *Other private investments* receipts and payments provided a surplus of $14.3 billion in 1999, down from 21.1 billion in 1998, but should continue to provide surpluses for the immediate future.

The balance on *US Government payments* and *US Government receipts,* however, is a different story. Payments on US government bonds and other financial instruments were $95.1 billion in 1999, much higher than the $3.6 billion of US government receipts on foreign instruments, yielding a deficit of $91.9 billion. Additional expansions of the deficit in this sub-category over the next several years may also occur.

Similarly, deficits in the *compensation of employees* sub-category, recorded in 1999 at $5.6 billion, are likely to persist in future years. This category includes compensation paid to Canadian and Mexican workers who commute to work in the United States, payments to foreign students studying at colleges and universities here, compensation paid to foreign professionals temporarily residing in the United States and to temporary agricultural workers. These payments are unlikely to decline significantly and could grow modestly.

Overall, continuing growth beyond the 1999 deficit of $24.8 billion in the investment income component of the US current account seems likely. The increase will be dependent on a number of factors, including the size of the current account deficits and the dollar exchange rate, but could be around $10 billion annually for 2000 and the years just ahead.

Services Trade

The third major current account category, services, is made up of a wide variety of tradable services, mostly originating in the private sector. Services trade has consistently yielded US surpluses, ranging from only $0.1 billion in 1985 to $91.9 billion in 1997 **(Table 3.4).** Exports of services in 1999 were $277.1 billion, imports were $192.5 billion, yielding a surplus of $79.6 billion, $3.1 billion less than in 1998 and $12.3 billion less than 1997.

Some analysts, noting the growth of services in the US economy and in US trade, see exports of services as an increasingly important source of export earnings and, possibly, as a way to compensate for persistent and growing deficits in goods trade. However, disaggregation of the services account into its seven subcategories -- direct defense expenditures, US government miscellaneous services, travel, passenger fares, other transportation, royalties and license fees, and other private services -- leads to the conclusion that continuing large expansions of services surpluses are questionable and unlikely to compensate for significant goods trade deficits.

Table 3.4 US Trade In Services By Major Category, Balance of Payments Basis, 1975-1998

(Billions of Dollars)

	Total Services			Travel			Passenger Fares			Other Transportation		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1975	25.5	22.0	3.5	4.7	6.4	-1.7	1.0	2.3	-1.2	5.8	5.7	0.1
1976	28.0	24.6	3.4	5.7	6.9	-1.1	1.2	2.6	-1.3	6.7	6.9	-0.1
1977	31.5	27.6	3.8	6.2	7.5	-1.3	1.4	2.7	-1.4	7.1	8.0	-0.9
1978	36.4	32.2	4.2	7.2	8.5	-1.3	1.6	2.9	-1.3	8.1	9.1	-1.0
1979	39.7	36.7	3.0	8.4	9.4	-1.0	2.2	3.2	-1.0	10.0	10.9	-0.9
1980	47.6	41.5	6.1	10.6	10.4	0.2	2.6	3.6	-1.0	11.6	11.8	-0.2
1981	57.4	45.5	11.9	12.9	11.5	1.4	3.1	4.5	-1.4	12.6	12.5	0.1
1982	64.1	51.7	12.3	12.4	12.4	0.0	3.2	4.8	-1.6	12.3	11.7	0.6
1983	64.2	54.9	9.3	10.9	13.1	-2.2	3.6	6.0	-2.4	12.6	12.2	0.4
1984	71.0	67.7	3.3	17.2	22.9	-5.7	4.1	5.7	-1.7	13.8	14.8	-1.0
1985	72.9	72.8	0.1	17.8	24.6	-6.8	4.4	6.4	-2.0	14.7	15.6	-1.0
1986	86.4	81.8	4.5	20.4	25.9	-5.5	5.6	6.5	-0.9	15.4	17.8	-2.3
1987	98.6	92.3	6.2	23.6	29.3	-5.7	7.0	7.3	-0.3	17.0	19.0	-2.0
1988	111.1	100.0	11.1	29.4	32.1	-2.7	9.0	7.7	1.2	19.3	20.9	-1.6
1989	127.2	104.2	23.0	36.3	33.4	2.8	10.6	8.2	2.4	20.5	22.2	-1.6
1990	147.9	120.0	27.9	43.0	37.3	5.7	15.3	10.5	4.8	22.0	25.0	-2.9
1991	164.3	121.2	43.1	48.4	35.3	13.1	15.9	10.0	5.8	22.6	25.0	-2.3
1992	175.6	116.5	59.1	54.7	38.6	16.2	16.6	10.6	6.0	21.5	23.8	-2.2
1993	185.0	122.3	62.7	57.9	40.7	17.2	16.5	11.4	5.1	22.0	24.5	-2.6
1994	199.7	131.9	67.8	58.4	43.8	14.6	17.0	13.1	3.9	23.8	26.0	-2.3
1995	217.6	141.4	76.2	63.4	44.9	18.5	18.9	14.7	4.2	26.1	27.0	-1.0
1996	237.7	150.8	87.0	69.8	48.0	21.7	20.4	15.8	4.6	26.1	27.4	-1.3
1997	258.8	166.9	91.9	73.3	52.1	21.3	20.8	18.1	2.7	27.0	29.0	-2.0
1998	263.7	181.0	82.7	71.3	56.1	15.1	20.0	19.8	0.2	25.5	30.5	-4.9
1999	277.1	192.5	79.6	74.5	60.1	14.4	21.1	21.3	-0.2	27.3	34.5	-7.2

	Royalties and License Fees			Other Private Services			Military-Defense Transfers/Expenditures			U.S. Government Misc. Services		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1975	4.3	0.5	3.8	2.9	1.6	1.4	6.3	4.8	1.5	0.4	0.8	-0.3
1976	4.4	0.5	3.9	3.6	2.0	1.6	5.8	4.9	0.9	0.5	0.9	-0.4
1977	4.9	0.5	4.4	3.8	2.2	1.7	7.6	5.8	1.7	0.6	1.0	-0.4
1978	5.9	0.7	5.2	4.7	2.6	2.1	8.2	7.4	0.9	0.6	1.1	-0.5
1979	6.2	0.8	5.4	5.4	2.8	2.6	7.0	8.3	-1.3	0.5	1.2	-0.7
1980	7.1	0.7	6.4	6.3	2.9	3.4	9.0	10.9	-1.8	0.4	1.2	-0.8
1981	7.3	0.7	6.6	10.3	3.6	6.7	10.7	11.6	-0.8	0.5	1.3	-0.8
1982	5.6	0.8	4.8	17.4	8.2	9.3	12.6	12.5	0.1	0.6	1.5	-0.9
1983	5.7	0.9	4.8	18.1	7.9	10.2	12.5	13.1	-0.6	0.7	1.6	-0.9
1984	6.1	1.2	4.9	19.1	9.0	10.2	10.0	12.5	-2.5	0.7	1.5	-0.8
1985	6.6	1.2	5.4	19.9	10.2	9.7	8.7	13.1	-4.4	0.9	1.7	-0.9
1986	7.9	1.4	6.5	27.7	14.8	12.9	8.5	13.7	-5.2	0.6	1.7	-1.1
1987	9.9	1.8	8.1	29.2	18.0	11.1	11.1	15.0	-3.8	0.5	1.9	-1.4
1988	11.8	2.6	9.2	31.3	19.1	12.1	9.3	15.6	-6.3	0.7	1.9	-1.3
1989	13.8	2.5	11.3	36.9	20.6	16.2	8.6	15.3	-6.7	0.6	1.9	-1.3
1990	17.1	3.2	13.9	40.3	24.6	15.8	9.7	17.5	-7.8	0.7	1.9	-1.3
1991	18.5	4.2	14.3	47.8	28.3	19.5	10.5	16.4	-5.9	0.7	2.1	-1.4
1992	20.8	5.2	15.7	48.6	22.3	26.3	12.4	13.8	-1.4	0.8	2.3	-1.4
1993	21.7	5.0	16.7	52.5	26.3	26.3	13.5	12.1	1.4	0.9	2.3	-1.4
1994	26.7	5.9	20.9	60.1	30.4	29.7	12.8	10.2	2.6	0.9	2.6	-1.7
1995	30.3	6.9	23.4	63.5	35.2	28.3	14.6	10.0	4.6	0.8	2.6	-1.8
1996	32.5	7.8	24.6	72.4	38.0	34.4	15.7	11.0	4.7	0.9	2.7	-1.8
1997	33.8	9.4	24.4	85.6	43.9	41.7	17.6	11.7	5.9	0.8	2.8	-1.9
1998	36.8	11.3	25.5	92.1	47.7	44.4	17.2	12.8	4.3	0.8	2.8	-2.0
1999	37.2	12.4	24.8	99.4	51.6	47.8	16.7	14.6	2.1	0.9	3.0	-2.1

NOTES:

1. Compiled from official statistics of the U.S. Department of Commerce, Bureau of Economic Analysis. Data includes revisions for 1992-98.
2. Military-Defense Transfers/Expenditures are defined as transfers under U.S. military sales contracts for exports and direct defense expenditures for imports.
3. More detailed services trade data is available once a year, usually late in the year, in the monthly Survey of Current Business.

Table 3.5 shows the amounts and composition of services exports and imports for 1978, 1988, 1998 and 1999.

Table 3.5 Major Components of US Services Trade

(Billions of Dollars, Percent of Total)

	1978		1988		1998		1999	
	$ Bn	%	$ Bn	%	$ Bn	%	$ Bn	%
Total Services Exports	**36.4**	**100.0**	**111.1**	**100.0**	**263.7**	**100.0**	**277.1**	**100.0**
Travel	7.2	19.8	29.4	26.5	71.3	27.0	74.4	26.8
Passenger Fares	1.6	4.4	9.0	8.1	20.0	7.6	21.1	7.6
Other Transportation	8.1	22.3	19.3	17.4	25.5	9.6	27.3	9.9
Royalties, Lic. Fees	5.9	16.2	11.8	10.6	36.8	14.0	37.2	13.4
Other Private Servs	4.7	12.9	31.3	28.2	92.1	34.9	99.4	35.9
Military Sales	8.2	22.5	9.3	8.4	17.2	6.5	16.7	6.0
Misc. Govt. Services	0.6	1.6	0.7	1.1	0.8	0.3	0.9	0.3
Total Services Imports	**32.2**	**100.0**	**100.0**	**100.0**	**181.0**	**100.0**	**197.5**	**100.0**
Travel	8.5	26.4	32.1	32.1	56.1	31.0	60.1	30.4
Passenger Fares	2.9	9.0	7.7	7.7	19.8	10.9	21.3	10.8
Other Transportation	9.1	28.3	20.9	20.9	30.5	16.7	34.5	17.5
Royalties, Lic. Fees	0.7	2.2	2.6	2.6	11.3	6.2	12.4	6.3
Other Private Servs	2.6	8.1	19.1	19.1	47.7	26.4	51.6	26.1
Defense Expend.	7.4	23.0	15.6	15.6	12.8	7.1	14.6	7.4
Misc. Govt. Services	1.1	3.4	1.9	1.9	2.8	1.5	3.0	1.5

Source: US Department of Commerce

Total services exports of $277.1 billion in 1999 were 28.1 percent of the $980.1 billion goods and services total; goods accounted for 71.9 percent. However, services trade has been increasing in importance. Services exports in 1999 were 7.61 times the $36.4 billion 1978 level and goods exports were only 4.7 times the 1978 level. As a result, in twenty-one years the services portion of US goods and services exports rose from 20.4 percent in 1978 to 28.1 percent in 1999.

Other private services is the largest services export category, $99.4 billion, 35.9 percent of the 1999 total. *Trave*l was second largest, $74.4 billion, 26.8 percent of total.

Services imports in 1999 totaled $197.5 billion, 6.1 times the 1978 level, but only 16.5 percent of total goods and services imports. Turning to subcategories, travel is the largest services import, $60.1 billion in 1999, 30.4 percent of total services imports. Other private services was second largest, $47.7 billion, but is fastest growing, raising its share of total imports from 8.1 percent in 1978 to 26.1 percent in 1999.

The remainder of this section provides more detail on each of the seven subcategories of US services trade.

Defense Sales and Expenditures

Defense/military sales and expenditures include transfers of goods and services under military grant contracts and various overseas military expenditures. Exports of $16.7 billion were 6.0 percent of the 1999 services total **(Table 3.5)**. Imports of $14.6 billion were 7.4 percent of the total and left a 1999 surplus of $2.1 billion.

Over the 1978-1999 period the balance on defense sales and expenditures ranged from a deficit of $7.8 billion in 1990 to gradually improving balances and minor surpluses beginning in 1993. Defense sales

and expenditures are a function of military grants and military operations. With the substantial downsizing of elements of US military forces stationed abroad, the account may continue in modest surplus but further gains are likely to be small and events could lead to diminished surpluses or a return to deficits.

US Government Miscellaneous Services

Miscellaneous government services consist of the international payments and receipts from direct defense expenditures, transfers under US marketing agency sales contracts, and various other types of government services. This sub-category provided only 0.3 percent of 1998 services exports and 1.5 percent of imports **(Table 3.5)**. Deficits have gradually increased from $1.3 billion in 1988 to $2.1 billion in 1999 **(Table 3.4)** and will likely continue at about that level, with minor deficit growth over time.

Travel, Passenger Fares, and Other Transportation

Three subcategories of the current account -- *travel, passenger fares* and *other transportation* -- are interrelated and can be usefully examined together. The travel account consists of expenditures by US citizens abroad (payments/imports) and the expenditures of foreign citizens (receipts/exports) in the United States. The passenger fares account records the fares paid by US citizens to foreign carriers (mostly airlines) and by foreign passengers to US carriers. Other transportation includes port services, freight, and other charges paid by US carriers to foreign parties and similar collections by US parties from foreign carriers.

Much of total services transactions (44.3 percent of 1999 exports, 58.7 percent of imports) falls within these three subcategories **(Table 3.5)**. In 1999 these three subcategories summed to a surplus of $7.0 billion, down from $10.4 billion in 1998, $22.0 billion in 1997 and $25.0 billion in 1996. During the ten year period 1989-1998 these travel related accounts yielded annual surpluses totaling $168.5 billion **(Table 3.4)**. This contrasts with annual deficits for the prior ten-year period, 1979-1988, totaling $47.2 billion.

In recent years the United States has experienced travel surpluses with most areas of the world. Europe provided $24.2 billion of 1998 travel receipts, about one third of the total, and a surplus of $4.0 billion **(Table 3.6)**. South and Central America provided $18.8 billion of travel receipts, 26 percent of the total, and a surplus of $7.1 billion. The largest single country source of travel receipts was Japan, $9.4 billion, 13.1 percent of the total. Relatively modest US travel expenditures in Japan left a US travel surplus with Japan of $6.6 billion. Other major national sources of travel receipts included Canada, $6.2 billion, the United Kingdom, $7.6 billion, and Germany, $4.1 billion.

Table 3.6 Travel and Passenger Fares, 1998

(Billions of Dollars)

	Travel			Passenger Fares		
	Receipts	Payment	Balance	Receipts	Payment	Balance
Total	**71.3**	**56.1**	**15.2**	**20.0**	**19.8**	**0.2**
Canada	6.2	5.7	0.5	1.5	0.6	0.9
Europe	24.1	20.1	4.0	6.9	10.4	-3.5
Germany	4.1	2.0	2.1	1.5	1.4	0.1
U.K.	7.6	5.1	2.5	2.2	3.8	-1.6
Latin America	19.5	15.9	3.6	5.6	2.9	2.7
South & Central Americ	18.8	11.7	7.1	4.9	2.2	2.7
Mexico	3.8	6.4	-2.6	0.9	0.8	0.1
Africa	1.1	1.1	0.0	0.0	0.5	-0.5
Middle East	2.4	1.4	1.0	0.6	0.4	0.2
Asia & Pacific	17.9	11.8	6.1	5.3	5.0	0.3
Japan	9.4	2.8	6.6	3.6	0.8	2.8
Taiwan	1.0	0.8	0.2	0.1	0.8	-0.7
China	1.1	0.9	0.2	0.2	0.1	0.1

Source: US Department of Commerce

Europe is the largest regional recipient of US travel expenditures, $20.1 billion in 1998, 36 percent of the total, followed by Latin America, at $15.9 billion, 28 percent of the total. The most popular country destinations for US travelers were Mexico ($6.4 billion), Canada ($5.7 billion) and the United Kingdom ($5.1 billion). The United States had a small $.5 billion travel surplus with Canada in 1998 but was in deficit with Mexico by $2.6 billion. The $7.6 billion UK visitors left in the United States topped US spending in the UK by $2.5 billion.

Behind a 1998 US passenger fares surplus of only $.2 billion were deficits with Europe ($3.5 billion) and surpluses with South America and Japan of $2.7 billion and $2.8 billion respectively **(Table 3.6).**

Beginning in 1988 passenger fares moved into surplus, rising to a peak positive balance of $6.0 billion in 1992 but declining to a surplus of only $0.2 billion in 1998 and a deficit of $0.2 billion in 1999 **(Table 3.4)**. With international air fares set by international agreements and typically denominated in dollars, dollar depreciation will not give American air carriers an advantage in the competition for passengers. It will, however, raise the dollar values of both the foreign earnings of US carriers and their foreign costs.

The tourism related accounts -- travel and passenger fares -- are sensitive to several factors. Rising global affluence has been key in improving performance in the US travel account over the last decade and there is potential for some further improvement with economic recovery in Asia and rising global living standards. Also, other things equal, faster economic growth abroad and rising global affluence that would narrow income gaps between the United States and other countries should cause the foreign travel of residents of other countries to increase more rapidly than foreign travel by US residents.

Exchange rates are also important. A weaker dollar would tend to improve the US tourism balances by discouraging some US travel abroad and encouraging foreign travel to the United States. It would also increase the dollar value of the foreign currency earnings of US carriers.

Over the long term these factors, together with the widespread perceived desirability of the United States as a place to visit, should continue to tilt the US travel accounts toward improved balances.

Notwithstanding these favorable factors, travel and passenger fares, which do offer expansion potential, are relatively small accounts with a combined 1999 two-way trade of $176 billion, an amount equivalent

to only one-tenth of two-way goods trade. Overall, the prospects for additional gains of more than a few billion dollars in these accounts are unlikely without severe further dollar depreciation and/or a persistently much weakened US economy that would significantly slow the growth of US travel abroad.

Balances in the "other transportation" account slipped into deficit in 1984 and have been gradually increasing, reaching $7.2 billion in 1999 **(Table 3.4).** Other transportation has two major types of charges: freight and port services. Freight made up 44 percent of 1998 other transportation receipts and 64 percent of payments **(Table 3.7).**

Reporting in both freight and port services is divided into ocean, air, and "other." The rising role of air transportation in US trade is evidenced by the fact that air freight and air port services together made up 47 percent of other transportation receipts and 38 percent of payments in 1998.

The major US shortfall, however is in ocean freight, which alone yielded a 1998 deficit of $9.9 billion **(Table 3.7).** Continuing rising deficits in this category are likely to accompany growing imports by the United States, which will be primarily carried in foreign ships as the United States does not have a sizable US merchant marine. Also because the US has only a small merchant marine, ocean port services, the charges to foreign ships for use of US ports, exceed the payments by US ships in foreign ports. The result is a modest surplus, $5.1 billion in 1998.

No major change in the other transportation category is likely but continued modest growth in the overall deficit should be anticipated.

Table 3.7 Other Transportation, 1998

(Billions of Dollars and Percent of Total)

	Receipts		Payments		Balance
	$ Bn	%	$ Bn	%	$ Bn
Total	**25.5**	**100**	**30.5**	**100**	**-4.9**
Freight	**11.2**	**43.9**	**19.4**	**63.6**	**-7.2**
Ocean	3.8	14.9	13.7	44.9	-9.9
Air	4.8	18.8	3.6	11.8	1.2
Other	2.5	9.8	2.1	6.9	0.4
Port Services	**14.3**	**56.1**	**11**	**36.1**	**3.3**
Ocean	7.1	27.8	2	6.6	5.1
Air	7.1	27.8	8.9	29.2	-1.8
Other	0.2	0.8	0.1	0.3	0.1

Source: US Department of Commerce

Royalties and License Fees

The sixth services subcategory, royalties and license fees, consists of the income and payments from the sale or licensing of technologies. Surpluses in this account have continued to grow, almost without interruption, since 1982 **(Table 3.4)**. In 1999, receipts from foreign firms totaled $37.2 billion and payments to foreign firms were $12.4 billion, yielding a surplus of $24.8 billion, modestly below the 1998 record of $25.5 billion **(Table 3.8).** Royalty receipts in 1999 were only 13.4 percent of total services receipts and an even smaller 6.3 percent of services payments **(Table 3.5)**. The resulting royalties surplus, however, was equivalent to 31.1 percent of the overall services surplus.

The positive balances from royalties and license fees derive not only from US preeminence in the development of new technologies in prior years but also from the large amounts and maturity of US

foreign direct investments. In 1998 more than two-thirds -- 67.1 percent, $24.7 billion -- of royalties and license fees were payments to US parent firms from their foreign affiliates **(Table 3.8).** Another 6.7 percent of the total was receipts of US affiliates from their foreign payments for the use of the US affiliates' technology. Only just over one-fourth (27.2 percent) of royalty and license fee receipts were collected by US firms for the use of their technology by unaffiliated foreign firms.

Table 3.8 Royalties and License Fees, 1998

(Billions of Dollars and Percent of Total)

	Receipts		Payments		Balance
	$ Bn	%	$ Bn	%	$ Bn
Total	**36.8**	***100.0***	**11.3**	***100.0***	**25.5**
Affiliated Total	**26.8**	***72.8***	**8.4**	***74.3***	**16.4**
US Parents From /To Foreign Affiliates	24.7	*67.1*	1.2	*10.6*	23.5
US Affiliates From/To Foreign Parents	2.1	*5.9*	7.2	*63.7*	(5.1)
Unaffiliated Total	**10.0**	***27.2***	**2.9**	***25.7***	**7.1**
Industrial Processes	4.1	*11.1*	1.5	*13.3*	2.6
Books, Recordings, Tapes	0.3	*0.8*	0.2	*1.8*	0.1
Franchisee Fees	0.5	*1.4*	0.0	*0.0*	0.5
Trade Marks	1.2	*3.3*	0.2	*1.7*	1.0
Other	3.7	*10.1*	0.6	*5.3*	3.3
Total	**36.8**	***100.0***	**11.3**	***100.0***	**25.5**
Canada	1.5	*4.1*	0.4	*3.5*	1.1
Europe	19.1	*51.9*	7.0	*61.9*	12.1
Germany	3.3	*9.0*	1.4	*12.4*	2.9
U.K.	3.7	*10.1*	2.1	*18.6*	2.6
Latin America	2.5	*6.8*	0.2	*1.8*	0.7
Mexico	0.8	*2.2*	0.0	*0.0*	0.8
Africa	0.3	*0.8*	0.0	*0.0*	0.3
Middle East	0.2	*0.5*	0.0	*0.0*	0.2
Asia- Pacific	11.0	*29.9*	2.6	*23.0*	8.4
Japan	6.3	*17.1*	2.3	*20.3*	4.0
Korea	1.0	*2.7*	0.0	*0.0*	1.0
Singapore	1.2	*3.3*	0.0	*0.0*	1.2

Source: US Department of Commerce

Industrial processes was the largest category of receipts from unaffiliated firms, $4.1 billion in 1998. There were also modest returns from books, recordings and tapes, franchise fees, and trade marks.

Europe provided $19.1 billion of total royalty and license receipts in 1998, just over half the total, and took $8.4 billion of US payments, almost three-fourths of that total **(Table 3.8).** These large portions reflect the large exchanges of foreign investment between the United States and Europe.

The Asia-Pacific area provided $11.0 billion, 29.4 percent, of the 1998 receipts total. More than half of that, $6.3 billion, came from Japan but Korea and Singapore also provided significant royalty and license income. Japan is the single largest country payer of royalties and license fees to the United States but also the largest recipient of US payments ($2.3 billion). Reflecting the relatively modest amounts of US investment in Japan, however, $2.8 billion, 44 percent, of the receipts from Japan are from unaffiliated firms. Nevertheless, US receipts from Japan topped US payments in this subcategory by $4.0 billion.

The continuing increases in income from royalties and licensing fees are encouraging and appear to reflect the continuing strength of US technology. Further modest gains may continue if the United States maintains its technological edge. Moreover, dollar depreciation could increase the dollar value of royalties and fees originally denominated in foreign currencies. However, payments for foreign technology are rising at a more rapid rate than receipts and rising foreign investment in the United States and increasing US use of foreign technologies may mitigate or eliminate such gains. Some decline in US technical dominance, particularly in manufacturing, may be a natural result of the industrialization of other countries. US manufacturing will inevitably become a smaller portion of total world manufacturing and will supply a smaller share of the world's advances in the products and processes of manufacturing.

Other Private Services

The seventh and final services subcategory -- *other private services* -- includes a wide variety of tradable business services such as education, financial services, insurance, income from communication services, and incomes from a number of business, educational and professional services. Rapid growth in other private services began in the early 1980s. Surpluses in this sub-category have grown from a 1978 level of only $2.1 billion to $47.8 billion in 1999 **(Table 3.4)**. In 1999, exports of $99.4 billion of other private services were the largest services subcategory, 35.9 percent of total; imports of $51.6 billion were also the largest import subcategory, 26.1 percent of the total. The result was a record other private services trade surplus of $47.8 billion**.**

As with royalties and license fees, direct investments play an important role in other private services trade. In 1998, $29.3 billion (31.8 percent) of the total exports of $92.1 billion were receipts for services (exports) performed by US firms for foreign affiliates or parents **(Table 3.9)**. Similarly, $19.1 billion (40 percent) of other private service payments (imports) were for services performed for US affiliates and parents by foreign parents and affiliates.

Among services performed for unaffiliated foreign parties, education ($9.0 billion), financial services ($13.7 billion) and business, professional and technical services ($24.3 billion) were leading 1998 exports, each producing surpluses **(Table 3.9)**. The $16.7 billion 1998 surplus in business, technical and professional private services is the result of a wide variety of service activities reported in twenty services subgroups ranging from accounting to training **(Table 3.10).** Major surplus activities include: computers and data processing; data base and information services; installation and maintenance of equipment, legal services; and operational leasing.

The surplus in education services results from the expenditures of large numbers of foreign students in the United States compared to much smaller numbers of US students studying abroad. The US revenue from film and tape rentals is not huge but provides significant surpluses, $6.3 billion in 1998, because US payments for imports are minor, only $176 million in 1998. Insurance and telecommunications, however, are consistent deficit accounts.

Table 3.9 Other Private Services

(Billions of Dollars)

	1997			1998		
	Export	Import	Balance	Export	Import	Balance
Total	**85.6**	**43.9**	**41.7**	**92.1**	**47.7**	**44.4**
Affiliated Services	**27.3**	**17.7**	**9.5**	**29.3**	**19.1**	**10.2**
US Parent Receipt/Payment	17.3	8.9	8.3	18.2	9.7	8.5
US Affiliates Receipt/Payment	10.0	8.8	1.2	10.1	9.4	0.7
Unaffiliated Services	**58.3**	**26.2**	**32.1**	**63.8**	**28.6**	**35.2**
Education	8.3	1.4	6.9	9.0	1.5	7.4
Financial Services	11.5	3.6	8.0	13.7	3.8	9.9
Insurance, Net	2.5	6.0	(3.5)	2.8	6.9	(4.1)
Premiums Received	6.1	15.2		7.0	18.6	
Losses Paid	3.6	9.2		4.1	11.7	
Telecommunications	3.9	8.4	(5.3)	3.7	8.1	(4.4)
Bus, Prof, Technical	22.5	6.4	11.7	24.3	7.7	16.7
Other Unaffiliated	9.5	0.5	9.0	10.3	0.5	9.7

Source: US Department of Commerce

The substantial earnings in other private services, often termed “business services,” have led some to see them as a major source of export gains that may do much to improve US international transactions balances. The returns from these kinds of services are significant, but they make up only about 9.9 percent of 1998 US goods and services exports and it would take huge export gains in this services subcategory to have a major effect on overall US trade balances.

Some individual international business service transactions may be very large and very important to the firms concerned. However, the net return to the United States -- the amount recorded as an export in the US current account -- is only the US value added portion of the transactions, which is typically only a small fraction of the total sale value. For example, the amount credited to the US current account from an international insurance sale transaction is only the net amount after claims and administrative costs outside the United States are paid **(Table 3.9).** Similarly, large portions of the costs of foreign construction contracts are paid to foreign suppliers, and profits from US film rentals amount to only a small portion of the very large gross receipts. Large international transaction amounts thus do not necessarily mean similarly large effects on the current account.

Table 3.10 Business, Technical and Professional Private Services, 1998

(Millions of Dollars)

	Exports	Imports	Balance
Total Business, Professional & Technical Services	**24,338**	**7,684**	**16,654**
Accounting, Auditing, Bookkeeping	344	329	15
Advertising	575	1,046	(471)
Agricultural Services	21	9	12
Computers & Data Processing	2,037	365	1,672
Construction, Architectural & Eng. Svcs.	4,053	699	3,354
Data Base & Information Services	1,954	139	1,815
Industrial Engineering	1,550	311	1,239
Installation & Maintenance of Equipment	3,668	432	3,236
Legal Services	2,451	588	1,863
Mailing, Reproduction, Commercial Art	17	33	(16)
Health Care Facilities Management	24	10	14
Mgmt. Consulting & Public Relations	1,657	914	743
Medical Services	1,204	n.a.	n.a.
Miscellaneous Disbursements	533	1,379	(846)
Operational Leasing	2,303	188	2,115
Personnel Supply Services	106	20	86
Research, Development & Testing	943	630	313
Sports & Performing Arts	140	253	(113)
Training Services	388	158	230
Other Business, Prof. & Tech Services	370	84	286

Source: US Department of Commerce

Moreover, international competition is increasing rapidly in many of these private business services. Some labor intensive services are now being imported by US firms. For example, some data entry and computer services are now handled in the Caribbean and other foreign countries and the results transmitted electronically to the United States. Computer software programming for US firms can be performed in India and other foreign locations. And although the United States is probably unmatched in the field of telecommunications services, it runs large deficits in these services ($4.4 billion in 1998) partly because deregulated US telephone services offer international calls at much lower rates than are available to callers in most foreign countries.

Looking to the future, a lower dollar would have positive effects on the services balance, increasing US competitiveness in some of the kinds of transactions included in the other private services account. However, the volume of exports and imports of most of these services (insurance, film rentals, consulting, management services, etc.) is likely to be only marginally affected by relatively modest exchange rate movements. The reason is that most of the costs associated with providing the services are incurred in the foreign country purchasing the service. Dollar exchange rates movements do not change these costs. A lower dollar would, however, increase the dollar value of foreign earnings originally denominated in foreign currencies.

To summarize, there is little reason to believe that the United States has an enduring comparative advantage in other private business services that will generate surpluses sufficient to offset large deficits in other components of the current account. Continued gains may be realized in some of these services over the next few years, but they are likely to be relatively modest compared to the changes in goods trade.

Looking at the broader range of all the services accounts, one should expect modest improvements in the royalties and license fees, travel, and other private business services accounts. Little change is likely in

passenger fares and modest continued deterioration in other transportation is likely. Changes in the military defense expenditures and US government miscellaneous services accounts are also likely to have a negligible effect on overall service and current account balances.

The Key Role of Goods Trade

The broadest measure of the nation's international transactions and the best indicator of trends in its international investment position is the current account. The foregoing analysis has shown, however, that current account performance is largely determined by goods (merchandise) trade.

To summarize, ***Unilateral transfers*** is a minor factor, 3.1 percent of payments, and the $44.1 billion 1998 deficit will likely slowly increase in the years just ahead. ***Investment income*** is largely decided by the investment positions cumulated over long time periods and, with the US debtor position increasing, the 1998 deficit of $12.2 billion will likely increase in parallel with increases in the debtor position generated by continuing current account deficits.

The ***services*** account has grown in importance, making up 22.1 percent of 1998 current account receipts and 12.8 percent of payments. And the surplus from services trade grew from $3.5 billion in 1975 to $91.9 billion in 1997 before declining to $75.8 billion in 1999. Increases in the services surplus are likely with economic recovery in Asia and elsewhere but will not be huge. Also, some services are affected by exchange rates and a dollar decline would improve the services balance. Short of a huge dollar depreciation, however, the effects are likely to be limited.

Not only is the remaining category -- goods trade -- the largest component of the current account (55.3 percent of 1999 current account receipts/exports), 65.4 percent of payments/imports **(Table 3.1),** but it is the most volatile. The services surplus grew from $3.5 billion in 1975 to $79.6 billion in 1999, a $76 billion increase **(Table 3.4)**. But over the same period the goods trade balance has moved over a $340 billion range. It cycled from a 10.8 billion 1975 surplus to a 1986 deficit of $138 billion. The deficit then narrowed to $66.7 billion in 1991 before again beginning an expansion that reached $330 billion in 1999 **(Table 3.11).** In a single year, from 1998 to 1999, the goods deficit increased by $100 billion, while the services surplus diminished by $6.8 billion

Table 3.11 US Trade in Goods, 1972-1999

(Domestic and Foreign Exports, F.a.s.; General Imports, Customs; Billions of Dollars)

	Total Goods (1)			Manufactured Goods (2,3)			Agricultural Products (3,4)			Mineral Fuels (3,5)			Other Goods (3)		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1972	50.5	56.4	-5.9	36.5	39.7	-3.2	9.5	6.5	3.0	1.6	4.8	-3.2	2.9	5.3	-2.4
1973	72.5	70.5	2.0	48.5	47.1	1.3	17.9	8.5	9.4	1.7	8.2	-6.5	4.5	6.7	-2.2
1974	100.0	102.6	-2.5	68.5	57.8	10.7	22.3	10.4	11.9	3.4	25.5	-22.0	5.8	8.9	-3.1
1975	109.3	98.5	10.8	76.9	54.0	22.9	22.1	9.5	12.6	4.5	26.5	-22.0	5.9	8.6	-2.7
1976	117.0	123.5	-6.5	83.1	67.6	15.5	23.3	11.2	12.1	4.2	34.0	-29.8	6.4	10.7	-4.3
1977	123.2	151.0	-27.8	88.9	80.5	8.4	24.2	13.6	10.6	4.2	47.2	-43.0	5.9	9.8	-3.9
1978	145.9	174.8	-28.8	103.6	104.3	-0.7	29.8	15.0	14.8	3.9	42.0	-38.1	8.6	13.4	-4.8
1979	186.5	209.5	-22.9	132.7	117.1	15.6	35.2	16.9	18.3	5.7	59.9	-54.2	12.9	15.5	-2.7
1980	225.7	245.3	-19.5	160.7	133.0	27.7	41.8	17.4	24.3	8.2	78.9	-70.7	15.1	15.9	-0.8
1981	238.7	261.0	-22.3	171.7	149.8	22.0	43.8	17.2	26.6	10.3	81.2	-70.9	12.8	12.8	0.0
1982	216.4	244.0	-27.5	155.3	151.7	3.6	37.0	15.7	21.3	12.8	65.3	-52.5	11.3	11.3	0.1
1983 (6)	205.6	258.0	-52.4	148.5	171.2	-22.7	36.5	16.5	19.9	9.8	57.8	-48.0	10.9	12.5	-1.6
1983	205.6	258.0	-52.4	148.7	170.9	-22.2	36.1	16.0	20.2	9.8	57.8	-48.0	11.0	13.4	-2.4
1984	224.0	330.7	-106.7	164.1	230.9	-66.8	37.9	19.3	18.6	9.7	60.8	-51.1	12.3	19.6	-7.3
1985	218.8	336.5	-117.7	168.0	257.5	-89.5	29.3	19.5	9.8	10.3	53.7	-43.4	11.2	5.9	5.3
1986	227.2	365.4	-138.3	179.8	296.7	-116.8	26.3	20.9	5.4	8.4	37.2	-28.8	12.6	10.7	1.9
1987	254.1	406.2	-152.1	199.9	324.4	-124.6	28.7	20.3	8.4	8.0	44.1	-36.1	17.5	17.4	0.1
1988	322.4	441.0	-118.5	255.6	361.4	-105.7	37.1	20.7	16.4	8.5	41.0	-32.5	21.2	17.8	3.3
1989	363.8	473.2	-109.4	287.0	379.4	-92.4	41.6	21.1	20.5	9.9	52.6	-42.7	25.3	20.0	5.2
1990	393.6	495.3	-101.7	315.4	388.8	-73.5	39.6	22.3	17.2	12.4	64.7	-52.3	26.3	19.5	6.8
1991	421.7	488.5	-66.7	345.1	392.4	-47.3	39.4	22.1	17.2	12.3	54.1	-41.8	24.9	19.8	5.1
1992	448.2	532.7	-84.5	368.5	434.3	-65.9	43.1	23.4	19.8	11.3	55.3	-43.9	25.2	19.7	5.5
1993	465.1	580.7	-115.6	388.7	479.9	-91.2	42.8	23.6	19.2	9.9	55.9	-46.0	23.7	21.2	2.5
1994	512.6	663.3	-150.6	431.1	557.3	-126.3	45.9	26.0	20.0	9.0	56.4	-47.4	26.7	23.6	3.1
1995	584.7	743.4	-158.7	486.7	629.7	-143.0	56.0	29.3	26.8	10.5	59.1	-48.6	31.6	25.4	6.2
1996	625.1	795.3	-170.2	524.7	658.8	-134.1	60.6	32.6	28.1	12.4	78.1	-65.7	27.4	25.8	1.5
1997	689.2	870.7	-181.5	592.5	728.9	-136.4	57.1	35.2	21.9	13.0	78.3	-65.3	26.7	28.3	-1.7
1998	682.1	911.9	-229.8	596.6	790.8	-194.2	52.0	35.7	16.3	10.4	57.3	-47.0	23.2	28.1	-4.9
1999	695.0	1025.0	-330.0	611.6	882.7	-271.1	48.2	36.7	11.5	9.9	75.2	-65.3	25.3	30.7	-5.4

Note: Compiled from official statistics of the U.S. Department of Commerce, Bureau of the Census. Data are subject to revisions. Data reflect all revisions through February 19, 1999. Data for 1983-88 are estimated, based on the Harmonized System of commodity classification. Data before 1983 are on a Schedule A/E basis and have been adjusted to match the latest trade definitions as closely as possible.

1 Includes nonmonetary gold, military grant aid, special category shipments, trade between the U.S. Virgin Islands and foreign countries, and undocumented exports to Canada. Adjustments were also made for carryover. Import values are based on transaction prices whenever possible ("f.a.s." for 1974-1979 and Customs value thereafter). Import data before 1974 do not exist on a transaction price valuation basis.

2 Manufactured goods include commodity sections 5-9 under Schedules A and E for 1970-1982 and SITC Rev. 3 for 1983-forward. Manufactures include undocumented exports to Canada, nonmonetary gold (excluding gold ore, scrap, and base bullion), and special category shipments.

3 Data for 1970-1980 exclude trade between the U.S. Virgin Islands and foreign countries. Census data concordances link the 1980-1992 trade figures into time series that are as consistent as possible. Data for 1970-1979 are not linked and are from published sources. Import values are "f.a.s." for 1974-1979 and Customs value thereafter; these values are based on transaction prices while maintaining a data series as consistent as possible over time. Import data before 1974 do not exist on a transaction price valuation basis. 1991 Imports include revisions for passenger cars, trucks, petroleum and petroleum products not included elsewhere; see footnote 7 on page 18 for more details.

4 Agricultural products for 1983-forward utilize the latest Census definition that excludes manufactured goods that were previously classified as manufactured agricultural products.

5 Mineral fuels include commodity section 3 under SITC Rev. 1 for 1970-1976, SITC Rev. 2 for 1977-1982 and SITC Rev. 3 for 1983-forward.

6 These data for 1983 are on the old (non Harmonized System) basis of commodity classification.

This greater volatility may be because exchange rate changes and changes in international economic growth rates have a larger and perhaps more direct effect on goods trade than on other components of the current account. In short, goods remain more internationally tradable than services.

To summarize, although some improvements in the services account may occur, they are unlikely to be large enough to be a major source of current account improvement in the years just ahead. Indeed, none of the non-goods accounts are likely to be a significant source. Major improvements in the current account balance must therefore come primarily -- and perhaps exclusively -- from goods trade. In fact, given growing investment income and unilateral transfers deficits, balanced current accounts in future years -- an unlikely prospect in the near term -- may require goods trade surpluses.

Goods Trade Dissected

With goods trade the key to future US current account performance, an assessment of the types of goods traded in world markets is useful. What kinds of goods are traded? What types of goods produce US trade surpluses? What types result in US trade deficits? What are the trends in world trade that will affect US current account performance?

Goods trade is defined by the World Trade Organization in three broad categories: agricultural products, mining products (including fuels) and manufactures. The growth of world manufactures exports has outpaced the other components of world merchandise trade. Manufactures exports were 76.1 percent of 1998 world goods exports, up from 70.6 percent in 1990 **(Table 3.12)**. From 1990 to 1998 annual manufactures exports grew at a rate of 7.0 percent compared to 4.0 percent for agricultural products and zero percent for mining products. The share of agricultural products in world trade fell from 12.2 percent to 10.5 percent; mining products declined from 14.3 percent to 9.5 percent. Over two-thirds of mining products were fuels (mostly crude oil), which declined from a 10.5 percent share of world exports in 1990 to 6.5 percent in 1998.

Table 3.12 World Merchandise Exports By Product, 1998

(Billion dollars and percentage)

	Value	Share		Annual Percentage Change
	1998	1990	1998	1990-98
All products [a]	**5270**	**100.0**	**100.0**	**6**
Agricultural products	**553**	**12.2**	**10.5**	**4**
Food	443	9.3	8.4	4
Raw materials	110	2.9	2.1	1
Mining products	**502**	**14.3**	**9.5**	**0**
Ores and other minerals	58	1.6	1.1	1
Fuels	344	10.5	6.5	0
Non-ferrous metals	100	2.1	1.9	4
Manufactures	**4010**	**70.6**	**76.1**	**7**
Iron and steel	141	3.1	2.7	4
Chemicals	503	8.7	9.5	7
Other semi-manufactures	399	7.8	7.6	5
Machinery and transport equipr	2166	35.8	41.1	8
Automotive products	525	9.4	10.0	6
Office and telecom equipment	681	8.8	12.9	11
Other machinery and transpor	959	17.6	18.2	6
Textiles	151	3.1	2.9	5
Clothing	180	3.2	3.4	7
Other consumer goods	471	8.9	8.9	6

a Includes unspecified products. They accounted for 4% of world merchandise exports in 1998.

Source: WTO Annual Report, 1999

The dollar values and export dollar shares of mining and agricultural products are, of course, very much affected by commodity price levels that tend to fluctuate. WTO indices indicate that prices of many

food, meat, agricultural raw materials and mineral products in 1998 were below those of 1990 **(Table 3.13)**. Fuels, including crude oil, which typically make up about two-thirds of mineral exports, are particularly price volatile.

The effects of price changes are evidenced by the fact that 1990-98 Mining product exports grew in volume terms at an annual rate of 5.5 percent **(Table 2.3)** compared to the zero percent growth in dollar terms **(Table 3.12)**, indicating general price weaknesses in 1998 compared to 1990. Large future price increases in oil and other mining products could increase the share of fuels and other mining products in world trade. However, volume indices indicate generally more rapid growth since 1950 in manufactures than the other components. Thus, barring a massive increase in the price of crude oil, and a likely attendant decline in the growth rate of manufactures trade, both volume and value data indicate it likely that the already dominant volume and value shares of manufactures trade in world goods exports will continue to increase.

Table 3.13 Export Prices of Primary Commodities, 1988-1999

(Indices 1990=100)

	1988	1989	1991	1992	1993	1994	1995	1996	1997	1998
Food, beverages and tobacco	**110**	**109**	**99**	**98**	**97**	**111**	**118**	**125**	**122**	**106**
Food	106	110	99	101	100	105	114	128	114	99
Cereals	103	114	98	105	98	105	123	148	114	96
Wheat	107	125	95	112	104	111	131	153	118	93
Maize	98	102	98	95	93	99	113	151	107	93
Rice	105	112	109	99	88	100	119	125	112	113
Vegetable oils and protein meals	125	113	101	105	106	115	124	137	137	122
Meat	97	98	101	96	102	93	77	76	79	71
Beef	98	100	104	96	102	91	74	70	72	67
Lamb	90	87	87	95	103	104	94	120	124	96
Sugar	89	96	89	83	88	99	108	101	95	81
Bananas	88	101	104	88	82	81	81	87	92	88
Beverages	138	114	93	81	86	150	151	125	165	140
Coffee	159	126	94	73	83	180	184	139	192	150
Cocoa beans	125	98	94	87	88	110	113	115	128	132
Tea	88	99	91	98	91	90	81	87	117	117
Tobacco	93	98	106	101	80	88	78	90	104	98
Agricultural raw materials	**111**	**106**	**96**	**99**	**117**	**129**	**135**	**130**	**120**	**99**
Timber	111	107	105	117	155	157	148	151	141	121
Cotton	77	92	93	70	70	97	119	98	96	79
Wool	142	117	71	68	58	83	93	84	84	61
Rubber	137	112	96	100	96	130	183	162	118	84
Hides and skins	95	98	86	82	87	94	96	95	96	83
Jute	91	91	90	68	66	72	90	111	74	63
Sisal	77	91	94	71	86	85	99	121	109	115
Minerals and non-ferrous metals (excluding crude petroleum)	**118**	**112**	**87**	**84**	**72**	**84**	**100**	**89**	**92**	**78**
Copper	98	107	88	86	72	87	110	86	86	62
Aluminum	155	119	80	77	70	90	110	92	98	83
Iron ore	77	86	108	103	91	83	88	93	93	96
Tin	118	141	91	100	85	90	102	101	93	91
Nickel	155	150	92	79	60	71	93	85	78	52
Zinc	82	109	74	82	64	66	68	68	87	68
Lead	81	83	69	67	50	68	78	96	77	65
Fertilizers	103	105	103	98	83	90	99	113	114	117
Total of above	**109**	**107**	**94**	**94**	**96**	**109**	**118**	**117**	**113**	**96**
Crude petroleum	**64**	**78**	**84**	**83**	**73**	**69**	**75**	**89**	**84**	**57**
All primary commodities	**88**	**94**	**90**	**91**	**90**	**98**	**106**	**109**	**105**	**86**

Note: The indices are period averages based on dollar prices. The quarterly figures are not seasonally adjusted. For sources and methods, see the Technical Notes.
Source: WTO Annual Report, 1999

Changes in the product composition of US merchandise trade parallel those in world trade. US data divide goods trade into four subcategories: ***manufactures; agricultural, mineral fuels,*** and ***other goods***. An overview of the performance of each component follows:

In US data *other goods* -- is a group of miscellaneous items, including wood, hides, skins, and paper pulp. In World Trade Organization data compilations cited elsewhere in this paper these *other goods* items are typically included in the agricultural goods totals. In US data compilations, however *other goods* items are shown separately and fluctuate in a relatively narrow range. The share of other goods in US goods trade data has been trending downward, accounting for only 3.6 percent of 1999 goods exports and 3.0 percent of imports. Exports in 1999 were $25.3 billion, compared to $31.6 billion in

1995 **(Table 3.11)**, the peak year. Imports in 1999 were $30.7 billion, a record, resulting in an other goods deficit of $5.4 billion. Since 1975, the balance on other goods trade has ranged from a $7.3 billion deficit in 1984 to a $6.8 billion surplus in 1990.

In World Trade Organization (WTO) data compilations agricultural trade (including items termed "other goods" in US terminology) was $553 billion, 10.5 percent of world merchandise trade in 1998. The agricultural goods shares in both world trade and US trade, have been trending downward in recent decades, however, as agricultural exports have experienced relatively slow growth compared to manufactures trade and fuels trade.

According to WTO data, the United States is the leading exporter and importer of agricultural goods (including items termed "other goods" in the US definition), with a 12.6 percent share of 1998 exports and a 10.6 share of imports **(Table 3.14).**

Table 3.14 Leading Agricultural Exporters and Importers

	$ Billions	Percent Share		
	1998	1980	1990	1998
Exporters				
United States	69.9	17.1	14.3	12.6
France	41.1	6.9	9.0	7.4
Netherlands	34.7	5.7	7.7	6.3
Canada	30.0	5.0	5.4	5.4
Germany	29.6	4.2	5.9	5.4
Importers				
United States	62.4	8.4	8.9	10.6
Japan	57.0	9.3	11.2	9.6
Germany	48.8	9.4	10.5	8.3
United Kingdom	35.3	6.3	6.6	6.0
France	33.2	5.9	6.4	5.6

Source: WTO Annual Report, 1999

According to these WTO data the US share of world agricultural exports declined from 17.1 percent in 1980 to 14.3 percent in 1990 and to 12.6 percent in 1998. Over the same period, however, although its export share declined, the US share of agricultural imports increased, from 8.4 percent in 1980 to 8.9 percent in 1990 and 10.6 percent in 1998. Nevertheless, the United States has continued to run agricultural surpluses.

"Food" is a subcategory of the WTO "Agricultural" goods category that corresponds closely with "agricultural products" in US data. According to these WTO data, the United States was the largest exporter of food with a 12.3 percent share in 1998, followed by France with an 8.5 percent share **(Table 3.15)**. France was the 2nd largest food exporter, 8.5 percent of the world total.

The United States was also the largest importer of food with a 9.7 percent share in 1998, up from 8.5 percent in 1980. Japan was the second largest importer with a 9.4 percent share, up from 7.0 percent in 1980.

The data indicate declining US export shares but increasing import shares over the 1980-1998 period.

Table 3.15 Leading Exporters and Importers of Food, 1998

(Billion dollars and percentage)

	Value	Share in World Exports / Imports			Annual Percentage Change
	1998	1980	1990	1998	1990-98
Exporters					
United States	54.33	17.6	13.5	12.3	3
France	37.73	8.0	10.5	8.5	2
Netherlands	28.86	6.6	8.3	6.5	1
Germany	24.69	4.5	6.3	5.6	3
Belgium-Luxembourg	18.32	2.7	3.5	4.1	6
United Kingdom	17.52	3.5	4.1	4.0	4
Spain	16.14	1.7	2.6	3.6	9
Canada	15.66	3.5	3.5	3.5	5
Italy	15.54	2.4	3.4	3.5	5
Brazil	15.14	4.2	2.8	3.4	7
Argentina	12.99	2.3	2.2	2.9	8
China	12.18	1.4	2.5	2.7	6
Australia	11.22	3.3	2.6	2.5	4
Denmark	10.75	2.4	3.0	2.4	2
Thailand	9.44	1.3	2.1	2.1	5
Above 15	300.52	65.3	70.9	67.8	-
Memorandum item:					
European Union (15)	187.66	34.8	45.7	42.3	3
Intra-exports	134.97	23.5	33.7	30.5	3
Extra-exports	52.69	11.3	12.0	11.9	4
Importers					
United States	46.07	8.5	8.8	9.7	5
Japan	44.46	7.0	9.9	9.4	3
Germany	39.41	9.4	10.4	8.3	1
United Kingdom	29.69	6.4	6.7	6.3	3
France	27.61	5.7	6.6	5.8	2
Italy	22.80	5.3	6.3	4.8	1
Netherlands	17.86	4.8	4.6	3.8	1
Belgium-Luxembourg	17.48	3.3	3.4	3.7	5
Spain	15.10	1.8	2.8	3.2	6
Russian Fed. [a]	13.74	-	-	2.9	-
Canada [b]	11.18	1.8	2.1	2.4	6
Hong Kong, China	10.06	-	-	-	6
retained imports	6.25	1.0	1.1	1.3	6
Mexico [b]	7.31	1.3	1.3	1.5	7
China	6.69	1.3	1.3	1.4	5
Brazil	5.87	1.0	0.6	1.2	14
Above 15	311.51	58.7	66.0	65.7	-

a Includes Secretariat estimates.
b Imports are valued f.o.b.

Source: WTO Annual Report, 1999

According to US data, the role of *agricultural* products in US goods trade has significantly declined in overall US trade. In 1972 agricultural exports were 18.8 percent of total goods exports, 11.6 percent of goods imports **(Table 3.16)**. By 1998 agricultural products had fallen to only 6.9 percent of exports and 3.5 percent of imports.

Table 3.16 Major Components of Goods Trade

(Percent of Total)

	Manufacturing		Agricultural		Mineral Fuels		Other Goods	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1972	72.3	70.5	18.8	11.6	3.1	8.5	5.8	9.5
1973	66.9	66.9	24.6	12.0	2.3	11.6	6.2	9.5
1974	68.5	56.4	22.3	10.1	3.4	24.8	5.9	8.7
1975	70.3	54.9	20.2	9.6	4.1	26.9	5.9	8.7
1976	71.1	54.8	19.9	9.1	8.6	27.5	6.4	8.6
1977	72.1	53.3	19.7	9.0	3.4	31.2	4.8	6.5
1978	71.0	59.7	20.4	8.6	2.7	24.0	5.9	7.7
1979	71.2	55.9	18.9	8.1	3.1	28.5	6.9	7.4
1980	71.2	54.2	18.5	7.1	3.6	32.2	6.7	6.5
1981	72.0	57.4	18.4	6.6	4.3	31.1	5.4	4.5
1982	71.8	62.2	17.1	6.4	5.9	26.7	5.2	4.6
1983	72.2	66.3	17.7	6.4	4.8	22.4	5.3	4.9
1984	73.2	69.8	16.9	5.8	4.9	18.4	5.5	5.9
1985	76.8	76.5	13.4	5.8	4.7	16.0	5.1	1.8
1986	79.2	81.2	11.4	5.7	3.7	10.2	5.6	2.9
1987	78.7	79.9	11.3	5.0	3.2	10.9	6.9	4.3
1988	79.3	82.0	11.5	4.7	2.6	9.3	6.6	4.0
1989	78.9	80.2	11.4	4.5	2.7	11.1	6.9	4.2
1990	80.1	78.5	10.1	4.5	3.1	13.1	6.7	3.9
1991	81.8	80.3	9.3	4.5	2.9	11.1	5.9	4.1
1992	82.2	81.5	9.6	4.4	2.5	10.4	5.6	3.7
1993	83.6	82.8	9.2	4.1	2.1	9.6	5.1	3.7
1994	84.1	84.0	9.0	3.9	1.8	8.5	5.2	3.6
1995	83.2	84.7	9.6	3.9	1.8	8.0	5.4	3.4
1996	83.9	82.8	9.7	4.1	2.0	9.8	4.4	3.2
1997	86.0	83.7	9.3	4.0	1.9	9.0	3.9	3.3
1998	87.5	86.7	7.6	3.9	1.5	6.3	3.4	3.1
1999	88.0	86.1	6.9	3.5	1.4	7.3	3.6	3.0

Source: US Department of Commerce

The value of US agricultural exports has risen significantly since 1975 but fluctuates, with both export volumes and commodity prices tied to changing world supply-demand relationships. Exports hit a $60.6 billion high in 1996 **(Table 3.11)** but have since been declining, falling to $48.2 billion in 1999. The growth in imports has been steadier, albeit not rapid, rising to a record $36.7 billion in 1999. Agricultural trade consistently provides surpluses but the amounts vary with world supply-demand cycles, with weather conditions in major agricultural production areas affecting supply, and economic conditions in developing countries affecting demand. In 1975 agricultural goods trade provided a surplus of only $3.0 billion but the amount grew to $26.8 billion in 1981 -- the year of the famous “Russian grain deal” -- before cycling downward to a low of $5.4 billion in 1986 **(Table 3.17).** Performance then again improved, leading to another peak surplus of $28.1 billion in 1996, followed by another downturn to a surplus of only $11.5 billion in 1999.

Table 3.17 Goods Trade Balances

(Billions of Dollars)

	Total	Manufactures	Agricultural	Min. Fuels	Other
1972	-5.9	-3.3	3.0	-3.2	-2.4
1973	2.0	1.3	9.4	-6.5	-2.2
1974	-2.5	10.7	11.9	-22.0	-3.0
1975	10.8	22.9	12.6	-22.0	-2.7
1976	-6.5	15.5	18.1	-29.8	-4.3
1977	-27.8	8.4	10.6	-43.0	-3.9
1978	-28.8	-0.7	14.8	-38.1	-4.9
1979	-22.9	15.6	18.3	-64.2	-2.7
1980	-19.5	27.7	24.3	-70.7	-0.8
1981	-22.3	22.0	26.6	-70.9	0.0
1982	-27.5	3.6	21.3	-52.5	0.1
1983	-52.4	-22.7	19.9	-48.0	-1.6
1984	-106.7	-66.8	18.6	-51.1	-7.3
1985	-117.7	-89.5	9.8	-43.4	6.3
1986	-138.3	-116.8	5.4	-28.8	1.9
1987	-158.1	-124.6	8.4	-36.1	0.1
1988	-118.5	-105.9	16.4	-32.5	3.3
1989	-109.4	-92.4	20.5	-42.7	5.2
1990	-101.7	-73.5	17.2	-52.3	6.8
1991	-66.7	-47.3	17.2	-41.8	5.1
1992	-84.5	-65.9	19.8	-43.9	5.5
1993	-115.6	-91.2	19.2	-46.0	2.5
1994	-150.6	-126.0	20.0	-47.4	3.1
1995	-158.7	-143.0	26.8	-48.6	6.2
1996	-170.2	-134.1	28.1	-65.7	1.5
1997	-181.5	-136.4	21.9	-65.3	-1.7
1998	-229.8	-194.2	16.3	-47.0	-4.9
1999	-330.0	-271.0	11.5	-65.3	-5.4

Source: US Department of Commerce

Key US agricultural export and import items include:

	$ Billion	
	1998	1999
Exports		
Oilseeds, Food Oils	2.027	1.352
Animal Feeds	3.853	3.269
Soy Beans	4.942	4.612
Rice	1.265	1.018
Nuts	1.472	1.296
Vegetables	2.939	2.855
Wheat	3.808	3.727
Meat, Poultry	6.751	6.680
Fruits, Frozen Juices	3.692	3.793
Corn	4.802	5.260
Imports		
Fish & Shell Fish	8.117	8.909
Fruits, Frozen Juices	4.081	4.731
Wine & Related Products	3.627	4.162
Other Alcoholic Beverages	2.300	2.621
Meat Products	4.315	4.498
Vegetables	3.499	3.610
Green Coffee	3.060	2.540

Agricultural goods trade should continue to provide modest surpluses and performance may improve with faster foreign economic growth, particularly in Asia. A major near-term increase in agricultural trade exports and surpluses, however, does not seem likely as US exports will continue to be subject not only to frequent changes in global supply-demand conditions but also to tough foreign competition. Global oversupplies of grains and other products fostered by foreign government subsidies may also continue to inhibit expanded US exports of agricultural products in which the United States has a comparative advantage. At the same time, however, US agricultural imports will continue to increase in value and variety. Rising US incomes are likely to continue the growth of imports of non-seasonal fresh fruits and vegetables -- for example winter time imports of grapes and berries from Mexico and South American countries -- and growing imports of coffee and other exotic food products. The outlook then is for continued surpluses, with modest increases possible but major increases unlikely in the near term.

World trade in *mineral fuels* (SITC 3) has fluctuated in both dollar value and as a share of world goods trade. These fluctuations are driven primarily by fuel price changes, mostly by changes in the price of crude oil. In 1998, according to WTO data, fuels exports totaled $259.1 billion, 6.5 percent of world merchandise trade. Crude oil price increases that began in 1999 will drive upward the 1999 dollar value and percent share of fuels trade in total world trade. The 1998 values and import shares of the United States and some other major fuel importers are shown in **Table 3.19.**

Table 3.19 Major Fuel Importers, 1998

	$ Billions	% of Total
World	259.1	100.0
United States	62.2	24.0
European Union (15)	106.0	40.9
France	16.7	6.4
Germany	25.3	9.8
Japan	43.3	16.7
China	6.8	2.6
6 E. Asian Traders	40.9	15.7

Source: WTO Annual Report, 1999

The United States now imports 55 percent of its oil requirements, a portion that will grow, and took nearly one-fourth of total 1998 world fuel imports. Regional and major country sources of the US imports are shown in **Table 3.20.**

Table 3.20 Sources of US Fuel Imports, 1998

	$ Billions	% of Total
Middle East	9.46	15.2
W. Europe	4.81	7.7
Asia	2.57	4.1
Africa	10.73	17.3
Latin America	19.03	30.6
Columbia	2.22	3.6
Venezuela	8.42	13.5
Mexico	5.54	8.9
North America	15.16	24.4
Canada	15.16	24.4

Source: WTO Annual Report, 1999

Over the 1975-1999 period US fuel import costs ranged from $4.4 billion in 1975 to a peak of $81.2 billion in 1981 **(Table 3.11).** The peak mineral fuels deficit was also in 1981 at $70.9 billion, not much higher than the $65.4 billion 1999 deficit. Oil imports, however, represented 31.9 percent of total goods imports that year, compared to only 7.3 percent of total 1999 goods imports. Moreover, in 1981 the overall goods trade deficit -- thanks to manufactures and agricultural trade surpluses -- was only $22.3 billion, even after the $70.9 billion fuels deficit.

The relative dollar importance of US *mineral fuels* trade is now primarily determined by volumes and prices of crude oil and refined petroleum products. US exports of mineral fuels -- mostly coal -- are minor and the role of coal, once an important export, is diminishing. US mineral fuel imports -- mostly crude oil -- are increasing in volume as US oil consumption increases and domestic production satisfies a smaller portion of total needs. The US oil import bill -- and the minerals trade deficit -- are thus very much a function of the per barrel price of crude oil. Since 1972, mineral fuel exports have ranged from 1999's 1.4 percent of total goods exports to 5.9 percent in 1982. But the much larger mineral fuel

imports -- mostly crude oil -- have ranged from 32.2 percent of total goods imports in 1980 -- when oil prices were very high relative to other goods -- to only 6.3 percent of total goods imports in 1998, a year when oil prices were relatively low.

Table 3.21 shows the effects of crude oil price changes on the mineral fuels deficit. Measured in barrels, total energy-related petroleum products imports were virtually identical in 1998 and 1999, about 4.1 billion barrels both years. The average 1998 per barrel price of $11.49, however, resulted in a total 1998 import cost of $49.1 billion, whereas an average 1999 price of $15.72 per barrel carried a total cost of $65.7 billion.

At current import volumes each $1 change in the average per barrel cost of crude oil for a year will change the US oil import bill about $4 billion. For example, if the average price per barrel for year 2000 is $25 -- $9 per barrel above the 1999 level -- with no change in the volume of imports, the oil import bill will rise by some $36 billion, resulting in a fuels deficit of about $101 billion.

Table 3.21 Imports of Energy Related Petroleum Products Including Crude Petroleum

	Total Energy-Related Petroleum Products		Crude Petroleum		
	Billion Barrels	Billion Dollars	Billion Barrels	Billion Dollars	$ Price Per Bbl.
1998	4,088	$49,132	3,243	$37,252	$11.49
1999	4,077	$65,675	3,224	$50,662	$15.72

With the continuing move to a more services oriented, hi-tech economy and increasing energy efficiency, US economic growth is becoming less dependent on increased energy consumption. One estimate is that in the late 1970s energy accounted for 8.7 percent of every dollar of GDP but now accounts for approximately only 3 percent (**Washington Post, 3/9/00, p. E-1, Oil Costs Drive Changes in Behavior**). Nevertheless, continued economic growth -- and continued increases in numbers and sizes of motor vehicles and miles traveled -- will mean continued increases in the consumption of petroleum products. This will occur at the same time that diminishing domestic supplies will require imports of a larger portion of total US oil needs.

Even a modest annual long-term growth of imports of 1.5 percent means an addition of upwards of 60 million barrels annually. At $15 per barrel this would add about $1 billion annually to the oil import bill; at $25 per barrel, $1.5 billion.

The fuels (oil) deficit will likely fluctuate with changes in the price of crude oil. Other things equal, however, an increasing volume of imports will increase yearly oil deficits. Annual oil deficits below 1999's $65 billion, which would require average per barrel prices of about $15 or less, seem increasingly less likely in the next few years.

In dollar terms, *manufactures* trade has always been the largest component of US goods trade and, with few interruptions, has been steadily increasing its share. In 1972, manufactures were 72.3 percent of US goods exports, 70.5 percent of imports **(Table 3. 16).** By 1999, manufactures had increased to 88.0 percent of goods exports, 86.1 of imports.

Since 1975 US manufactures trade performance has ranged from a 1980 surplus of $27.7 billion to the 1999 deficit of $271 billion **(Table 3.17)**. Balances moved between surpluses and deficits in a relatively narrow range from 1975 to 1982. Deficits then began to grow rapidly, reaching $124.6 billion in 1987

before narrowing to a $47.3 billion minimum deficit in 1991. Rapid deficit growth then began again, leading to the 1999 record of $271 billion. Most forecasters expect further expansion in 2000, perhaps by $90 billion to about $360 billion.

Manufactures has also made similar gains in its portion of world goods trade and in 1998 was 76.1 percent of world goods trade **(Table 3.22).** Manufactures typically dominate the goods trade of industrialized countries and provide even larger shares of total goods trade for some countries. For example, manufactures were 94.2 percent of Japan's 1998 exports, 89.4 percent for Germany, 82.4 percent for the UK and 86.3 percent for Korea.

Table 3.22 Share of Manufactures In Total Merchandise Trade By Region, 1998

(Percentage)

	Exports	Imports
World	76.1	76.1
North America	77.9	82.4
Latin America	57.3	78.9
Western Europe	80.2	76.0
C./E. Europe/Baltic States/CIS	58.8	71.9
Africa	31.6	72.1
Middle East	27.7	77.0
Asia	83.0	72.0

Source: WTO Annual Report, 1999

Manufactures Trade and the Current Account

The above examination of the current account shows that the international investment and services accounts will not be the key factors in US current account performance in the near term future, as gains that may be achieved in services will likely offset by expansions in investment income deficits. Any major improvement in the current account balance thus must come primarily from merchandise trade. Whatever further continued deterioration may occur will also be manifested primarily in merchandise trade.

In turn, merchandise trade performance is dominated by oil imports and manufactures trade. Agricultural goods surpluses will continue but will typically be modest, probably not far above the $11.5 billion 1999 mark. US agricultural exports are affected by exchange rates and global economic growth rates but are also a function of global supplies partly determined by weather changes and the subsidies of some competitor nations. Moreover, agricultural exports, even at the $60.6 billion 1996 peak, are relatively small compared to 1999 manufactures exports of $611.6 billion and imports of $882.7 billion.

Other goods trade is even smaller and is less volatile; 1999 exports were $25.3 billion, imports of $30.7 billion, leaving a modest $5.2 billion deficit **(Table 3.11)**. Future balances may fluctuate between the recent small deficits and equally small surpluses.

The mineral fuels (oil) deficit will probably increase. Oil imports will increase in volume and, although oil prices will fluctuate, volume and price changes are likely to increase the oil (mineral fuels) deficit beyond the $65 billion of 1999, an $18.3 billion increase over the 1997 level caused by oil unit price increases. In the short term oil imports are quite price inelastic and sustained higher prices could result in further major increases in the oil deficit, perhaps in 2000 to the $100 billion level, $35 billion more than the 1999 oil deficit, until prices are driven down by increased world oil production. Price changes thus can cause big movements in the oil deficit. Even in an environment of relatively stable

manufactures prices, however, the manufactures trade deficit increased by $77 billion in 1999 and will likely increase another $90- $100 billion in 2000, a larger amount than likely increases from oil price changes.

Manufactures trade balances are more volatile -- experience larger dollar value changes -- than other components of merchandise trade. Given its dominant role in world goods trade, its volatility, and its consistent huge US deficits, manufactures trade is thus the key trade account in which major changes -- both improvements and further deterioration -- of the US current account will be manifested. Indeed, the manufacturing sector is the key trade interface of the US economy with the world economy and large swings in US external balances inevitably will be manifested predominantly in the manufactures account, a factor that has important economic policy consequences.

An important question is “what causes the wide swings in manufactures trade balances.?” A widely accepted theory is that trade deficits are the result of situations in which domestic saving is inadequate to finance domestic investment; that borrowing abroad (net capital inflows) is the result. Net international borrowing is accomplished through net transfers of goods and services from the lender country to the borrower country, with the lender receiving claims on the borrower’s assets. When significant changes in a country’s macroeconomic polices and performance trigger consumption and investment at a level that exceeds its production and savings, it borrows in the form of a net inflow of goods and services; that is, by running trade deficits. For large industrialized countries, however, these net inflows and the resulting trade deficits will invariably be manifested primarily, albeit not exclusively, in net imports of manufactured goods.

This is what happened to the United States in the 1980s and what happened again in the mounting deficits of the late 1990s. The $146.8 billion 1981-87 deterioration in manufactures trade performance was equivalent to 87.9 percent of the deterioration in the current account balance overall, and to about 3.3 percent of 1987 US GNP. Similarly, the $263.3 billion increase in the manufactures deficit from 1991 to 1999 was equivalent to 85.0 percent of the decline in the goods balance and about 75 percent of the $343 billion current account deficit expansion over the same period. Expansion of the oil deficit was equivalent to 6.8 percent of the 1991-99 current account deficit expansion and decline in the agricultural surplus to 1.6 percent.

That the effects of net borrowing abroad in both the 1980s and 1990s have fallen primarily on US manufacturing was not a random event. Large swings in net international capital flows into and out of the United States will inevitably affect primarily the manufacturing sector. It is the key trade interface of the US economy with the world economy. Large net borrowing abroad will necessarily entail large deficits in manufactures trade. A return to net US lending abroad would eliminate these deficits and restore surpluses in manufactures trade.

The role as the key variable in implementing volume and direction changes in international capital flows puts difficult adjustment problems and burdens on the manufacturing sector. Moreover, manufacturing’s exposure to international competition continues to grow with the expansion of US trade as a percentage of US GNP. In 1981 the sum of US exports and imports of goods and services was equivalent to 19.8 percent of GNP, and manufactures exports and imports summed to 10.3 percent of GNP. In 1990 trade in goods and services was equivalent to 20.6 percent of GNP and manufactures trade equaled 12.9 percent of GNP. By 1999 goods and services trade was 23.7 percent of GDP, service trade was 5.1 percent, and manufactures trade 16.1 percent of GDP In 1981, manufactures trade was 53.2 percent of total trade in goods and services but by 1990 it was 62.5 percent of the total and by 1999 it was 68.7 percent.

The manufacturing sector in 1997 accounted for 17.0 percent of US GDP and 15.2 percent of US employment. By contrast, the services sector accounted for 63 percent of US GDP and about 79.7 percent of US employment. Notwithstanding its relatively small portion of the US economy, manufacturing is the primary trade interface of the US economy with the world economy. It must bear the brunt of foreign competition for US markets and is also the principal US competitor in foreign markets.

The Critical Role of Manufacturing

The above analysis of trade and current account data show that the manufacturing plays a unique and critical role in the US economy that is often not well understood. During the 1980s and through the 1990s statements that the United States was becoming a services-oriented economy have become accepted. That perception, sometimes coupled with concerns about environmental pollution from manufacturing, led some to predict -- if not to welcome and advocate -- a “postindustrial society” in the United States, from which manufacturing would, for the most part, have disappeared. In a 1986 cover story, Business Week postulated that the United States might become “a nation of hollow corporations” -- one essentially devoid of manufacturing. Corporations would perform mostly design, marketing, and research in the United States and do most of their manufacturing abroad (**Business Week, 3 March 1986, p. 57**). The implicit assumption was that US imports of manufactures and other goods would be paid for by exports of services.

At best, however, the United States can expect only relatively modest future surpluses in services trade. Services will not suffice to allow the United States to pay its way in the world economy, while at the same time running huge deficits in oil and manufactures trade. Large manufactures deficits will inevitably translate into large current account deficits and borrowing abroad. Indeed, US manufactures trade surpluses will be required if the United States is to balance its international accounts in the decades just ahead.

Nor would continued foreign borrowing support net imports of a large portion of present US consumption of manufactured goods. Even the very large deficit in manufactures trade recorded in 1999 ($271 billion) represents only a small fraction of US manufactures consumption.

Any shift of a substantial fraction of US consumption of manufactured goods to imports would therefore result in current account deficits much larger -- both relatively and absolutely -- than those of 1999 and 2000. Political and economic forces would surely be brought to bear to keep that from happening. In effect these forces, including the discipline of markets, will ensure that the United States will maintain a manufacturing base large enough to produce the vast majority of its consumption of manufactured goods. Global market forces will ensure that manufacturing will continue to be a major part of the US economy -- even if its international competitiveness must be sustained by declines in the dollar and in real wages.

Clearly the US manufacturing sector in the long run must be large enough to avoid large, consistently growing current account deficits relative to GDP and the adverse long-term effects on US living standards of continued borrowing abroad. But changes ultimately implemented solely by the workings of international economic forces could be untimely and particularly painful. Anticipating and preparing for these changes may mitigate the difficulties. In a world economy that is now more integrated and more competitive than ever before, US economic policy making -- fiscal, monetary, tax, regulatory, and other policies -- must consider the vulnerability of the manufacturing sector to foreign competition and to policies that influence the size and direction of net international capital flows.

The simple conclusion that the manufacturing sector is the primary trade interface of the US economy with the world economy has very important policy implications. In a world where most goods are readily tradable and most services are not. It is the sector most exposed to foreign competition. The potential effects of government policies on the international competitiveness of the US manufacturing sector should be specifically considered.

Fluctuations in exchange rates and other international economic relationships that result in wide swings and, perhaps, downward trends in the US production of manufactured goods relative to domestic consumption, may be cause for alarm. Policymakers must recognize that US policies may affect sectors more insulated from foreign competition differently than they affect the manufacturing sector. Moreover, US manufacturing consumes large amounts of US-produced services and its production levels directly affect US service industries.

Summary

- The current account is the broadest measure of US international transactions and whether the nation is a net lender, producing more than it is consuming, or a net borrower, consuming more than it is producing.
- Goods and services trade transactions largely determine current account balances. In 1999 goods exports were 55.2 percent of US international receipts (export) transactions and the goods trade deficit was $347.1 billion.
- Services trade in 1999 was 22.4 percent of US international receipts and the surplus was $79.6 billion, down from $91.9 billion in 1997.
- The balance on the key principal remaining component -- international investment income -- 22.2 percent of 1999 international receipts -- slipped into deficit in 1998 for the first time in many decades. In the face of continuing current account deficits the modest 1999 investment income deficit of $12.2 billion will enlarge.
- The remaining account, unilateral transfers, registers consistent, gradually increasing deficits that reached $44.1 billion in 1999. Modest continued growth of these deficits is expected.
- Given the expected performance in investment income and unilateral transfers, any near and medium term improvements in the US current account will likely have to come from improved performance in the goods and services accounts, which together make up almost four-fifths of receipt transactions and about the same portion of payments.
- Services trade is made up of seven sub-categories. Three of these -- travel, passenger fares and other transportation -- are interrelated and together make up 44.2 percent of services exports and 58.6 percent of services imports. The tourism-related accounts -- travel and passenger fares -- currently generate modest surpluses but other transportation incurs small deficits. Rising global affluence and a cheaper US dollar could increase the $10.4 billion surplus that these three accounts accrued in 1999 but huge gains are unlikely without drastic changes in US-foreign economic positions -- much slower US growth, much faster foreign growth -- and a massive dollar decline.
- A fourth services group, royalties and license fees, consists of the income and payments from the sale or licensing of technologies. About two-thirds of the receipts are from US direct investments abroad; license and royalty fees paid by foreign affiliates to their US parents. Surpluses in this account have grown almost without interruption since 1982 and reached a record $25.5 billion in 1998 before declining to $24.8 billion in 1999. These surpluses reflect the continuing strength of US technology and the large stock of US foreign direct investments. Further gains may accrue if the US maintains its technology edge and dollar

depreciation would increase the dollar value of license fees based on foreign currencies. The gains, however are unlikely to be very large and increasing foreign investments in the United States may increase the license and royalty payments by US affiliates to their foreign parents.

- Other private services is the other major services subcategory that may offer opportunities for significant gains. Exports of $99.4 billion were 35.9 percent of 1999 services receipts and resulted in a record $47.8 billion surplus. Surpluses in this account may increase as services trade continues to grow. There is little reason, however, to expect that the United States has an enduring comparative advantage in other private business services that would be sufficient to offset large deficits in other current account categories.
- None of the non-goods components of the current account are likely to be major sources of improvement in the current account in the foreseeable future. Major improvements in current account balances must come primarily -- and perhaps exclusively -- from goods trade. Indeed, the non-merchandise trade balances will worsen if US services surpluses grow less rapidly than international investment income deficits. In fact, given growing investment income and unilateral transfers deficits, balanced current accounts in future years -- an unlikely prospect in the near term -- may require goods trade surpluses.
- Turning to an assessment of US goods trade, it can usefully be separated into four groups: agricultural products, mining products, manufactures, and other goods. “Other goods” is a relatively minor portion of US goods trade -- 3.6 percent of goods exports, 3.0 percent of imports -- and yielded a 5.4 billion deficit in 1999. Major gains or a further significant deterioration in other goods trade are unlikely.
- Agricultural trade provides consistent US surpluses, $11.5 billion in 1999, down from $28.1 billion in 1996. Larger surpluses in future years are probable as economic conditions in developing nations improve. Enduring growth of agricultural surpluses is likely to be limited, however, by tough foreign competition and global oversupplies that are in part sustained by foreign government subsidies.
- The mineral fuels trade balance, a $65.3 billion deficit in 1999, is primarily determined by oil import volumes and prices. Import volumes will grow with the US economy, although at a lesser rate than GDP growth, probably by about 1.5 percent annually. Oil prices will fluctuate but may tend higher than the 1999 average. Each $1 per barrel change in the average price of crude oil alters the US oil deficit by about $4 billion per year. Future oil import prices seem likely to be above the average $15.72 per barrel level of 1999. Oil deficits are thus not likely to decrease and may often run well above the $65.3 billion 1999 level. The 2000 oil deficit will increase to about $100 billion.
- A dissection of the merchandise trade account shows that the declines in that account were primarily due to deteriorations in the manufactures account. Moreover, other kinds of merchandise trade (principally oil imports and agricultural exports) show little prospect of improvement and, indeed, the potential for significant enlargements in the oil import bill. Thus, by default, any major improvements in merchandise trade will be manifested primarily -- if not solely -- in improved manufactures trade performance
- Indeed, a balanced current account -- not to be expected in the next several years -- would likely require a modest manufactures trade surplus, a massive change from the 1999 manufactures deficit of $271.1 billion and a likely 2000 deficit of about $360 billion.
- The large manufactures trade deficits in the current account deficits of the 1980s and 1990s were not random events. Large swings in US external balances will inevitably be manifested predominantly in the manufactures trade account. The dominant position of manufactures trade in US external balances -- its key role in the current account declines of the 1980s and 1990s -- has profound implications for US economic policy making.

- The manufacturing sector is the main interface of the US economy with the world economy. It is most exposed to, and bears the brunt of, international competition. Most services firms and industries do not face direct foreign competition and do not compete in foreign markets. Large net capital inflows from foreign sources are associated with large deficits in manufactures trade and pressure on the manufacturing sector. Net capital outflows are associated with manufactures trade surpluses and an improved competitive environment for US manufacturing.
- Manufacturing's key role in external transactions and its vulnerability to foreign competition have been growing and will continue to grow as the world economy becomes more and more integrated and as world trade increases faster than world output.
- Although US manufactures deficits have been very large in recent years -- the $271 billion 1999 deficit was equivalent to about 2.9 percent of GDP -- they represent only a small portion of total US consumption of manufactured goods. Net imports of significantly larger portions of total US consumption of manufactures would incur such huge trade and current account deficits that they would not be financed by foreign lending on a sustained basis.
- The United States therefore will not "de-industrialize" -- it will not become a nation of solely service industries. Economic forces -- the discipline of international markets and capital flows -- will cause the United States to retain a large manufacturing sector, capable of supplying most of US needs for manufactured goods. This is assured because services exports will not generate surpluses sufficient to pay for large net imports of oil and manufactures goods. Maintaining a manufacturing sector that remains large enough to supply most of US requirements and an "equilibrium" level of manufacturing deficits that matches foreign willingness to lend might, however, at some point require lower real US wages and a sharply devalued dollar.
- In a world economy where one sector, manufacturing, is the key interface of the US economy with the world economy and bears the brunt of foreign competition, the vulnerability of manufacturing to US and foreign economic policies and the consequences of policy changes on US-based production should be recognized and carefully assessed.

Chapter 4: An Overview of World Manufactures Trade

Chapter 3 provided data that demonstrated the growing and critical role of manufactures trade in overall US trade and current account performance. The function of this chapter is to describe the large and growing role of manufactures trade in world trade, its importance to key US trading partners, and its changing product and geographical composition. This chapter contains a large number of statistical tables. For convenience, these tables are not integrated into the text but are grouped at the rear of the chapter.

Manufactures Role in World Trade

Services trade in recent decades has grown slightly faster than goods trade. Nevertheless, goods trade continues to dominate, making up 80 percent of total world goods and services trade in 1998 **(Table 4.1)**. In turn, goods trade is predominantly in manufactured goods. In 1998, manufactures was 76.1 percent of goods trade and 60.8 percent of total goods and services trade **(Table 4.1)**.

The manufactures share of merchandise (goods) trade has been growing consistently in recent decades, rising from 53.9 percent in 1980 to 70.6 percent in 1990 and 76.1 percent in 1998 **(Table 4.2)**. The share of each of the other major components of world goods trade (food, raw materials, ores, fuels, non-ferrous metals) has declined since 1980. These trends appear to be irreversible for the foreseeable future. Commodity prices have declined or remained relatively stable as national economies have become less energy and raw materials intensive and the ratio of value added by manufacturing processes to raw materials costs has increased. Moreover, the industrialization of developing economies and faster transportation and communications have increased specialization in manufacturing and the exchange of manufactures among nations. Each of these trends seems likely to continue.

Similar trends away from the role of basic goods are reflected in the composition of world manufactures trade. Iron and steel has declined from 7.1 percent of total manufactures trade in 1980 to 4.4 percent in 1990 and only 3.5 percent in 1998 **(Table 4.3)**.

The share of chemicals, 13.0 percent in 1980 and 12.5 percent in 1998, has remained relatively constant, reflecting both the fact that chemical inputs are vital to newly industrializing nations and the technological advances and increasing value added in pharmaceutical, plastics and many other new chemical industry products.

Other semi-manufactures, which generally involve lower levels of value added to raw materials by manufacturing processes -- including paper, paper board, various manufactures of metal, etc. -- have declined from 12.4 percent of world manufactures exports in 1980 to 10.0 percent in 1998.

Textiles trade has declined from 5.0 percent of total in 1980 to 3.8 percent in 1998. Clothing's share rose to 4.9 percent in 1982 but was 4.5 percent in 1998. Other consumer goods, which includes footwear, travel goods, household articles, photographic and optical goods, watches and clocks, etc., was 11.7 percent of 1998 world goods trade, down modestly from 12.6 percent in 1992.

Machinery and transport equipment, a broad category including automotive, office and telecommunications equipment, computers, and other machinery products is the principal growth area of world manufactures trade, rising from 47.9 percent of total in 1980 to 54.0 percent in 1998. Significant changes in the composition of the machinery and transport equipment category are also evident. Automotive products (vehicles, components, and parts) were 13.1 percent of 1998 manufactures trade, up modestly from the 12.1 percent share of 1980. Office machines and telecommunications equipment

(including automatic data processing machines and sound recording and reproducing apparatus and equipment) is a fast growth group, however, rising from a 7.8 percent share in 1980 to a 17.0 percent share in 1998.

In share terms the rise of office machines and telecommunications equipment has been at the expense of other transportation machinery, which includes aircraft, spacecraft, ships and boats, railway vehicles, internal combustion engines, etc.

Geographic Composition of World Manufactures Trade

In regional terms, Western Europe far outpaces other areas in shares of world manufactures trade, though its 47.0 share of 1998 world manufactures exports was down significantly from 1990's 54.2 percent share **(Table 4.4).**

Asia was second largest in regional terms, increasing its share from 24.5 percent in 1990 to 26.8 percent in 1998. Latin America increased its manufactures exports at a 14.0 percent rate over the 1990-1998 period, but starting from a very small base had only 3.9 percent of total world manufactures exports by 1998. The substantial growth in the North American portion, from 15.2 percent in 1990 to 17.4 percent in 1998, reflects in part the rapid growth in US-Canadian trade, with that rapid growth partly attributable to the US-Canadian Free Trade Agreement. Similarly, a substantial portion of the rapid growth in Latin American exports is from the increase of Mexican exports to the United States.

World manufactures trade is concentrated in a relatively few countries. The top fifteen exporting countries made 76.8 percent of 1998 world manufactures exports and the top 15 importers took 68.2 percent of total manufactures imports **(Table 4.5).** The top 15 exporter and importer lists are virtually identical, except that Korea is in the top exporters but not in the top 15 importers. Conversely, Spain is in the top 15 importers but not in the top exporters group.

In national terms, the United States remains both the single largest exporter and importer of manufactured goods. Its 13.9 percent export share in 1998 does not differ markedly from the 13.4 percent 1980 share. One the import side, however, the US share has grown remarkably, from 10.8 percent in 1980 to 18.4 percent in 1998 **(Table 4.5).** These market share percentages are, of course, influenced by the dollar exchange rate with a stronger dollar increasing the calculated US shares because foreign currencies translate into fewer dollars. Conversely, a weaker dollar lowers the calculated US shares. Both exports and import share calculations for a given year, however, are similarly affected and the significant increase in the US import share compared to a relatively stable export share signals a relative decline in the competitiveness of US manufactured goods in the US and international markets.

Germany is the second largest manufactures exporter, 11.7 percent in 1998, down from 14.8 percent in 1980, and also the second-ranking importer, 8.0 percent. Japan is third-ranking in exports, 9.1 percent in 1998, down from 11.2 percent in 1980. On the import side, however, it ranks seventh, with a modest 3.8 percent share.

Leading export share growth countries include: China (0.8 percent in 1980, 4.0 percent in 1998); Korea (1.4 percent in 1980, 2.8 percent in 1998); Taipei (1.6 percent to 2.7 percent); and Mexico (0.2 percent to 2.5 percent).

In addition to the United States, leading import growth countries include Canada, largely reflecting the growth of its trade with the United States. These Canadian imports include large quantities of motor vehicle parts, engines and components for assembly and re-export, with most of the re-exports destined for the United States.

Similarly, the rapid import growth rates for Mexico, Hong Kong, and China include imports of various manufactured pieces, parts, and components for further processing and re-export, as well as the imports of machines and equipment essential to industrialization.

The Role of Manufactures Trade In Individual Country Trade

Manufactures dominate the goods trade of most industrialized countries and those who are industrializing. **Table 4.6** summarizes the roles of manufactures trade in total goods trade for the United States and ten other countries. Among the eleven countries manufactures as a percent of total 1998 goods exports ranges from Canada's 65.8 percent to Japan's 94.3 percent. On the import side, shares range from Japan's 56.6 percent to Hong Kong's 87.9 percent share.

Of the eleven countries, excepting Italy and Hong Kong, more than half of the manufactures exports are machinery and transportation equipment. Reflecting its auto trade with the United States, 35.4 percent of Canada's manufactures exports are automotive products. Automotive products are also important in Japan's manufactures exports (21.2 percent) and for Germany (21.3 percent) and France (16.1 percent).

Imports of automotive parts and components from the United States push automotive products to 23.6 percent of Canada's manufactures imports. The 17.1 percent automotive share of US manufactures imports, however, reflects both parts and finished motor vehicle imports.

More than one-fifth (23.3 percent) of Japan's manufactures exports are in the fast growing office machines and telecommunication equipment category. This component also looms large in the United States, the United Kingdom, Hong Kong, Korea, and Singapore, with notably small shares for France, Germany, and Italy.

Table 4.6 also indicates the dependence on US manufactured goods markets for ten trading partners. The United States took 90.3 percent of Canada's manufactures exports and supplied 70.2 percent of Canada's manufactures imports. Japan sent 31.2 percent of its manufactures exports to US destinations; Hong Kong, 24.8 percent; Singapore, 22.6 percent; and Korea, 19.5 percent.

Tables 4.7.A, B, & C through 4.17.A, B, & C provide a more detailed picture of the product and geographical composition of the goods and manufactures trade of each of the eleven countries summarized by table 4.6. A few observations drawn from these tables follow below.

United States *(Tables 4.7A, 4.7B, 4.7C)*

- The United States consistently runs relatively modest agricultural goods surpluses but huge deficits in fuels and manufactured goods.
- The manufactures share of total goods trade continues to grow reaching 82.0 percent of 1998 exports, 80.2 percent of imports.
- Asia, Western Europe, and North America (Canada) each take about one-fourth of US manufactures exports; just one-fifth (20.9 percent) goes to Latin America, about half of that to Mexico.
- US clothing imports are huge, $55.7 billion in 1998, 7.4 percent of the manufactures total.
- Mexico outranks Japan as a market for US manufactures.
- Nearly half (45.3 percent) of manufactures imports are from Asia, including 15.9 percent from Japan; over one-fifth, 22.4 percent, are from Europe, with another one-sixth, 16.3 percent, from Canada.

Canada ***(Tables 4.8A, 4.8B, 4.8C)***

- Canada experienced goods trade surpluses in the $13 billion to $30 billion range from 1996 to 1998. This was the result of agricultural and mining product surpluses exceeding consistent manufactures trade deficits **(Table 4.8A).**
- Agricultural and mining products yield more than one-fourth (27.5 percent) of Canada's total 1998 goods exports; manufactures, 65.8 percent. In 1992, however, agricultural and mining products provided 35.3 percent of the total, manufactures only 58.5 percent **(Table 4.8A)**.
- Almost two-thirds (62.6 percent) of its manufactures exports were machinery and transportation equipment; 35.4 percent were automotive products **(Table 4.8B)**, a result of the US-Canada integration of automobile production.
- Canada's dependence on US manufactures goods markets is growing. In 1992, 86.4 percent of its manufactures exports went to the United States. In 1998 the portion had grown to 90.3 percent **(Table 4.8C).**
- The EU (15) took only 3.7 percent of Canadian 1998 manufactures exports but provided 9.6 percent of its imports.
- Japan took just 0.7 percent of Canada's manufactures exports but supplied 5.5 percent of its imports.

European Union (15) ***(Tables 4.9A, 4.9B, 4.9C)***

- As a group the EU (15) countries ran modest goods trade surpluses ranging from $8.6 billion to $45.5 billion over the 1996-1998 period **(Table 4.9A).** These surpluses were the result of manufactures surpluses, ranging from $107 billion to $158 billion, that slightly outweighed consistent deficits in agricultural and mining products trade. As a group the EU (15) had a fuels deficit of $56.2 billion in 1998 **(Table 4.9A).**
- EU (15) goods exports were 10.1 percent agricultural, about the same portion as the United States**.** Manufactures exports were 80.8 percent of total goods exports, also close to the US 82.0 percent portion **(Table 4.9A).**
- Just over half of EU (15) manufactures exports and imports is in machinery and transport equipment, slightly below the world 54.0 percent average. Office and telecommunication equipment exports were 11.5 percent of the 1998 total, considerably below the world share of 17.0 percent **(Table 4.9B).**
- Chemicals were 15.5 percent of the total EU (15) exports, above the 12.5 percent world share **(Table 4.9B).**
- EU (15) manufactures imports were 65.7 percent intra-EU; 34.3 percent extra-EU **(Table 4.9C).**
- The United States took 8.2 percent of total EU (15) manufactures exports and provided 9.2 percent of its imports **(Table 4.9C).**

France ***(Tables 4.10A, 4.10B, 4.10C)***

- France has had merchandise trade surpluses in the range of $12 billion to $19 billion from 1996 to 1998 **(Table 4.10A).**
- France is the largest EU (15) food exporter, $37.7 billion in 1998, 12.4 percent of total goods exports **(Table 4.10A).** US food exports were $54.2 billion in 1998.
- France typically runs manufactures trade surpluses, which ranged from $13 billion to $18 billion from 1996 to 1998 **(Table 4.10A).**

- One-sixth of France's manufactures exports and one-eighth of its manufactures imports are automobile products **(Table 4.10B).**
- Two-thirds of France's manufactures exports are to Western Europe; 61.4 percent are intra-EU **(Table 4.10C).**

Germany ***(Tables 4.11A, 4.11B, 4.11C)***

- Germany consistently runs merchandise trade surpluses, with agricultural and mining products deficits offset by substantial manufactures trade surpluses. From 1996 to 1998 merchandise trade surpluses were in the $66 billion to 78.6 billion range but manufacturing surpluses were larger, ranging from $123 billion to $137 billion **(Table 4.11A).**
- Agricultural trade is a small portion of its goods trade, 5.5 percent of 1998 exports. Manufactures dominate with an 86.6 percent 1998 share **(Table 4.11A).**
- Automotive products made up 21.3 percent of manufactures exports and 14.6 percent of imports **(Table 4.11B).**
- Office and telecommunications equipment was only 6.7 percent of 1998 exports but 13.8 percent of imports **(Table 4.11B).**
- Germany is a major chemicals trader, 14.7 percent of its manufactures exports, 12.5 percent of its imports **(Table 4.11B).**
- Nearly half (46.2 percent) of Germany's 1998 manufactures exports were to Extra-EU destinations; 10.3 percent went to the United States; 10.2 percent of imports were from the United States **(Table 4.11C).**
- Only 2.1 percent of manufactures exports went to Japan; 6.9 percent of its imports came from Japan **(Table 4.11C).**

Italy ***(Tables 4.12A, 4.12B, 4.12C)***

- Italy typically runs manufactures trade surpluses and agricultural and mining product deficits **(Table 4.12A).**
- Manufactures made up 89.6 percent of Italy's 1998 goods exports; 70.8 percent of its imports **(Table 4.12A).**
- A relatively small portion of Italy's manufactures exports (43.5 percent) is machinery and transport equipment **(Table 4.12B).**
- Substantial portions of Italian manufactures exports are in textiles (6.0 percent) and clothing (6.8 percent) and other consumer goods (17.7 percent) **(Table 4.12B).**
- Intra-EU exports were 55.7 percent of the 1998 manufactures total; Extra-EU, 44.3 percent **(Table 4.12C).**

United Kingdom ***(Tables 4.13A, 4.13B, 4.13C)***

- Like the United States, the United Kingdom has run merchandise trade deficits in recent years. UK deficits have been relatively small, however, with fuels exports typically generating modest surpluses but agricultural deficits in the $15 billion range adding to manufactures deficits ranging from $15 to $17 billion over the 1996-1998 period **(Table 4.13A).**
- Chemicals are a major factor in UK trade; 15.8 percent of 1998 manufactures exports, 11.5 percent of imports **(Table 4.13B).**

- Office and telecommunications equipment play a larger role in UK trade -- 18.5 percent of manufactures exports, 18.2 percent of imports -- than for France, Italy, or Germany **(Table 4.13B).**
- Automotive products are also important, 11.2 percent of 1998 exports, 14.7 percent of imports **(Table 4.13B).**
- Extra-EU exports were 42.9 percent of the manufactures total, with 13.9 percent going to the United States, larger than the portions sent to the United States by France, Germany, or Italy **(Table 4.13B).**
- Japan took only 2.0 percent of UK manufactures exports in 1998 but provided 5.9 percent of its imports **(Table 4.13C).**

Japan ***(Tables 4.14A, 4.14B, 4.14C)***

- Japan ran merchandise trade surpluses ranging from $62 billion to $108 billion over the 1996-1998 period **(Table 4.14A).**
- Over 94 percent of Japan's 1998 goods exports were manufactures. Manufactures, however, were only 56.6 percent of total goods imports **(Table 4.14A).**
- Japan consistently has large agricultural and fuels and other mining product deficits offset by large manufactures trade surpluses that ranged from $100 billion in 1996 to $207 billion in 1998 **(Table 4.14B).**
- A large (73.4 percent) portion of Japan's 1998 manufactures exports was machinery and transport equipment, with office and telecommunications equipment (23.3 percent) and automotive products (21.1 percent) making up much of the total. Office and telecommunications equipment is the largest import, 23.0 percent of the 1998 total **(Table 4.14B).**
- Textiles (1.6 percent) and clothing (0.1 percent) now make up only miniscule portions of Japan's manufactures exports **(Table 4.14B).**
- The United States took 31.2 percent of Japan's 1998 manufactures exports; the EU (15), 20.3 percent. China took 5.0 percent of Japan's manufactures exports but provided 18.3 percent of its imports, while Taipei took 6.3 percent of the exports but provided only 5.3 percent of the imports **(Table 4.14C).**

Hong Kong ***(Tables 4.15A, 4.15B, 4.15C)***

- Hong Kong had merchandise trade deficits in the $12 billion to $25 billion range from 1996 to 1998 **(Table 4.15A).** Deficits were generated in all three components of goods trade (agricultural, mining products, manufactures).
- A substantial portion of Hong Kong's exports is re-exports of goods originating in other countries, mostly in China. Re-exports of manufactures in 1998 totaled $139.85 billion 85.2 percent of the $164.1 billion total.
- Hong Kong's 1998 manufactures exports were 22.5 percent office and telecommunications equipment but textiles (8.0 percent) and clothing (13.6 percent) and other consumer goods (28.8 percent) were also important **(Table 4.15B).** This export composition, which includes many labor-intensive products, is mirrored by the composition of imports, mostly from China, which are subsequently re-exported to other destinations.
- Nearly one-third (31.8 percent) of Hong Kong's 1998 manufactures exports went to China; nearly one-fourth (24.8 percent) to the United States and one-sixth (16.6 percent) to the EU (15). Japan took only 5.4 percent and Taipei. China 2.5 percent **(Table 4.15C).**

- China was the source of 43.0 percent of Hong Kong's 1998 imports, much of it re-exported. The US 6.8 percent share trailed the EU (15) share (10.4 percent), Japan (13.4 percent) and Taipei (7.7 percent) **(Table 4.15C)**.

Korea ***(Tables 4.16A, 4.16B, 4.16C)***

- Korea ran merchandise trade deficits in 1996 and 1997 but reactions to its financial crisis resulted in a substantial surplus in 1998 **(Table 4.16A).**
- Manufactures provide about 86 percent of Korea's goods exports, nearly 60percent of its imports **(Table 4.16A).**
- Manufactures exports are led by office and telecommunications equipment, 27.9 percent of the 1998 total, and automotive products (10.0 percent) but textiles (9.9 percent) and clothing (4.1 percent) remain important **(Table 4.16B).**
- The United States is Korea's most important manufactures export market, 19.5 percent of the 1998 total, followed by the EU (15), 15.1 percent; China, 8.7 percent and Japan, 7.7 percent **(Table 4.16C).**
- Japan furnished the largest portion (28.3 percent) of 1998 manufactures imports, followed by the United States (27.4 percent) and the European Union (16.6 percent) **(Table 4.16C).**

Singapore ***(Tables 4.17A, 4.17B, 4.17C)***

- Singapore had modest ($6 billion, $7 billion) goods trade deficits in 1996 and 1997 and, reacting to the Asian financial crisis, an $8 billion surplus in 1998 **(Table 4.17A).**
- Its goods trade is dominated by manufactures, 84.6 percent of 1998 exports, 83.8 percent of imports **(Table 4.17A).**
- Office and telecommunications equipment dominates Singapore's manufactures trade, providing 61.9 percent of 1998 exports and 43.6 percent of imports **(Table 4.17B)**. The large share of imports in this category reflects the intake of electronic parts and components for further processing and assembly and subsequent re-export.
- The United States takes over one-fifth (22.6 percent) of Singapore's 1998 exports, the EU (15) took a 17.6 percent share, Malaysia, 16.2 percent, and Hong Kong, 7.2 percent **(Table 4.17C).**
- Evidencing Singapore's processing and assembly role, the United States, Japan, Malaysia, and the EU (15) were also the dominant suppliers of manufactures imports **(Table 4.17C).**

Summary

- The manufactures share of world merchandise trade has been growing consistently in recent decades, rising from 53.9 percent in 1980 to 70.6 percent in 1990 and 76.1 percent in 1998. As the goods output of nations becomes less energy and raw materials intensive, this trend seems likely to continue.
- Within manufactured goods basic manufactures and semi-manufactures are becoming a smaller portion of total trade and higher technology products are increasing their share. This trend reflects both the increased value added in more highly finished, more sophisticated goods and the growing specialization and cross-trade in parts, components and assemblies among nations.
- The fastest growing component of world manufactures trade is office and telecommunications equipment, which includes computers and associated equipment. Countries heavily involved in trade in this category include the United States, Japan, Hong

Kong, Singapore, Korea, and the UK. Major trading nations less involved include Germany, France, Italy, and Canada.

- Automotive trade (vehicles, parts, components) remains important, however, representing 13.1 percent of 1998 world manufactures exports, about the same share it has maintained over the last two decades.
- Chemicals trade also remains strong, consistently maintaining a share since 1980 near its 12.5 share of 1998 manufactures exports.
- The formation of free trade groups, including the European Union and the US-Canada-Mexico Agreement, appear to have enhanced the growth of trade within the areas concerned. Canada and Mexico are the top 2 destinations for US manufactures exports; 60.8 percent of EU 1998 exports went to intra-EU destinations.
- Interdependence among key trading partners is increasing. In 1998, 35.4 percent of US manufactures exports went to Canada and Mexico and 26.7 percent of our imports came from them. The United States took 90.3 percent of Canadian manufactures exports and provided 70.2 percent of Canada's manufactures imports in 1998. The same year the United States took 31.2 percent of Japan's manufactures exports; 22.6 percent of Singapore's; 24.8 percent of Hong Kong's and 19.5 percent of Korea's.
- The bulk of world manufactures trade is concentrated in a few countries. The United States alone made 13.9 percent of 1998 world manufactures exports and took 18.4 percent of the imports. Fifteen countries made 76.8 percent of 1998 world manufactures exports. Virtually the same 15 countries took 68.2 percent of the imports.
- The United States is both the largest exporter and importer of manufactured goods. But second-ranking Germany, with 11.7 percent of the world total, remains a manufactures export powerhouse. Although Germany's GDP is less than one-fifth that of the United States its $468.5 billion of 1998 exports was 83.9 percent of the US amount. Third-ranking Japan, with a 9.1 percent share of world exports, exported about 65.5 percent as much as the US and has a GDP about one-third of the US.
- Manufactures trade performance is critical to every industrialized country and to those who are industrializing. Manufactures trade is clearly the main battleground on which international trade competitiveness wars will be fought and won or lost.

Table 4.1 World Goods & Services Trade Sectoral Composition

(Billions of Dollars and Percent Share)

		Percent Share		
	Bn. $ 1998	Goods & Svcs.	Goods	Mfrs.
Goods	5,270	80.0	100.0	131.4
Agricultural	533	8.4	10.5	13.8
Mining Products	502	7.6	9.5	12.5
Manufactures	4,010	60.8	76.1	100.0
Unspecified	206	3.1	3.9	5.1
Services	1,320	20.0	25.0	32.9
Transportation	310	4.7	5.9	7.7
Travel	430	6.5	8.2	10.7
Other	580	8.8	11.0	14.5
Goods & Services	6,590	100.0	125.1	164.3

Source: WTO Annual Report, 1999

Table 4.2 World Merchandise Exports By Product Type

(Billions of Dollars and Percent Share)

	Bn. $	Percent Share				
	1998	1980	1984	1990	1994	1998
All Products	5,270	100.0	100.0	100.0	100.0	100.0
Agricultural	553	14.7	14.5	12.2	11.9	10.5
Food	443	11.0	10.9	9.3	9.3	8.4
Raw Materials	110	3.7	3.5	2.9	2.6	2.1
Mining Products	502	27.7	22.7	14.3	10.7	9.5
Ores, OtherMin.	58	2.1		1.6	1.2	1.1
Fuels	344	23.0	11.0	10.5	7.6	6.5
Non-fer. Metals	100	2.5		2.1	1.9	1.9
Manufactures	4,010	53.9	58.5	70.6	74.3	76.1

Source: WTO Annual Report, 1999

Table 4.3 World Manufactures Trade By Product Group

(Billions of Dollars and Percent Share)

	Bn. $	Percent Share					
	1998	1980	1984	1990	1994	1996	1998
Total	4,010	100.0	100.0	100.0	100.0	100.0	100.0
Iron & Steel	103.4	7.1	4.4	3.9	3.9	3.7	3.5
Chemicals	328.1	13.0	12.3	12.3	13.1	12.7	12.5
Other Semi-mfrs	284	12.4	11.0	10.7	10.4	10.5	10.0
Mach.&Transprt	1364.9	47.9	50.8	51.3	52.1	52.9	54.0
Automotive	361	12.1	13.3	13.6	13.0	12.5	13.1
Office& Telecom	349.5	7.8	12.4	13.1	15.4	16.7	17.0
Other Mach.	659	28.2	24.9	24.6	23.8	23.7	23.9
Textiles	117.4	5.0	4.4	4.4	4.2	4.0	3.8
Clothing	130.6	3.7	4.5	4.9	4.6	4.4	4.5
Other Consumer Goods	334.6	9.8	12.6	12.6	12.2	11.8	11.7

Source: WTO Annual Report, 1999

Table 4.4 World Exports of Manufactures By Region

(Billions of Dollars and Percent Share)

	Bn. $	Percent Share		Annual % Change
	1998	1990	1998	1990-1998
Total	4,010.3	100.0	100.0	7
Western Europe	1,883.0	54.2	47.0	5
Asia	1,073.0	24.5	26.8	8
North America	699.1	15.2	17.4	9
Latin America	157.7	2.3	3.9	14
C/E Eur/Baltic/CIS	125.8	2.1	3.1	N/A
Middle East	38.0	0.8	0.9	8
Africa	33.7	0.9	0.8	6

Source: WTO Annual Report, 1999

Table 4.5 Leading Exporters and Importers of Manufactures, 1998

(Billion dollars and percentage)

	Value	Share in World Exports / Imports			Annual Percentage Change
	1998	1980	1990	1998	1990-98
Exporters					
United States	558.11	13.4	12.2	13.9	9
Germany	468.47	14.8	15.7	11.7	3
Japan	365.56	11.2	11.5	9.1	4
France	240.05	7.4	6.7	6.0	5
United Kingdom	233.23	7.5	6.1	5.8	6
Italy	217.02	6.0	6.2	5.4	5
Hong Kong, China	162.91	-	-	-	10
domestic exports	23.06	1.2	1.1	0.6	-2
re-exports	139.85	-	-	-	14
China [a]	160.34	0.8	1.9	4.0	17
Canada	140.97	2.7	3.1	3.5	9
Belgium-Luxembourg	139.72	4.1	3.8	3.5	5
Netherlands	118.93	3.4	3.3	3.0	5
Korea, Rep. of	114.21	1.4	2.5	2.8	8
Taipei, Chinese	106.51	1.6	2.6	2.7	7
Mexico [a]	99.88	0.2	1.1	2.5	19
Singapore	93.03	0.8	1.6	2.3	12
domestic exports	53.29	0.3	1.0	1.3	11
re-exports	39.73	0.5	0.6	1.0	14
Above 15	3079.08	76.4	79.4	76.8	-
Importers					
United States	757.56	10.8	15.1	18.4	9
Germany	331.20	8.5	10.2	8.0	3
United Kingdom	260.10	6.2	6.8	6.3	5
France	226.96	6.3	6.9	5.5	4
Canada [b]	169.54	3.6	3.7	4.1	8
Hong Kong, China	164.10	-	-	-	11
retained imports	24.25	1.0	0.9	0.6	1
Japan	158.73	2.2	4.0	3.8	6
Italy	152.93	3.9	4.6	3.7	4
Belgium-Luxembourg	131.04	3.6	3.6	3.2	5
Netherlands	119.86	3.5	3.6	2.9	4
China [a]	113.05	1.1	1.7	2.7	13
Mexico [a, b]	105.89	1.3	1.3	2.6	16
Spain	99.05	1.1	2.5	2.4	6
Singapore	85.35	1.1	1.8	2.1	9
retained imports	45.62	0.7	1.2	1.1	5
Taipei, Chinese	79.43	0.9	1.5	1.9	10
Above 15	2814.95	55.2	68.2	68.2	-

a Includes significant shipments through processing zones.

b Imports are valued f.o.b.

Source: WTO Annual Report, 1999

Table 4.6 Geographic & Product Composition of Trade of Selected Countries, 1998

	Manufactures Percent of Total Goods		Percent of Total Manufactures						Manufactures Percent with United States	
			Mach. & Transport Equipment		Office & Telecom Equipment		Automotive			
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
United States	82.0	80.0	64.2	57.0	20.4	20.6	10.9	17.1		
Canada	65.8	84.3	62.6	62.1	9.2	13.4	35.4	23.6	90.3	70.2
European Union	80.8	76.2	51.7	50.7	11.5	15.3	15.2	14.0	8.2	9.2
France	78.6	79.2	55.0	49.3	12.0	13.6	16.1	12.6	8.1	10.3
Germany	86.6	71.5	58.9	50.9	7.3	13.8	21.3	14.6	10.3	10.2
Italy	89.6	70.8	43.5	47.6	4.4	11.5	8.7	16.4	8.7	5.5
United Kingdom	85.1	82.4	56.0	54.3	18.5	18.2	11.2	14.7	13.9	14.5
Japan	94.2	56.6	73.4	47.2	23.3	23.0	21.2	4.9	31.2	29.5
Hong Kong	93.2	87.9	36.0	44.3	22.5	26.2	0.8	2.2	24.8	6.8
Korea	86.3	58.4	57.0	57.3	27.9	30.4	10.0	1.7	19.5	27.4
Singapore	84.6	83.8	78.6	72.1	61.9	43.6	0.7	1.5	22.6	20.4
World	80.0		54.0		17.0		13.1		18.9	13.9

Source: WTO Annual Report, 1999

Table 4.7.A Merchandise Trade Product Composition -- United States

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**622.8**	**687.5**	**680.4**	**100%**	**100%**	**100%**
Agricultural	82.0	77.3	69.8	13.2%	11.2%	10.3%
Food	63.5	59.5	54.3	10.2%	8.7%	8.0%
Raw Materials	18.5	17.8	15.5	3.0%	2.6%	2.3%
Mining Products	25.4	26.8	22.9	4.1%	3.9%	3.4%
Ores & other minerals	6.0	6.4	5.3	1.0%	0.9%	0.8%
Fuels	12.2	12.6	10.1	2.0%	1.8%	1.5%
Non-ferrous metals	7.2	7.8	7.6	1.2%	1.1%	1.1%
Manufactures	484.6	553.5	558.1	77.8%	80.5%	82.0%
IMPORTS						
Total Merchandise [a]	**817.6**	**898.0**	**944.4**	**100%**	**100%**	**100%**
Agricultural	56.9	61.8	62.4	7.0%	6.9%	6.6%
Food	40.2	44.7	46.1	4.9%	5.0%	4.9%
Raw Materials	16.7	17.1	16.3	2.0%	1.9%	1.7%
Mining Products	96.8	104.2	84.6	11.8%	11.6%	9.0%
Ores & other minerals	5.9	6.1	6.0	0.7%	0.7%	0.6%
Fuels	77.1	82.5	62.2	9.4%	9.2%	6.6%
Non-ferrous metals	13.9	15.5	16.4	1.7%	1.7%	1.7%
Manufactures	634.2	699.0	757.6	77.6%	77.8%	80.2%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.7.B Manufactures Trade Product Composition -- United States

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**484.6**	**553.5**	**558.1**	**100%**	**100%**	**100%**
Iron & Steel	5.3	6.2	6.0	1.1%	1.1%	1.1%
Chemicals	63.0	70.9	69.3	13.0%	12.8%	12.4%
Other Semi-Manufactures	35.3	39.1	39.0	7.3%	7.1%	7.0%
Machinery & Transport Equipment	306.2	352.6	358.2	63.2%	63.7%	64.2%
Power Generating Machinery	14.1	17.6	19.1	2.9%	3.2%	3.4%
Other Non-Electrical Machinery	59.5	67.9	65.4	12.3%	12.3%	11.7%
Office & Telecommunications Equipment	104.6	118.9	113.9	21.6%	21.5%	20.4%
Electrical Machinery & Apparatus	31.4	35.4	34.9	6.5%	6.4%	6.3%
Automotive Products	55.0	61.5	61.1	11.3%	11.1%	10.9%
Other Transport Equipment	41.6	51.3	63.8	8.6%	9.3%	11.4%
Textiles	8.0	9.2	9.2	1.7%	1.7%	1.7%
Clothing	7.5	8.7	8.8	1.6%	1.6%	1.6%
Other Consumer Goods	59.3	66.8	67.6	12.2%	12.1%	12.1%
World Mfrs Trade	3791.7	3986.7	4010.3			
US % of World Mfrs Exports	12.8%	13.9%	13.9%			
IMPORTS						
Total Manufactures	**634.2**	**699.0**	**757.6**	**100%**	**100%**	**100%**
Iron & Steel	16.4	17.3	20.7	2.6%	2.5%	2.7%
Chemicals	46.6	52.1	56.4	7.4%	7.5%	7.5%
Other Semi-Manufactures	54.9	60.4	66.9	8.7%	8.6%	8.8%
Machinery & Transport Equipment	369.2	402.8	431.6	58.2%	57.6%	57.0%
Power Generating Machinery	10.6	12.8	15.4	1.7%	1.8%	2.0%
Other Non-Electrical Machinery	52.0	56.3	61.4	8.2%	8.1%	8.1%
Office & Telecommunications Equipment	140.7	151.7	155.9	22.2%	21.7%	20.6%
Electrical Machinery & Apparatus	36.1	41.0	43.5	5.7%	5.9%	5.7%
Automotive Products	112.0	120.7	129.8	17.7%	17.3%	17.1%
Other Transport Equipment	17.9	20.2	25.6	2.8%	2.9%	3.4%
Textiles	10.7	12.5	13.5	1.7%	1.8%	1.8%
Clothing	43.3	50.3	55.7	6.8%	7.2%	7.4%
Other Consumer Goods	93.0	103.7	112.8	14.7%	14.8%	14.9%
World Mfrs Trade	3791.7	3986.7	4010.3			
US % of World Mfrs Trade	16.7%	17.5%	18.9%			

Source: WTO Annual Report, 1999

Table 4.7.C Manufactures Trade Geographic Composition -- United States

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**484.6**	**553.5**	**558.1**	**100%**	**100%**	**100%**
Regions						
North America	112.5	128.2	133.2	23.2%	23.2%	23.9%
Latin America	87.0	109.6	116.6	18.0%	19.8%	20.9%
Western Europe	110.1	125.2	134.9	22.7%	22.6%	24.2%
C/E Europe/Baltic/CIS	4.0	5.0	5.2	0.8%	0.9%	0.9%
Africa	6.4	7.4	7.7	1.3%	1.3%	1.4%
Middle East	14.3	16.4	19.4	2.9%	3.0%	3.5%
Asia	150.3	161.7	141.1	31.0%	29.2%	25.3%
Countries						
Canada	112.3	128.0	132.9	23.2%	23.1%	23.8%
EU	101.4	116.2	125.2	20.9%	21.0%	22.4%
Japan	44.3	45.4	40.6	9.2%	8.2%	7.3%
Mexico	45.6	58.9	65.0	9.4%	10.6%	11.6%
China	8.8	10.0	11.9	1.8%	1.8%	2.1%
Taipei, Chinese	13.3	15.9	14.8	2.7%	2.9%	2.6%
IMPORTS						
Total from World	**634.2**	**699.0**	**757.6**	**100%**	**100%**	**100%**
Regions						
North America	106.5	114.7	123.3	16.8%	16.4%	16.3%
Latin America	76.7	89.8	102.6	12.1%	12.9%	13.5%
Western Europe	134.3	148.7	167.9	21.2%	21.3%	22.2%
C/E Europe/Baltic/CIS	4.5	5.9	7.5	0.7%	0.8%	1.0%
Africa	2.4	2.7	3.1	0.4%	0.4%	0.4%
Middle East	7.5	8.5	9.9	1.2%	1.2%	1.3%
Asia	302.1	328.7	343.5	47.6%	47.0%	45.3%
Countries						
Canada	106.5	114.7	123.3	16.8%	16.4%	16.3%
EU	124.2	137.9	156.2	19.6%	19.7%	20.6%
Japan	114.6	120.2	120.6	18.1%	17.2%	15.9%
Mexico	58.0	68.3	79.0	9.1%	9.8%	10.4%
China	52.1	63.0	72.2	8.2%	9.0%	9.5%
Taipei, Chinese	30.1	32.6	33.0	4.7%	4.7%	4.4%

Source: WTO Annual Report, 1999

Table 4.8.A Merchandise Trade Product Composition -- Canada

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**201.6**	**214.4**	**214.1**	**100%**	**100%**	**100%**
Agricultural	31.5	33.1	30.0	15.6%	15.4%	14.0%
Food	15.5	16.7	15.7	7.7%	7.8%	7.3%
Raw Materials	16.1	16.4	14.4	8.0%	7.7%	6.7%
Mining Products	32.8	34.7	28.9	16.3%	16.2%	13.5%
Ores & other minerals	4.4	4.5	3.8	2.2%	2.1%	1.8%
Fuels	20.5	21.9	17.5	10.2%	10.2%	8.2%
Non-ferrous metals	7.9	8.3	7.6	3.9%	3.9%	3.5%
Manufactures	125.8	134.4	141.0	62.4%	62.7%	65.8%
IMPORTS						
Total Merchandise [a]	**171.0**	**196.0**	**201.2**	**100%**	**100%**	**100%**
Agricultural	12.4	13.7	14.0	7.3%	7.0%	7.0%
Food	9.9	10.8	11.2	5.8%	5.5%	5.6%
Raw Materials	2.5	2.8	2.8	1.5%	1.4%	1.4%
Mining Products	12.6	14.3	12.0	7.4%	7.3%	6.0%
Ores & other minerals	2.9	2.9	2.7	1.7%	1.5%	1.4%
Fuels	7.4	8.8	6.8	4.3%	4.5%	3.4%
Non-ferrous metals	2.3	2.6	2.5	1.3%	1.3%	1.3%
Manufactures	139.4	161.6	169.5	81.5%	82.5%	84.3%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.8.B Manufactures Trade Product Composition -- Canada

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**125.8**	**134.4**	**141.0**	**100%**	**100%**	**100%**
Iron & Steel	3.2	3.1	3.1	2.5%	2.3%	2.2%
Chemicals	11.4	12.7	12.2	9.1%	9.4%	8.6%
Other Semi-Manufactures	19.8	20.5	21.7	15.7%	15.3%	15.4%
Machinery & Transport Equipment	78.7	83.7	88.2	62.5%	62.3%	62.6%
Power Generating Machinery	2.8	2.5	2.8	2.2%	1.9%	2.0%
Other Non-Electrical Machinery	9.3	10.2	10.7	7.4%	7.6%	7.6%
Office & Telecommunications Equipment	12.3	13.3	13.0	9.8%	9.9%	9.2%
Electrical Machinery & Apparatus	3.3	3.8	4.1	2.7%	2.8%	2.9%
Automotive Products	44.7	47.9	49.9	35.5%	35.6%	35.4%
Other Transport Equipment	6.2	6.1	7.8	4.9%	4.6%	5.5%
Textiles	1.7	1.9	1.9	1.3%	1.4%	1.4%
Clothing	1.2	1.5	1.7	1.0%	1.1%	1.2%
Other Consumer Goods	9.9	11.1	12.2	7.9%	8.2%	8.6%
World Mfrs Trade	3791.7	3986.7	4010.3			
Canada % of World Mfrs Exports	3.3%	3.4%	3.5%			
IMPORTS						
Total Manufactures	**139.4**	**161.6**	**169.5**	**100%**	**100%**	**100%**
Iron & Steel	3.3	4.4	4.8	2.4%	2.7%	2.8%
Chemicals	14.4	16.0	16.9	10.3%	9.9%	9.9%
Other Semi-Manufactures	12.5	14.3	15.5	8.9%	8.9%	9.1%
Machinery & Transport Equipment	87.3	101.5	105.2	62.6%	62.8%	62.1%
Power Generating Machinery	2.6	3.1	3.7	1.8%	1.9%	2.2%
Other Non-Electrical Machinery	16.3	19.9	20.5	11.7%	12.3%	12.1%
Office & Telecommunications Equipment	20.5	22.5	22.7	14.7%	13.9%	13.4%
Electrical Machinery & Apparatus	7.8	8.8	9.1	5.6%	5.4%	5.4%
Automotive Products	34.1	39.4	40.0	24.5%	24.4%	23.6%
Other Transport Equipment	6.0	8.0	9.2	4.3%	4.9%	5.4%
Textiles	3.3	3.9	4.0	2.4%	2.4%	2.4%
Clothing	2.5	3.0	3.3	1.8%	1.9%	1.9%
Other Consumer Goods	16.0	18.5	20.0	11.5%	11.4%	11.8%
World Mfrs Trade	3791.7	3986.7	4010.3			
Canada % of World Mfrs Trade	3.7%	4.1%	4.2%			

Source: WTO Annual Report, 1999

Table 4.8.C Manufactures Trade Geographic Composition -- Canada

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**125.8**	**134.4**	**141.0**	**100%**	**100%**	**100%**
Regions						
North America	110.0	118.5	127.3	87.4%	88.2%	90.3%
Latin America	2.2	2.9	2.5	1.8%	2.1%	1.8%
Western Europe	5.9	5.3	5.8	4.7%	3.9%	4.1%
C/E Europe/Baltic/CIS	0.5	0.5	0.4	0.4%	0.3%	0.3%
Africa	0.4	0.5	0.4	0.3%	0.4%	0.3%
Middle East	0.5	0.5	0.5	0.4%	0.4%	0.4%
Asia	6.3	6.3	4.2	5.0%	4.7%	3.0%
Countries						
United States	109.9	118.5	127.2	87.4%	88.1%	90.3%
EU	5.5	5.0	5.3	4.4%	3.7%	3.7%
Japan	1.4	1.4	1.0	1.1%	1.1%	0.7%
China	0.8	0.8	0.6	0.7%	0.6%	0.5%
Mexico	0.5	0.5	0.5	0.4%	0.4%	0.4%
Korea, Rep of	0.8	0.9	0.4	0.6%	0.6%	0.3%
IMPORTS						
Total from World	**139.4**	**161.6**	**169.5**	**100%**	**100%**	**100%**
Regions						
North America	98.8	114.1	119.1	70.9%	70.6%	70.2%
Latin America	4.8	5.4	5.6	3.4%	3.4%	3.3%
Western Europe	14.0	16.5	17.3	10.0%	10.2%	10.2%
C/E Europe/Baltic/CIS	0.4	0.6	0.7	0.3%	0.4%	0.4%
Africa	0.2	0.2	0.3	0.2%	0.1%	0.2%
Middle East	0.2	0.3	0.3	0.2%	0.2%	0.2%
Asia	19.7	23.2	24.8	14.1%	14.4%	14.6%
Countries						
United States	98.8	114.1	119.1	70.9%	70.6%	70.2%
EU	13.1	15.6	16.3	9.4%	9.6%	9.6%
Japan	7.5	8.9	9.3	5.4%	5.5%	5.5%
China	3.4	4.3	4.9	2.4%	2.7%	2.9%
Mexico	4.0	4.5	4.7	2.9%	2.8%	2.8%
Korea, Rep of	2.0	2.0	2.1	1.4%	1.2%	1.3%

Source: WTO Annual Report, 1999

Table 4.9.A Merchandise Trade Product Composition -- EU

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**2120.5**	**2109.1**	**2181.0**	**100%**	**100%**	**100%**
Agricultural	233.0	223.4	221.2	11.0%	10.6%	10.1%
Food	198.3	189.8	187.7	9.4%	9.0%	8.6%
Raw Materials	34.7	33.6	33.6	1.6%	1.6%	1.5%
Mining Products	111.0	110.1	95.2	5.2%	5.2%	4.4%
Ores & other minerals	14.4	15.6	13.7	0.7%	0.7%	0.6%
Fuels	64.1	61.2	49.7	3.0%	2.9%	2.3%
Non-ferrous metals	32.4	33.3	31.9	1.5%	1.6%	1.5%
Manufactures	1678.3	1706.5	1762.2	79.1%	80.9%	80.8%
IMPORTS						
Total Merchandise [a]	**2093.0**	**2063.6**	**2172.4**	**100%**	**100%**	**100%**
Agricultural	263.6	246.4	247.8	12.6%	11.9%	11.4%
Food	215.2	199.8	201.7	10.3%	9.7%	9.3%
Raw Materials	48.4	46.6	46.1	2.3%	2.3%	2.1%
Mining Products	211.4	203.9	173.5	10.1%	9.9%	8.0%
Ores & other minerals	26.3	27.3	26.2	1.3%	1.3%	1.2%
Fuels	145.1	135.5	105.9	6.9%	6.6%	4.9%
Non-ferrous metals	40.0	41.0	41.3	1.9%	2.0%	1.9%
Manufactures	1539.5	1548.9	1654.9	73.6%	75.1%	76.2%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.9.B Manufactures Trade Product Composition -- EU

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**1678.3**	**1706.5**	**1762.2**	**100%**	**100%**	**100%**
Iron & Steel	65.9	63.9	65.3	3.9%	3.7%	3.7%
Chemicals	257.1	261.7	272.3	15.3%	15.3%	15.5%
Other Semi-Manufactures	202.8	198.1	199.5	12.1%	11.6%	11.3%
Machinery & Transport Equipment	841.4	864.5	910.4	50.1%	50.7%	51.7%
Power Generating Machinery	30.5	33.1	37.5	1.8%	1.9%	2.1%
Other Non-Electrical Machinery	222.2	216.0	221.6	13.2%	12.7%	12.6%
Office & Telecommunications Equipment	174.9	193.7	202.4	10.4%	11.4%	11.5%
Electrical Machinery & Apparatus	96.1	98.8	98.7	5.7%	5.8%	5.6%
Automotive Products	245.9	244.4	267.7	14.7%	14.3%	15.2%
Other Transport Equipment	71.8	78.5	82.6	4.3%	4.6%	4.7%
Textiles	60.0	61.2	60.6	3.6%	3.6%	3.4%
Clothing	51.3	55.7	51.2	3.1%	3.3%	2.9%
Other Consumer Goods	199.7	201.4	203.0	11.9%	11.8%	11.5%
World Mfrs Trade	3791.7	3986.7	4010.3			
EU % of World Mfrs Exports	44.3%	42.8%	43.9%			
IMPORTS						
Total Manufactures	**1539.5**	**1548.9**	**1654.9**	**100%**	**100%**	**100%**
Iron & Steel	54.5	53.6	59.5	3.5%	3.5%	3.6%
Chemicals	217.1	216.7	231.0	14.1%	14.0%	14.0%
Other Semi-Manufactures	180.5	173.6	179.4	11.7%	11.2%	10.8%
Machinery & Transport Equipment	751.3	765.5	838.8	48.8%	49.4%	50.7%
Power Generating Machinery	27.1	29.6	33.3	1.8%	1.9%	2.0%
Other Non-Electrical Machinery	145.1	138.2	151.3	9.4%	8.9%	9.1%
Office & Telecommunications Equipment	223.4	236.4	253.4	14.5%	15.3%	15.3%
Electrical Machinery & Apparatus	91.3	92.3	96.0	5.9%	6.0%	5.8%
Automotive Products	207.8	204.3	232.1	13.5%	13.2%	14.0%
Other Transport Equipment	56.6	64.6	72.7	3.7%	4.2%	4.4%
Textiles	54.8	55.9	56.4	3.6%	3.6%	3.4%
Clothing	81.7	85.9	84.2	5.3%	5.5%	5.1%
Other Consumer Goods	199.6	197.6	205.6	13.0%	12.8%	12.4%
World Mfrs Trade	3791.7	3986.7	4010.3			
EU % of World Mfrs Trade	40.6%	38.9%	41.3%			

Source: WTO Annual Report, 1999

Table 4.9.C Manufactures Trade Geographic Composition -- EU

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**1678.3**	**1706.5**	**1762.2**	**100%**	**100%**	**100%**
Regions						
North America	138.5	154.4	172.6	8.3%	9.0%	9.8%
Latin America	41.6	47.5	51.1	2.5%	2.8%	2.9%
Western Europe	1129.6	1128.4	1186.4	67.3%	66.1%	67.3%
C/E Europe/Baltic/CIS	87.2	99.6	106.5	5.2%	5.8%	6.0%
Africa	46.3	45.9	48.4	2.8%	2.7%	2.7%
Middle East	45.8	49.3	46.8	2.7%	2.9%	2.7%
Asia	181.2	175.1	141.3	10.8%	10.3%	8.0%
Countries						
Intra-EU (15)	1020.4	1017.4	1071.4	60.8%	59.6%	60.8%
Extra-EU	657.9	689.1	690.9	39.2%	40.4%	39.2%
United States	126.9	140.5	155.3	7.6%	8.2%	8.8%
Japan	38.5	34.1	28.8	2.3%	2.0%	1.6%
Switzerland	54.0	50.1	52.9	3.2%	2.9%	3.0%
Norway	20.3	22.0	22.0	1.2%	1.3%	1.3%
IMPORTS						
Total from World	**1539.5**	**1548.9**	**1654.9**	**100%**	**100%**	**100%**
Regions						
North America	137.4	145.8	157.7	8.9%	9.4%	9.5%
Latin America	10.0	10.0	11.2	0.7%	0.6%	0.7%
Western Europe	1096.4	1087.5	1148.1	71.2%	70.2%	69.4%
C/E Europe/Baltic/CIS	50.7	53.4	65.8	3.3%	3.5%	4.0%
Africa	17.5	17.1	18.4	1.1%	1.1%	1.1%
Middle East	9.6	10.5	11.4	0.6%	0.7%	0.7%
Asia	214.9	219.2	237.7	14.0%	14.2%	14.4%
Countries						
Intra-EU (15)				0.0%	0.0%	0.0%
Extra-EU	519.1	531.4	583.5	33.7%	34.3%	35.3%
United States	127.1	142.0	149.5	8.3%	9.2%	9.0%
Japan	72.8	70.8	77.1	4.7%	4.6%	4.7%
Switzerland	47.0	43.6	46.1	3.1%	2.8%	2.8%
Norway	9.4	9.2	9.3	0.6%	0.6%	0.6%

Source: WTO Annual Report, 1999

Table 4.10.A Merchandise Trade Product Composition -- France

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**287.5**	**288.1**	**305.4**	**100%**	**100%**	**100%**
Agricultural	43.6	41.5	41.1	15.2%	14.4%	13.4%
Food	39.8	38.1	37.7	13.8%	13.2%	12.4%
Raw Materials	3.9	3.4	3.3	1.3%	1.2%	1.1%
Mining Products	13.7	13.0	11.9	4.8%	4.5%	3.9%
Ores & other minerals	1.8	1.7	1.6	0.6%	0.6%	0.5%
Fuels	7.2	7.0	6.3	2.5%	2.4%	2.1%
Non-ferrous metals	4.6	4.3	4.0	1.6%	1.5%	1.3%
Manufactures	224.7	221.3	240.1	78.1%	76.8%	78.6%
IMPORTS						
Total Merchandise [a]	**275.7**	**267.3**	**286.5**	**100%**	**100%**	**100%**
Agricultural	34.4	32.3	33.2	12.5%	12.1%	11.6%
Food	28.6	26.7	27.6	10.4%	10.0%	9.6%
Raw Materials	5.9	5.6	5.6	2.1%	2.1%	1.9%
Mining Products	31.0	30.4	25.0	11.2%	11.4%	8.7%
Ores & other minerals	2.5	2.6	2.6	0.9%	1.0%	0.9%
Fuels	22.8	21.8	16.7	8.3%	8.2%	5.8%
Non-ferrous metals	5.8	6.1	5.8	2.1%	2.3%	2.0%
Manufactures	208.5	203.3	227.0	75.6%	76.1%	79.2%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.10.B Manufactures Trade Product Composition -- France

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**224.7**	**221.3**	**240.1**	**100%**	**100%**	**100%**
Iron & Steel	9.8	9.3	9.5	4.4%	4.2%	3.9%
Chemicals	40.8	37.0	39.0	18.2%	16.7%	16.2%
Other Semi-Manufactures	23.2	22.4	23.5	10.3%	10.1%	9.8%
Machinery & Transport Equipment	115.6	118.2	131.9	51.4%	53.4%	55.0%
Power Generating Machinery	5.2	5.3	6.9	2.3%	2.4%	2.9%
Other Non-Electrical Machinery	22.2	22.0	24.0	9.9%	9.9%	10.0%
Office & Telecommunications Equipment	22.7	25.1	28.8	10.1%	11.3%	12.0%
Electrical Machinery & Apparatus	13.2	13.1	13.5	5.9%	5.9%	5.6%
Automotive Products	34.1	34.5	38.7	15.2%	15.6%	16.1%
Other Transport Equipment	18.2	18.1	20.0	8.1%	8.2%	8.3%
Textiles	7.3	7.2	7.6	3.2%	3.3%	3.2%
Clothing	5.5	5.3	5.8	2.5%	2.4%	2.4%
Other Consumer Goods	22.5	22.0	22.9	10.0%	9.9%	9.6%
World Mfrs Trade	3791.7	3986.7	4010.3			
France % of World Mfrs Exports	5.9%	5.6%	6.0%			
IMPORTS						
Total Manufactures	**208.5**	**203.3**	**227.0**	**100%**	**100%**	**100%**
Iron & Steel	7.8	7.6	8.7	3.7%	3.8%	3.8%
Chemicals	33.6	33.1	35.8	16.1%	16.3%	15.8%
Other Semi-Manufactures	22.0	21.1	23.0	10.5%	10.4%	10.1%
Machinery & Transport Equipment	99.7	96.9	111.9	47.8%	47.7%	49.3%
Power Generating Machinery	4.1	5.3	6.6	2.0%	2.6%	2.9%
Other Non-Electrical Machinery	21.4	20.0	22.5	10.2%	9.8%	9.9%
Office & Telecommunications Equipment	25.3	26.8	30.9	12.1%	13.2%	13.6%
Electrical Machinery & Apparatus	11.3	11.6	12.5	5.4%	5.7%	5.5%
Automotive Products	28.6	23.5	28.5	13.7%	11.5%	12.6%
Other Transport Equipment	9.1	9.8	10.8	4.4%	4.8%	4.8%
Textiles	7.0	7.0	7.5	3.4%	3.4%	3.3%
Clothing	10.9	10.8	11.6	5.2%	5.3%	5.1%
Other Consumer Goods	27.5	26.9	28.5	13.2%	13.2%	12.5%
World Mfrs Trade	3791.7	3986.7	4010.3			
France % of World Mfrs Trade	5.5%	5.1%	5.7%			

Source: WTO Annual Report, 1999

Table 4.10.C Manufactures Trade Geographic Composition -- France

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**224.7**	**221.3**	**240.1**	**100%**	**100%**	**100%**
Regions						
North America	16.9	17.8	21.3	7.5%	8.0%	8.9%
Latin America	5.2	5.8	6.9	2.3%	2.6%	2.9%
Western Europe	151.1	147.0	160.6	67.2%	66.4%	66.9%
C/E Europe/Baltic/CIS	6.5	7.5	8.2	2.9%	3.4%	3.4%
Africa	13.0	11.9	13.3	5.8%	5.4%	5.5%
Middle East	5.4	5.5	5.6	2.4%	2.5%	2.3%
Asia	23.4	24.1	21.0	10.4%	10.9%	8.7%
Countries						
Intra-EU (15)	138.2	134.4	147.3	61.5%	60.7%	61.4%
Extra-EU	86.5	87.0	92.8	38.5%	39.3%	38.6%
United States	15.2	15.8	19.4	6.8%	7.1%	8.1%
Switzerland	8.0	7.0	7.4	3.5%	3.1%	3.1%
Japan	4.2	3.7	3.3	1.9%	1.7%	1.4%
China	2.3	3.1	3.0	1.0%	1.4%	1.2%
IMPORTS						
Total from World	**208.5**	**203.3**	**227.0**	**100%**	**100%**	**100%**
Regions						
North America	21.1	22.4	24.4	10.1%	11.0%	10.8%
Latin America	1.4	1.4	1.4	0.7%	0.7%	0.6%
Western Europe	149.4	138.9	156.7	71.6%	68.3%	69.0%
C/E Europe/Baltic/CIS	3.6	3.8	5.0	1.7%	1.9%	2.2%
Africa	4.4	4.4	5.0	2.1%	2.2%	2.2%
Middle East	0.8	0.8	0.9	0.4%	0.4%	0.4%
Asia	27.1	28.0	29.8	13.0%	13.8%	13.1%
Countries						
Intra-EU (15)	140.5	130.7	147.1	67.4%	64.3%	64.8%
Extra-EU	68.0	72.5	79.8	32.6%	35.7%	35.2%
United States	20.0	21.3	23.4	9.6%	10.5%	10.3%
Switzerland	6.2	5.8	6.4	3.0%	2.8%	2.8%
Japan	8.9	8.8	9.4	4.2%	4.3%	4.1%
China	5.7	6.2	6.8	2.7%	3.1%	3.0%

Source: WTO Annual Report, 1999

Table 4.11.A Merchandise Trade Product Composition -- Germany

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**524.2**	**512.4**	**540.8**	**100%**	**100%**	**100%**
Agricultural	32.7	30.1	29.6	6.2%	5.9%	5.5%
Food	27.4	25.1	24.7	5.2%	4.9%	4.6%
Raw Materials	5.3	5.1	4.9	1.0%	1.0%	0.9%
Mining Products	18.7	19.1	17.7	3.6%	3.7%	3.3%
Ores & other minerals	3.3	3.8	3.1	0.6%	0.7%	0.6%
Fuels	6.7	6.0	5.5	1.3%	1.2%	1.0%
Non-ferrous metals	8.8	9.3	9.2	1.7%	1.8%	1.7%
Manufactures	450.7	445.8	468.5	86.0%	87.0%	86.6%
IMPORTS						
Total Merchandise [a]	**458.7**	**445.5**	**463.2**	**100%**	**100%**	**100%**
Agricultural	55.4	51.0	48.9	12.1%	11.5%	10.6%
Food	45.1	41.1	39.4	9.8%	9.2%	8.5%
Raw Materials	10.3	9.9	9.5	2.2%	2.2%	2.0%
Mining Products	50.3	49.9	41.5	11.0%	11.2%	8.9%
Ores & other minerals	6.0	6.4	6.3	1.3%	1.4%	1.4%
Fuels	35.0	33.5	25.3	7.6%	7.5%	5.5%
Non-ferrous metals	9.3	10.1	9.8	2.0%	2.3%	2.1%
Manufactures	327.7	313.6	331.2	71.4%	70.4%	71.5%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.11.B Manufactures Trade Product Composition -- Germany

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**450.7**	**445.8**	**468.5**	**100%**	**100%**	**100%**
Iron & Steel	15.4	15.5	15.5	3.4%	3.5%	3.3%
Chemicals	68.4	68.4	69.6	15.2%	15.3%	14.9%
Other Semi-Manufactures	42.6	41.3	42.5	9.5%	9.3%	9.1%
Machinery & Transport Equipment	258.2	257.2	275.8	57.3%	57.7%	58.9%
Power Generating Machinery	7.9	7.6	8.5	1.8%	1.7%	1.8%
Other Non-Electrical Machinery	81.0	76.5	78.5	18.0%	17.2%	16.8%
Office & Telecommunications Equipment	31.8	33.2	34.2	7.0%	7.4%	7.3%
Electrical Machinery & Apparatus	31.5	30.7	31.5	7.0%	6.9%	6.7%
Automotive Products	87.9	89.0	99.6	19.5%	20.0%	21.3%
Other Transport Equipment	18.1	20.1	23.6	4.0%	4.5%	5.0%
Textiles	13.8	13.2	13.3	3.1%	3.0%	2.8%
Clothing	7.6	7.5	7.7	1.7%	1.7%	1.6%
Other Consumer Goods	44.6	42.7	44.1	9.9%	9.6%	9.4%
World Mfrs Trade	3791.7	3986.7	4010.3			
Germany % of World Mfrs Exports	11.9%	11.2%	11.7%			
IMPORTS						
Total Manufactures	**327.7**	**313.6**	**331.2**	**100%**	**100%**	**100%**
Iron & Steel	12.5	11.6	12.1	3.8%	3.7%	3.7%
Chemicals	40.5	39.4	41.3	12.4%	12.6%	12.5%
Other Semi-Manufactures	36.3	33.7	34.6	11.1%	10.8%	10.4%
Machinery & Transport Equipment	157.7	153.8	168.4	48.1%	49.1%	50.9%
Power Generating Machinery	6.2	6.5	7.0	1.9%	2.1%	2.1%
Other Non-Electrical Machinery	26.5	24.6	26.6	8.1%	7.9%	8.0%
Office & Telecommunications Equipment	43.1	42.0	45.8	13.2%	13.4%	13.8%
Electrical Machinery & Apparatus	21.3	20.2	21.3	6.5%	6.5%	6.4%
Automotive Products	47.1	45.5	48.3	14.4%	14.5%	14.6%
Other Transport Equipment	13.6	15.1	19.5	4.1%	4.8%	5.9%
Textiles	11.9	10.8	11.0	3.6%	3.4%	3.3%
Clothing	24.7	22.9	22.4	7.5%	7.3%	6.7%
Other Consumer Goods	44.1	41.4	41.5	13.5%	13.2%	12.5%
World Mfrs Trade	3791.7	3986.7	4010.3			
Germany % of World Mfrs Trade	8.6%	7.9%	8.3%			

Source: WTO Annual Report, 1999

Table 4.11.C Manufactures Trade Geographic Composition -- Germany

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**450.7**	**445.8**	**468.5**	**100%**	**100%**	**100%**
Regions						
North America	40.6	45.8	52.4	9.0%	10.3%	11.2%
Latin America	11.7	13.1	14.7	2.6%	2.9%	3.1%
Western Europe	285.6	274.2	290.3	63.4%	61.5%	62.0%
C/E Europe/Baltic/CIS	37.3	42.4	48.1	8.3%	9.5%	10.3%
Africa	9.3	9.3	9.6	2.1%	2.1%	2.0%
Middle East	9.6	9.9	10.0	2.1%	2.2%	2.1%
Asia	56.3	51.0	42.8	12.5%	11.4%	9.1%
Countries						
Intra-EU (15)	248.0	237.4	251.8	55.0%	53.3%	53.8%
Extra-EU	202.7	208.3	216.6	45.0%	46.7%	46.2%
United States	38.0	42.1	48.4	8.4%	9.4%	10.3%
Switzerland	22.2	20.4	21.9	4.9%	4.6%	4.7%
Japan	13.4	11.2	9.8	3.0%	2.5%	2.1%
Poland	9.6	10.7	12.4	2.1%	2.4%	2.6%
IMPORTS						
Total from World	**327.7**	**313.6**	**331.2**	**100%**	**100%**	**100%**
Regions						
North America	30.0	31.2	35.2	9.2%	10.0%	10.6%
Latin America	2.1	2.0	2.5	0.6%	0.6%	0.8%
Western Europe	207.6	192.1	195.8	63.4%	61.3%	59.1%
C/E Europe/Baltic/CIS	23.7	25.5	31.7	7.2%	8.1%	9.6%
Africa	2.6	2.5	2.9	0.8%	0.8%	0.9%
Middle East	1.6	1.5	1.7	0.5%	0.5%	0.5%
Asia	60.0	58.7	61.4	18.3%	18.7%	18.5%
Countries						
Intra-EU (15)	181.8	167.3	169.1	55.5%	53.4%	51.1%
Extra-EU	145.9	146.2	162.1	44.5%	46.6%	48.9%
United States	28.4	29.8	33.7	8.7%	9.5%	10.2%
Switzerland	16.2	15.2	16.3	4.9%	4.8%	4.9%
Japan	22.6	21.3	22.8	6.9%	6.8%	6.9%
Poland	6.5	6.6	7.5	2.0%	2.1%	2.3%

Source: WTO Annual Report, 1999

Table 4.12.A Merchandise Trade Product Composition -- Italy

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**252.1**	**238.3**	**242.1**	**100%**	**100%**	**100%**
Agricultural	18.2	16.7	17.1	7.2%	7.0%	7.1%
Food	16.6	15.2	15.5	6.6%	6.4%	6.4%
Raw Materials	1.6	1.5	1.5	0.6%	0.6%	0.6%
Mining Products	6.3	6.5	5.8	2.5%	2.7%	2.4%
Ores & other minerals	0.8	0.8	0.7	0.3%	0.3%	0.3%
Fuels	3.1	3.4	2.7	1.2%	1.4%	1.1%
Non-ferrous metals	2.5	2.3	2.4	1.0%	1.0%	1.0%
Manufactures	225.2	212.5	217.0	89.3%	89.2%	89.6%
IMPORTS						
Total Merchandise [a]	**208.1**	**208.3**	**215.9**	**100%**	**100%**	**100%**
Agricultural	34.0	32.3	32.1	16.3%	15.5%	14.8%
Food	24.1	22.6	22.8	11.6%	10.8%	10.6%
Raw Materials	9.9	9.7	9.3	4.8%	4.6%	4.3%
Mining Products	26.3	25.7	21.4	12.7%	12.3%	9.9%
Ores & other minerals	3.6	3.7	3.7	1.7%	1.8%	1.7%
Fuels	17.4	16.5	12.0	8.4%	7.9%	5.6%
Non-ferrous metals	5.3	5.5	5.7	2.6%	2.6%	2.6%
Manufactures	137.9	140.4	152.9	66.3%	67.4%	70.8%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.12.B Manufactures Trade Product Composition -- Italy

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**225.2**	**212.5**	**217.0**	**100%**	**100%**	**100%**
Iron & Steel	7.7	7.3	7.3	3.4%	3.4%	3.4%
Chemicals	19.8	19.7	20.2	8.8%	9.3%	9.3%
Other Semi-Manufactures	30.3	28.6	29.0	13.5%	13.4%	13.4%
Machinery & Transport Equipment	96.5	90.2	94.5	42.9%	42.5%	43.5%
Power Generating Machinery	3.3	3.1	3.0	1.5%	1.4%	1.4%
Other Non-Electrical Machinery	44.1	41.9	42.1	19.6%	19.7%	19.4%
Office & Telecommunications Equipment	10.6	9.4	9.6	4.7%	4.4%	4.4%
Electrical Machinery & Apparatus	11.7	11.1	11.3	5.2%	5.2%	5.2%
Automotive Products	19.1	17.8	18.8	8.5%	8.4%	8.7%
Other Transport Equipment	7.8	7.0	9.6	3.5%	3.3%	4.4%
Textiles	13.2	12.9	13.0	5.9%	6.1%	6.0%
Clothing	16.2	14.9	14.7	7.2%	7.0%	6.8%
Other Consumer Goods	41.5	39.0	38.3	18.4%	18.3%	17.7%
World Mfrs Trade	3791.7	3986.7	4010.3			
Italy % of World Mfrs Exports	5.9%	5.3%	5.4%			
IMPORTS						
Total Manufactures	**137.9**	**140.4**	**152.9**	**100%**	**100%**	**100%**
Iron & Steel	7.9	8.1	9.1	5.7%	5.7%	6.0%
Chemicals	27.1	27.1	27.9	19.6%	19.3%	18.2%
Other Semi-Manufactures	14.3	13.8	14.6	10.3%	9.8%	9.5%
Machinery & Transport Equipment	62.7	64.5	72.8	45.5%	45.9%	47.6%
Power Generating Machinery	1.7	1.8	2.0	1.2%	1.2%	1.3%
Other Non-Electrical Machinery	14.0	13.1	15.2	10.2%	9.3%	9.9%
Office & Telecommunications Equipment	15.9	16.2	17.6	11.5%	11.5%	11.5%
Electrical Machinery & Apparatus	6.7	6.8	7.2	4.9%	4.8%	4.7%
Automotive Products	20.3	22.6	25.0	14.7%	16.1%	16.4%
Other Transport Equipment	4.0	4.0	5.9	2.9%	2.9%	3.8%
Textiles	6.2	6.4	6.6	4.5%	4.6%	4.3%
Clothing	5.0	5.3	5.9	3.6%	3.8%	3.8%
Other Consumer Goods	14.8	15.2	16.1	10.8%	10.9%	10.5%
World Mfrs Trade	3791.7	3986.7	4010.3			
Italy % of World Mfrs Trade	3.6%	3.5%	3.8%			

Source: WTO Annual Report, 1999

Table 4.12.C Manufactures Trade Geographic Composition -- Italy

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**225.2**	**212.5**	**217.0**	**100%**	**100%**	**100%**
Regions						
North America	18.3	18.8	20.7	8.1%	8.8%	9.6%
Latin America	8.6	9.6	9.9	3.8%	4.5%	4.6%
Western Europe	141.8	131.9	137.6	63.0%	62.1%	63.4%
C/E Europe/Baltic/CIS	13.3	13.7	14.4	5.9%	6.4%	6.7%
Africa	7.0	7.0	7.4	3.1%	3.3%	3.4%
Middle East	8.9	8.1	8.1	4.0%	3.8%	3.8%
Asia	25.7	22.1	16.5	11.4%	10.4%	7.6%
Countries						
Intra-EU (15)	124.2	114.9	120.9	55.2%	54.1%	55.7%
Extra-EU	100.9	97.6	96.2	44.8%	45.9%	44.3%
United States	16.7	17.1	19.0	7.4%	8.1%	8.7%
Switzerland	8.0	7.1	7.4	3.6%	3.3%	3.4%
Japan	5.2	4.3	3.6	2.3%	2.0%	1.6%
China	2.8	2.4	2.0	1.2%	1.1%	0.9%
IMPORTS						
Total from World	**137.9**	**140.4**	**152.9**	**100%**	**100%**	**100%**
Regions						
North America	8.4	8.5	9.1	6.1%	6.1%	5.9%
Latin America	1.5	1.5	1.7	1.1%	1.1%	1.1%
Western Europe	104.7	105.3	113.2	75.9%	75.0%	74.0%
C/E Europe/Baltic/CIS	5.9	6.5	7.8	4.3%	4.7%	5.1%
Africa	2.2	2.3	2.5	1.6%	1.6%	1.6%
Middle East	0.8	1.0	1.1	0.6%	0.7%	0.7%
Asia	14.0	14.9	17.3	10.2%	10.6%	11.3%
Countries						
Intra-EU (15)	95.9	96.9	104.3	69.5%	69.0%	68.2%
Extra-EU	42.0	43.5	48.7	30.5%	31.0%	31.8%
United States	7.6	7.8	8.3	5.5%	5.6%	5.5%
Switzerland	5.6	5.0	5.4	4.0%	3.6%	3.5%
Japan	3.9	4.1	4.7	2.8%	2.9%	3.0%
China	3.6	4.0	4.4	2.6%	2.8%	2.9%

Source: WTO Annual Report, 1999

Table 4.13.A Merchandise Trade Product Composition -- United Kingdom

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**262.3**	**281.8**	**273.9**	**100%**	**100%**	**100%**
Agricultural	20.3	20.9	19.5	7.8%	7.4%	7.1%
Food	18.2	18.8	17.5	6.9%	6.7%	6.4%
Raw Materials	2.2	2.1	2.0	0.8%	0.8%	0.7%
Mining Products	23.1	23.3	17.2	8.8%	8.3%	6.3%
Ores & other minerals	1.8	1.9	1.7	0.7%	0.7%	0.6%
Fuels	17.1	16.8	11.5	6.5%	6.0%	4.2%
Non-ferrous metals	4.2	4.6	4.1	1.6%	1.6%	1.5%
Manufactures	215.5	234.4	233.2	82.2%	83.2%	85.1%
IMPORTS						
Total Merchandise [a]	**287.9**	**308.6**	**315.7**	**100%**	**100%**	**100%**
Agricultural	35.2	35.5	35.3	12.2%	11.5%	11.2%
Food	29.1	29.3	29.7	10.1%	9.5%	9.4%
Raw Materials	6.1	6.2	5.6	2.1%	2.0%	1.8%
Mining Products	20.1	20.1	17.3	7.0%	6.5%	5.5%
Ores & other minerals	3.1	3.3	3.2	1.1%	1.1%	1.0%
Fuels	11.0	10.7	7.8	3.8%	3.5%	2.5%
Non-ferrous metals	6.0	6.1	6.4	2.1%	2.0%	2.0%
Manufactures	230.0	250.3	260.1	79.9%	81.1%	82.4%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.13.B Manufactures Trade Product Composition -- United Kingdom

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**215.5**	**234.4**	**233.2**	**100%**	**100%**	**100%**
Iron & Steel	6.4	6.0	5.5	3.0%	2.5%	2.4%
Chemicals	34.9	36.1	36.9	16.2%	15.4%	15.8%
Other Semi-Manufactures	20.3	21.1	20.3	9.4%	9.0%	8.7%
Machinery & Transport Equipment	115.6	130.0	130.6	53.6%	55.5%	56.0%
Power Generating Machinery	7.5	10.4	11.9	3.5%	4.4%	5.1%
Other Non-Electrical Machinery	22.3	24.1	24.0	10.4%	10.3%	10.3%
Office & Telecommunications Equipment	38.9	42.1	43.3	18.1%	17.9%	18.5%
Electrical Machinery & Apparatus	11.3	12.2	12.3	5.2%	5.2%	5.3%
Automotive Products	24.2	26.1	26.2	11.2%	11.2%	11.2%
Other Transport Equipment	11.4	15.1	13.0	5.3%	6.4%	5.6%
Textiles	5.4	5.6	5.4	2.5%	2.4%	2.3%
Clothing	5.2	5.3	4.9	2.4%	2.3%	2.1%
Other Consumer Goods	27.7	30.3	29.6	12.8%	12.9%	12.7%
World Mfrs Trade	3791.7	3986.7	4010.3			
UK % of World Mfrs Exports	5.7%	5.9%	5.8%			
IMPORTS						
Total Manufactures	**230.0**	**250.3**	**260.1**	**100%**	**100%**	**100%**
Iron & Steel	5.6	5.6	5.5	2.5%	2.2%	2.1%
Chemicals	28.9	29.4	30.0	12.6%	11.7%	11.5%
Other Semi-Manufactures	25.8	26.9	27.3	11.2%	10.8%	10.5%
Machinery & Transport Equipment	121.4	135.2	141.3	52.8%	54.0%	54.3%
Power Generating Machinery	5.5	6.6	7.5	2.4%	2.7%	2.9%
Other Non-Electrical Machinery	18.9	20.6	20.6	8.2%	8.2%	7.9%
Office & Telecommunications Equipment	42.8	45.5	47.4	18.6%	18.2%	18.2%
Electrical Machinery & Apparatus	12.6	13.8	13.9	5.5%	5.5%	5.4%
Automotive Products	32.9	36.3	38.3	14.3%	14.5%	14.7%
Other Transport Equipment	8.6	12.3	13.6	3.7%	4.9%	5.2%
Textiles	8.1	8.5	8.3	3.5%	3.4%	3.2%
Clothing	9.7	11.2	12.0	4.2%	4.5%	4.6%
Other Consumer Goods	30.4	33.6	35.8	13.2%	13.4%	13.8%
World Mfrs Trade	3791.7	3986.7	4010.3			
UK % of World Mfrs Trade	6.1%	6.3%	6.5%			

Source: WTO Annual Report, 1999

Table 4.13.C Manufactures Trade Geographic Composition -- United Kingdom

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**215.5**	**234.4**	**233.2**	**100%**	**100%**	**100%**
Regions						
North America	28.2	33.1	35.6	13.1%	14.1%	15.3%
Latin America	3.6	4.7	4.7	1.7%	2.0%	2.0%
Western Europe	131.7	138.4	145.0	61.1%	59.1%	62.1%
C/E Europe/Baltic/CIS	5.5	6.7	6.5	2.5%	2.8%	2.8%
Africa	6.8	6.9	6.7	3.2%	3.0%	2.9%
Middle East	9.9	13.1	10.6	4.6%	5.6%	4.5%
Asia	29.8	31.5	24.3	13.8%	13.4%	10.4%
Countries						
Intra-EU (15)	121.3	126.7	133.1	56.3%	54.1%	57.1%
Extra-EU	94.2	107.6	100.1	43.7%	45.9%	42.9%
United States	25.8	30.1	32.4	12.0%	12.8%	13.9%
Japan	5.9	6.0	4.6	2.7%	2.6%	2.0%
Switzerland	4.6	4.5	4.7	2.1%	1.9%	2.0%
Hong Kong, China	4.0	4.7	4.1	1.9%	2.0%	1.7%
IMPORTS						
Total from World	**230.0**	**250.3**	**260.1**	**100%**	**100%**	**100%**
Regions						
North America	33.8	39.1	40.6	14.7%	15.6%	15.6%
Latin America	1.5	1.6	1.8	0.7%	0.6%	0.7%
Western Europe	140.3	148.4	154.0	61.0%	59.3%	59.2%
C/E Europe/Baltic/CIS	3.2	4.2	4.9	1.4%	1.7%	1.9%
Africa	2.1	2.7	2.7	0.9%	1.1%	1.0%
Middle East	3.0	3.8	4.0	1.3%	1.5%	1.5%
Asia	46.0	50.4	52.1	20.0%	20.1%	20.0%
Countries						
Intra-EU (15)	128.6	136.8	142.0	55.9%	54.7%	54.6%
Extra-EU	101.3	113.4	118.1	44.1%	45.3%	45.4%
United States	31.5	36.4	37.8	13.7%	14.5%	14.5%
Japan	13.7	15.1	15.4	6.0%	6.0%	5.9%
Switzerland	8.2	7.7	7.9	3.5%	3.1%	3.0%
Hong Kong, China	6.3	7.0	7.5	2.7%	2.8%	2.9%

Source: WTO Annual Report, 1999

Table 4.14.A Merchandise Trade Product Composition -- Japan

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**411.0**	**421.0**	**388.1**	**100%**	**100%**	**100%**
Agricultural	4.4	4.5	4.1	1.1%	1.1%	1.1%
Food	2.0	2.3	2.1	0.5%	0.5%	0.5%
Raw Materials	2.3	2.2	2.0	0.6%	0.5%	0.5%
Mining Products	6.4	6.7	6.0	1.6%	1.6%	1.5%
Ores & other minerals	0.7	0.8	0.8	0.2%	0.2%	0.2%
Fuels	2.0	1.9	1.2	0.5%	0.5%	0.3%
Non-ferrous metals	3.7	4.0	3.9	0.9%	1.0%	1.0%
Manufactures	389.8	398.0	365.6	94.8%	94.5%	94.2%
IMPORTS						
Total Merchandise [a]	**349.2**	**338.8**	**280.6**	**100%**	**100%**	**100%**
Agricultural	73.2	67.1	56.6	21.0%	19.8%	20.2%
Food	54.1	49.6	44.5	15.5%	14.6%	15.8%
Raw Materials	19.1	17.5	12.1	5.5%	5.2%	4.3%
Mining Products	80.1	83.2	60.0	22.9%	24.6%	21.4%
Ores & other minerals	10.1	10.5	8.8	2.9%	3.1%	3.1%
Fuels	60.9	62.8	43.3	17.4%	18.5%	15.4%
Non-ferrous metals	9.1	9.9	7.9	2.6%	2.9%	2.8%
Manufactures	189.6	182.8	158.7	54.3%	53.9%	56.6%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.14.B Manufactures Trade Product Composition -- Japan

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**389.8**	**398.0**	**365.6**	**100%**	**100%**	**100%**
Iron & Steel	15.2	16.0	14.9	3.9%	4.0%	4.1%
Chemicals	28.8	29.9	27.2	7.4%	7.5%	7.5%
Other Semi-Manufactures	19.2	19.2	17.1	4.9%	4.8%	4.7%
Machinery & Transport Equipment	285.8	291.1	268.5	73.3%	73.1%	73.4%
Power Generating Machinery	5.5	5.5	6.2	1.4%	1.4%	1.7%
Other Non-Electrical Machinery	59.7	57.3	47.8	15.3%	14.4%	13.1%
Office & Telecommunications Equipment	93.9	95.1	85.0	24.1%	23.9%	23.3%
Electrical Machinery & Apparatus	28.6	29.9	28.3	7.3%	7.5%	7.7%
Automotive Products	75.0	79.9	77.6	19.2%	20.1%	21.2%
Other Transport Equipment	23.0	23.4	23.6	5.9%	5.9%	6.5%
Textiles	6.9	6.8	6.0	1.8%	1.7%	1.6%
Clothing	0.5	0.5	0.4	0.1%	0.1%	0.1%
Other Consumer Goods	33.4	34.7	31.5	8.6%	8.7%	8.6%
World Mfrs Trade	3791.7	3986.7	4010.3			
Japan % of World Mfrs Exports	10.3%	10.0%	9.1%			
IMPORTS						
Total Manufactures	**189.6**	**182.8**	**158.7**	**100%**	**100%**	**100%**
Iron & Steel	4.5	4.4	3.2	2.3%	2.4%	2.0%
Chemicals	22.8	23.0	20.6	12.0%	12.6%	13.0%
Other Semi-Manufactures	17.3	16.0	12.1	9.1%	8.8%	7.6%
Machinery & Transport Equipment	85.2	83.6	74.9	44.9%	45.7%	47.2%
Power Generating Machinery	3.1	3.6	3.7	1.7%	2.0%	2.3%
Other Non-Electrical Machinery	11.6	11.7	10.3	6.1%	6.4%	6.5%
Office & Telecommunications Equipment	43.4	41.9	36.6	22.9%	22.9%	23.0%
Electrical Machinery & Apparatus	10.4	10.8	9.8	5.5%	5.9%	6.2%
Automotive Products	12.5	10.2	7.8	6.6%	5.6%	4.9%
Other Transport Equipment	4.2	5.4	6.7	2.2%	3.0%	4.2%
Textiles	6.1	5.8	4.4	3.2%	3.2%	2.7%
Clothing	19.7	16.7	14.7	10.4%	9.2%	9.3%
Other Consumer Goods	34.0	33.3	28.9	17.9%	18.2%	18.2%
World Mfrs Trade	3791.7	3986.7	4010.3			
Japan % of World Mfrs Trade	5.0%	4.6%	4.0%			

Source: WTO Annual Report, 1999

Table 4.14.C Manufactures Trade Geographic Composition -- Japan

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**389.8**	**398.0**	**365.6**	**100%**	**100%**	**100%**
Regions						
North America	113.5	119.0	120.2	29.1%	29.9%	32.9%
Latin America	11.0	13.3	13.6	2.8%	3.3%	3.7%
Western Europe	65.3	68.7	74.0	16.8%	17.2%	20.2%
C/E Europe/Baltic/CIS	2.1	2.3	2.3	0.5%	0.6%	0.6%
Africa	4.8	4.8	4.7	1.2%	1.2%	1.3%
Middle East	9.5	10.2	12.4	2.4%	2.6%	3.4%
Asia	177.4	173.1	132.0	45.5%	43.5%	36.1%
Countries						
United States	108.6	113.0	114.0	27.9%	28.4%	31.2%
EU (15)	61.1	63.6	68.9	15.7%	16.0%	18.8%
China	20.0	19.6	18.3	5.1%	4.9%	5.0%
Taipei, Chinese	23.7	25.1	23.1	6.1%	6.3%	6.3%
Korea, Rep of	27.2	24.1	13.9	7.0%	6.1%	3.8%
Hong Kong, China	23.0	24.8	20.5	5.9%	6.2%	5.6%
IMPORTS						
Total from World	**189.6**	**182.8**	**158.7**	**100%**	**100%**	**100%**
Regions						
North America	53.2	53.1	48.3	28.1%	29.1%	30.4%
Latin America	1.7	1.5	1.1	0.9%	0.8%	0.7%
Western Europe	45.7	41.3	35.4	24.1%	22.6%	22.3%
C/E Europe/Baltic/CIS	0.7	0.9	0.6	0.4%	0.5%	0.4%
Africa	0.7	0.6	0.5	0.3%	0.3%	0.3%
Middle East	1.5	1.5	1.1	0.8%	0.8%	0.7%
Asia	86.0	83.9	71.7	45.4%	45.9%	45.2%
Countries						
United States	51.3	51.2	46.8	27.1%	28.0%	29.5%
EU (15)	41.9	37.7	32.2	22.1%	20.6%	20.3%
China	30.8	31.9	29.1	16.2%	17.4%	18.3%
Taipei, Chinese	10.9	10.0	8.4	5.7%	5.5%	5.3%
Korea, Rep of	11.8	10.6	8.6	6.2%	5.8%	5.4%
Hong Kong, China	2.1	1.8	1.4	1.1%	1.0%	0.9%

Source: WTO Annual Report, 1999

Table 4.15.A Merchandise Trade Product Composition -- Hong Kong

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**180.9**	**188.2**	**174.9**	**100%**	**100%**	**100%**
Agricultural	7.8	7.4	6.3	4.3%	4.0%	3.6%
Food	5.6	5.3	4.3	3.1%	2.8%	2.4%
Raw Materials	2.2	2.2	2.0	1.2%	1.2%	1.2%
Mining Products	4.9	5.1	4.0	2.7%	2.7%	2.3%
Ores & other minerals	0.7	0.8	0.6	0.4%	0.4%	0.4%
Fuels	2.0	2.2	1.3	1.1%	1.1%	0.7%
Non-ferrous metals	2.2	2.2	2.1	1.2%	1.1%	1.2%
Manufactures	166.9	174.5	162.9	92.2%	92.7%	93.2%
IMPORTS						
Total Merchandise [a]	**201.3**	**213.3**	**186.8**	**100%**	**100%**	**100%**
Agricultural	14.3	14.6	12.7	7.1%	6.9%	6.8%
Food	11.1	11.6	10.1	5.5%	5.4%	5.4%
Raw Materials	3.2	3.1	2.6	1.6%	1.4%	1.4%
Mining Products	8.6	8.5	7.0	4.3%	4.0%	3.7%
Ores & other minerals	0.8	0.8	0.5	0.4%	0.4%	0.3%
Fuels	4.5	4.1	3.2	2.2%	1.9%	1.7%
Non-ferrous metals	3.3	3.5	3.3	1.6%	1.7%	1.8%
Manufactures	174.8	184.7	164.1	86.8%	86.6%	87.9%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.15.B Manufactures Trade Product Composition -- Hong Kong

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**166.9**	**174.5**	**162.9**	**100%**	**100%**	**100%**
Iron & Steel	2.6	2.5	2.2	1.6%	1.4%	1.4%
Chemicals	10.7	10.6	9.5	6.4%	6.1%	5.8%
Other Semi-Manufactures	11.1	11.5	10.5	6.7%	6.6%	6.5%
Machinery & Transport Equipment	58.2	61.8	58.6	34.9%	35.4%	36.0%
Power Generating Machinery	1.4	1.5	1.7	0.9%	0.9%	1.0%
Other Non-Electrical Machinery	7.5	6.7	5.5	4.5%	3.8%	3.4%
Office & Telecommunications Equipment	34.6	37.7	36.6	20.7%	21.6%	22.5%
Electrical Machinery & Apparatus	12.2	13.0	12.5	7.3%	7.4%	7.7%
Automotive Products	1.2	1.6	1.3	0.7%	0.9%	0.8%
Other Transport Equipment	1.4	1.5	1.1	0.8%	0.8%	0.7%
Textiles	14.2	14.6	13.0	8.5%	8.4%	8.0%
Clothing	22.0	23.1	22.2	13.2%	13.2%	13.6%
Other Consumer Goods	48.1	50.4	46.9	28.8%	28.9%	28.8%
World Mfrs Trade	3791.7	3986.7	4010.3			
Hong Kong % of World Mfrs Exports	4.4%	4.4%	4.1%			
IMPORTS						
Total Manufactures	**174.8**	**184.7**	**164.1**	**100%**	**100%**	**100%**
Iron & Steel	4.1	4.0	3.5	2.3%	2.1%	2.2%
Chemicals	13.6	13.5	11.8	7.8%	7.3%	7.2%
Other Semi-Manufactures	16.0	16.6	13.8	9.2%	9.0%	8.4%
Machinery & Transport Equipment	73.6	80.6	72.7	42.1%	43.6%	44.3%
Power Generating Machinery	1.8	2.0	2.0	1.1%	1.1%	1.2%
Other Non-Electrical Machinery	9.5	9.6	7.8	5.5%	5.2%	4.8%
Office & Telecommunications Equipment	41.6	47.4	43.0	23.8%	25.7%	26.2%
Electrical Machinery & Apparatus	12.4	13.5	12.4	7.1%	7.3%	7.5%
Automotive Products	4.1	5.2	3.6	2.3%	2.8%	2.2%
Other Transport Equipment	4.1	2.9	3.9	2.4%	1.5%	2.3%
Textiles	16.5	16.2	13.5	9.5%	8.8%	8.2%
Clothing	13.6	15.0	14.3	7.8%	8.1%	8.7%
Other Consumer Goods	37.4	38.8	34.5	21.4%	21.0%	21.0%
World Mfrs Trade	3791.7	3986.7	4010.3			
Hong Kong % of World Mfrs Trade	4.6%	4.6%	4.1%			

Source: WTO Annual Report, 1999

Table 4.15.C Manufactures Trade Geographic Composition -- Hong Kong

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**166.9**	**174.5**	**162.9**	**100%**	**100%**	**100%**
Regions						
North America	40.4	43.3	43.1	24.2%	24.8%	26.4%
Latin America	4.6	5.2	4.8	2.8%	3.0%	3.0%
Western Europe	28.7	29.5	29.0	17.2%	16.9%	17.8%
C/E Europe/Baltic/CIS	1.1	1.1	0.9	0.7%	0.6%	0.6%
Africa	2.3	2.1	1.9	1.4%	1.2%	1.1%
Middle East	2.6	2.6	2.4	1.5%	1.5%	1.4%
Asia	87.3	90.8	80.8	52.3%	52.1%	49.6%
Countries						
China	52.6	56.0	51.8	31.5%	32.1%	31.8%
United States	38.0	40.6	40.4	22.8%	23.3%	24.8%
EU (15)	26.7	27.4	27.1	16.0%	15.7%	16.6%
Japan	11.2	10.8	8.8	6.7%	6.2%	5.4%
Taipei, Chinese	3.9	4.3	4.1	2.3%	2.5%	2.5%
Singapore	4.5	4.5	3.8	2.7%	2.6%	2.3%
IMPORTS						
Total from World	**174.8**	**184.7**	**164.1**	**100%**	**100%**	**100%**
Regions						
North America	13.3	13.8	11.7	7.6%	7.5%	7.1%
Latin America	0.8	0.7	0.7	0.4%	0.4%	0.4%
Western Europe	21.4	22.3	18.9	12.3%	12.1%	11.5%
C/E Europe/Baltic/CIS	0.3	0.4	0.2	0.2%	0.2%	0.1%
Africa	0.4	0.4	0.3	0.2%	0.2%	0.2%
Middle East	1.4	1.5	0.9	0.8%	0.8%	0.6%
Asia	137.2	145.6	131.3	78.5%	78.9%	80.0%
Countries						
China	68.9	73.9	70.6	39.4%	40.0%	43.0%
United States	12.6	13.0	11.1	7.2%	7.1%	6.8%
EU (15)	19.3	20.1	17.1	11.0%	10.9%	10.4%
Japan	25.4	27.1	22.0	14.5%	14.7%	13.4%
Taipei, Chinese	15.0	15.1	12.7	8.6%	8.2%	7.7%
Singapore	7.2	7.6	6.2	4.1%	4.1%	3.8%

Source: WTO Annual Report, 1999

Table 4.16.A Merchandise Trade Product Composition -- Korea

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**129.7**	**136.2**	**132.3**	**100%**	**100%**	**100%**
Agricultural	4.4	4.5	4.0	3.4%	3.3%	3.0%
Food	2.9	2.9	2.6	2.3%	2.1%	2.0%
Raw Materials	1.4	1.6	1.4	1.1%	1.2%	1.0%
Mining Products	5.0	7.2	6.8	3.9%	5.3%	5.1%
Ores & other minerals	0.2	0.2	0.2	0.1%	0.1%	0.1%
Fuels	3.9	5.3	4.6	3.0%	3.9%	3.5%
Non-ferrous metals	1.0	1.6	2.0	0.8%	1.2%	1.5%
Manufactures	114.9	118.2	114.2	88.6%	86.8%	86.3%
IMPORTS						
Total Merchandise [a]	**150.3**	**144.6**	**93.3**	**100%**	**100%**	**100%**
Agricultural	15.7	14.0	9.3	10.4%	9.7%	10.0%
Food	8.9	8.1	5.7	5.9%	5.6%	6.1%
Raw Materials	6.8	5.9	3.7	4.5%	4.1%	3.9%
Mining Products	32.0	35.7	24.5	21.3%	24.7%	26.2%
Ores & other minerals	3.6	3.9	3.2	2.4%	2.7%	3.4%
Fuels	24.3	27.4	18.2	16.2%	18.9%	19.5%
Non-ferrous metals	4.1	4.4	3.1	2.7%	3.0%	3.3%
Manufactures	96.7	88.0	54.5	64.3%	60.8%	58.4%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.16.B Manufactures Trade Product Composition -- Korea

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**114.9**	**118.2**	**114.2**	**100%**	**100%**	**100%**
Iron & Steel	5.2	5.7	7.2	4.6%	4.8%	6.3%
Chemicals	9.1	10.7	10.2	8.0%	9.0%	9.0%
Other Semi-Manufactures	8.0	8.4	8.1	7.0%	7.1%	7.1%
Machinery & Transport Equipment	67.6	68.1	65.1	58.8%	57.6%	57.0%
Power Generating Machinery	0.5	0.5	0.7	0.4%	0.5%	0.6%
Other Non-Electrical Machinery	6.8	7.1	6.3	5.9%	6.0%	5.5%
Office & Telecommunications Equipment	31.9	33.9	31.8	27.7%	28.6%	27.9%
Electrical Machinery & Apparatus	8.1	6.1	5.0	7.1%	5.1%	4.4%
Automotive Products	11.6	12.2	11.4	10.1%	10.3%	10.0%
Other Transport Equipment	8.7	8.3	9.9	7.5%	7.1%	8.7%
Textiles	12.7	13.3	11.3	11.1%	11.3%	9.9%
Clothing	4.2	4.2	4.7	3.7%	3.5%	4.1%
Other Consumer Goods	8.0	7.8	7.7	7.0%	6.6%	6.7%
World Mfrs Trade	3791.7	3986.7	4010.3			
Korea % of World Mfrs Exports	3.0%	3.0%	2.8%			
IMPORTS						
Total Manufactures	**96.7**	**88.0**	**54.5**	**100%**	**100%**	**100%**
Iron & Steel	6.5	5.6	2.8	6.8%	6.4%	5.2%
Chemicals	13.3	13.1	9.3	13.7%	14.9%	17.0%
Other Semi-Manufactures	6.4	5.7	3.0	6.7%	6.5%	5.5%
Machinery & Transport Equipment	54.7	48.7	31.2	56.6%	55.4%	57.3%
Power Generating Machinery	2.5	2.3	1.5	2.6%	2.6%	2.7%
Other Non-Electrical Machinery	20.0	14.7	6.5	20.6%	16.7%	11.9%
Office & Telecommunications Equipment	19.0	20.8	16.6	19.6%	23.6%	30.4%
Electrical Machinery & Apparatus	5.0	5.5	3.7	5.2%	6.2%	6.9%
Automotive Products	2.3	1.9	0.9	2.4%	2.2%	1.7%
Other Transport Equipment	5.9	3.5	2.0	6.2%	4.0%	3.8%
Textiles	3.8	3.6	2.2	4.0%	4.0%	4.1%
Clothing	1.5	1.4	0.5	1.6%	1.6%	0.9%
Other Consumer Goods	10.4	9.9	5.5	10.8%	11.2%	10.1%
World Mfrs Trade	3791.7	3986.7	4010.3			
Korea % of World Mfrs Trade	2.6%	2.2%	1.4%			

Source: WTO Annual Report, 1999

Table 4.16.C Manufactures Trade Geographic Composition -- Korea

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**114.9**	**118.2**	**114.2**	**100%**	**100%**	**100%**
Regions						
North America	22.6	22.9	23.8	19.7%	19.4%	20.8%
Latin America	5.8	6.6	6.9	5.0%	5.6%	6.0%
Western Europe	16.6	18.4	19.7	14.4%	15.6%	17.2%
C/E Europe/Baltic/CIS	4.3	4.3	3.3	3.7%	3.7%	2.9%
Africa	2.4	2.3	2.4	2.1%	1.9%	2.1%
Middle East	4.7	4.3	5.6	4.1%	3.6%	4.9%
Asia	54.6	56.2	49.3	47.5%	47.5%	43.2%
Countries						
United States	21.5	21.3	22.3	18.7%	18.0%	19.5%
EU (15)	15.0	16.5	17.2	13.1%	13.9%	15.1%
Japan	11.6	10.6	8.8	10.1%	9.0%	7.7%
China	9.7	11.0	9.9	8.5%	9.3%	8.7%
Hong Kong, China	8.8	8.5	7.5	7.7%	7.2%	6.6%
Australia	1.8	2.0	1.9	1.5%	1.7%	1.7%
IMPORTS						
Total from World	**96.7**	**88.0**	**54.5**	**100%**	**100%**	**100%**
Regions						
North America	25.8	24.0	15.6	26.6%	27.3%	28.6%
Latin America	1.5	1.2	0.5	1.5%	1.4%	1.0%
Western Europe	20.1	17.2	9.9	20.8%	19.6%	18.1%
C/E Europe/Baltic/CIS	1.3	1.0	0.5	1.3%	1.2%	0.9%
Africa	0.3	0.3	0.2	0.3%	0.3%	0.4%
Middle East	0.8	1.0	0.6	0.8%	1.1%	1.2%
Asia	46.0	43.2	26.5	47.5%	49.1%	48.7%
Countries						
United States	24.6	22.9	15.0	25.4%	26.0%	27.4%
EU (15)	18.6	15.7	9.0	19.3%	17.9%	16.6%
Japan	29.7	26.3	15.4	30.7%	29.9%	28.3%
China	5.9	6.8	4.1	6.1%	7.8%	7.6%
Hong Kong, China	1.0	0.8	0.4	1.1%	1.0%	0.8%
Australia	0.7	0.8	0.4	0.7%	0.9%	0.7%

Source: WTO Annual Report, 1999

Table 4.17.A Merchandise Trade Product Composition -- Singapore

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Merchandise [a]	**125.0**	**125.0**	**110.0**	**100%**	**100%**	**100%**
Agricultural	5.6	5.3	4.5	4.5%	4.2%	4.1%
Food	4.5	4.4	3.7	3.6%	3.5%	3.4%
Raw Materials	1.1	0.9	0.8	0.8%	0.7%	0.7%
Mining Products	11.9	10.9	9.6	9.5%	8.7%	8.7%
Ores & other minerals	0.3	0.3	0.3	0.3%	0.3%	0.3%
Fuels	9.8	8.8	8.2	7.9%	7.0%	7.5%
Non-ferrous metals	1.7	1.8	1.1	1.4%	1.4%	1.0%
Manufactures	104.1	104.8	93.0	83.3%	83.8%	84.6%
IMPORTS						
Total Merchandise [a]	**131.3**	**132.4**	**101.9**	**100%**	**100%**	**100%**
Agricultural	6.8	6.5	5.0	5.1%	4.9%	4.9%
Food	5.8	5.7	4.5	4.4%	4.3%	4.4%
Raw Materials	1.0	0.8	0.6	0.7%	0.6%	0.5%
Mining Products	14.5	15.2	9.9	11.1%	11.5%	9.8%
Ores & other minerals	0.3	0.3	0.2	0.2%	0.2%	0.2%
Fuels	12.3	12.6	8.2	9.3%	9.5%	8.0%
Non-ferrous metals	1.9	2.4	1.5	1.5%	1.8%	1.5%
Manufactures	108.5	108.6	85.4	82.6%	82.0%	83.8%

a Includes unspecified products

Source: WTO Annual Report, 1999

Table 4.17.B Manufactures Trade Product Composition -- Singapore

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total Manufactures	**104.1**	**104.8**	**93.0**	**100%**	**100%**	**100%**
Iron & Steel	0.8	0.8	0.6	0.8%	0.8%	0.6%
Chemicals	7.1	7.5	7.1	6.8%	7.2%	7.6%
Other Semi-Manufactures	3.2	3.1	2.4	3.1%	3.0%	2.6%
Machinery & Transport Equipment	82.4	82.5	73.1	79.1%	78.7%	78.6%
Power Generating Machinery	1.3	1.2	1.0	1.2%	1.2%	1.1%
Other Non-Electrical Machinery	6.5	6.4	5.3	6.3%	6.1%	5.7%
Office & Telecommunications Equipment	64.5	64.6	57.6	61.9%	61.7%	61.9%
Electrical Machinery & Apparatus	7.1	7.2	6.4	6.9%	6.9%	6.9%
Automotive Products	1.0	1.0	0.6	1.0%	0.9%	0.7%
Other Transport Equipment	2.0	2.1	2.2	1.9%	2.0%	2.3%
Textiles	1.4	1.2	0.9	1.3%	1.2%	0.9%
Clothing	1.4	1.5	1.4	1.3%	1.4%	1.5%
Other Consumer Goods	7.9	8.1	7.5	7.5%	7.7%	8.1%
World Mfrs Trade	3791.7	3986.7	4010.3			
Singapore % of World Mfrs Exports	2.7%	2.6%	2.3%			
IMPORTS						
Total Manufactures	**108.5**	**108.6**	**85.4**	**100%**	**100%**	**100%**
Iron & Steel	2.7	2.9	1.9	2.5%	2.6%	2.3%
Chemicals	7.8	7.6	6.2	7.2%	7.0%	7.2%
Other Semi-Manufactures	6.4	6.3	4.5	5.9%	5.8%	5.3%
Machinery & Transport Equipment	76.0	76.2	61.5	70.1%	70.2%	72.1%
Power Generating Machinery	2.0	2.0	1.9	1.9%	1.8%	2.2%
Other Non-Electrical Machinery	11.6	11.2	8.2	10.7%	10.3%	9.6%
Office & Telecommunications Equipment	44.4	45.4	37.2	41.0%	41.9%	43.6%
Electrical Machinery & Apparatus	8.9	8.8	7.7	8.2%	8.1%	9.0%
Automotive Products	2.4	2.2	1.3	2.2%	2.0%	1.5%
Other Transport Equipment	6.7	6.6	5.2	6.2%	6.0%	6.1%
Textiles	1.9	1.7	1.1	1.8%	1.6%	1.2%
Clothing	1.7	1.8	1.4	1.6%	1.7%	1.7%
Other Consumer Goods	12.0	12.1	8.7	11.0%	11.2%	10.2%
World Mfrs Trade	3791.7	3986.7	4010.3			
Singapore % of World Mfrs Trade	2.9%	2.7%	2.1%			

Source: WTO Annual Report, 1999

Table 4.17.C Manufactures Trade Geographic Composition -- Singapore

(Billions of Dollars and Percent Share)

	Dollars			Share of Exports/Imports		
	1996	1997	1998	1996	1997	1998
EXPORTS						
Total to World	**104.1**	**104.8**	**93.0**	**100%**	**100%**	**100%**
Regions						
North America	22.8	22.6	21.5	21.9%	21.6%	23.1%
Latin America	1.3	1.4	1.2	1.2%	1.3%	1.3%
Western Europe	16.1	17.0	17.1	15.5%	16.2%	18.4%
C/E Europe/Baltic/CIS	1.0	0.8	0.5	1.0%	0.8%	0.5%
Africa	0.9	1.0	1.0	0.9%	0.9%	1.0%
Middle East	1.6	1.6	1.8	1.6%	1.6%	1.9%
Asia	60.2	60.3	49.9	57.8%	57.5%	53.6%
Countries						
United States	22.5	22.3	21.0	21.6%	21.3%	22.6%
Malaysia	19.3	18.7	14.4	18.5%	17.8%	15.5%
EU (15)	15.3	16.4	16.3	14.7%	15.7%	17.6%
Japan	8.0	7.1	5.9	7.7%	6.8%	6.4%
Hong Kong, China	7.6	8.2	6.7	7.3%	7.8%	7.2%
Thailand	5.9	5.0	3.8	5.7%	4.8%	4.1%
IMPORTS						
Total from World	**108.5**	**108.6**	**85.4**	**100%**	**100%**	**100%**
Regions						
North America	20.3	21.1	17.8	18.7%	19.4%	20.9%
Latin America	0.9	0.9	0.8	0.8%	0.9%	1.0%
Western Europe	19.2	18.7	14.2	17.7%	17.3%	16.6%
C/E Europe/Baltic/CIS	0.3	0.5	0.4	0.3%	0.4%	0.4%
Africa	0.3	0.2	0.5	0.3%	0.2%	0.6%
Middle East	0.9	0.8	0.6	0.9%	0.7%	0.7%
Asia	66.5	66.4	51.1	61.3%	61.2%	59.8%
Countries						
United States	19.8	20.5	17.4	18.3%	18.9%	20.4%
Malaysia	16.8	17.3	13.8	15.5%	15.9%	16.2%
EU (15)	17.0	16.6	12.7	15.7%	15.3%	14.9%
Japan	22.9	22.3	16.3	21.1%	20.6%	19.1%
Hong Kong, China	3.9	3.6	2.7	3.6%	3.3%	3.1%
Thailand	6.4	5.9	4.2	5.9%	5.5%	5.0%

Source: WTO Annual Report, 1999

Chapter 5: Analysis of US Manufactures Trade

Individual Product Group Assessments

Chapter 4 described the large and growing role of manufactures trade in World trade, its importance to key US trading partners, and its changing product and geographical composition. Given its critical importance in recent trade deficits and key role in improved future performance, this chapter provides a more detailed review of US manufactures trade by examining performance in individual product groups. This examination can help to identify particular problem and opportunity areas and projections of future performance.

Manufactures trade can be disaggregated in various ways. This chapter examines performance on the following bases, progressively moving to greater levels of disaggregation.

- 1-digit Standard International Trade Classification (SITC, Schedule A & E) product groups.
- High-tech vs. non-high-tech
- 2-digit SITC schedule A & E product groups

This chapter contains a large number of statistical tables. For convenience these tables are not integrated into the text but are grouped immediately following the textual analysis of each individual product group.

Manufactures Trade by 1-Digit Product Groups

Manufactures trade is typically defined to include five broad product categories **(Table 5.1)**. Chemicals (SITC 5) and manufactured goods classified by material (SITC 6) are sometimes combined and termed "intermediate goods" or "industrial supplies" --”that is, inputs which will be further processed into other products. Machinery and transport equipment (SITC 7), miscellaneous manufactures (SITC 8), and commodities and transactions not classified elsewhere (SITC 9) are sometimes identified as "finished goods," or the final products used by producers and consumers. These are very imperfect descriptors. For example, the machinery and transport equipment group includes many components and parts that will be further processed or assembled into other finished products.

Nevertheless, the breakout does provide a rough indication of some basic differences in the production technology characteristics of the two groups. The basic technologies for producing chemicals and manufactured goods classified by materials involve the transformation of raw materials into other materials usable for further manufacturing. These transformations are most frequently machine-controlled or machine operations, requiring large-scale capital equipment like furnaces, pumps, mixers, presses, etc. Compared to other types of manufacturing, a relatively limited amount of labor is needed to monitor, regulate, or service the machines and to maintain adequate flows of raw materials.

By contrast, machinery and transport equipment and miscellaneous manufactures technologies generally employ workers using specialized tools to machine and assemble parts in more complex combinations. The labor content of the assembly process also is likely to be higher than that of raw materials transformation.

Robotics in many instances is reducing the amount of labor necessary in assembly operations by substituting machines that perform tasks requiring complex, flexible movements. Nevertheless, the capital intensity of materials transformation probably remains higher than that of assembly operations in most instances.

The data show some clear trends in the composition of US manufactures trade. Finished goods have been growing as a proportion of imports. Finished goods, the sum of sections 7,8, and 9, increased from 64 percent of total manufactures imports in 1970 to 74 percent in 1984, 78 percent in 1987, and 80 percent in 1999 **(Table 5.1)**. The finished goods proportion of manufactures exports has also increased, albeit not as much, rising from 71 percent in 1970 to 78 percent in 1984, and remained at 78 percent in 1999.

Finished goods will likely continue to be a large portion of total US manufactures trade and could further modestly increase as internationalization of the manufacturing process continues and as the production of components to be included in large assemblies becomes more and more specialized and geographically dispersed. For example, a given component -- considered in this categorization as a "finished good" -- can readily appear three times in US trade data: first, as an export when sent out of the country for further assembly into larger components, second, as an import included in the larger component produced by foreign assembly operations, and then, as an export when included in a finished product for sale abroad.

Viewed at the broad terms shown in **Table 5.1** US manufactures trade performance declined in each of the 1-digit SITC categories. Only $28.8 billion, or 20.0 percent of the $143.9 billion dollar decline in balances over the 1994-99 period was in intermediate goods, roughly matching the intermediate goods 21 percent of total manufactures trade in 1999. The deficit growth in finished goods was $115.3 billion, over 80 percent of the total increase. Finished goods were just over 80 percent of 1999 manufactures trade. Thus, both intermediate and finished goods fared equally poorly.

Performance declined in each of the 5 manufactures 1-digit SITC categories, with only chemicals, SITC 5, maintaining surpluses. Deficits persisted in each of the years in each of the other four 1-digit categories. However, With the advent of many new products and increasing small shipments by air freight, the amount of manufactures imports classified as SITC 9 (Commodities and transactions not elsewhere classified), and the deficits recorded in that category have increased particularly rapidly.

High Tech Versus Non-High Tech Trade Performance

Manufactured products have been classified as "high-tech" and "non-high-tech" by the US Department of Commerce. Products classified as high-tech include some items of: advanced materials, aircraft, aerospace, biotechnology, electronics, flexible manufacturing, life science, nuclear technology, opto-electronics, and weapons.

As defined, high-tech trade has consistently maintained surpluses over the 1988-1999 period, with a peak surplus of $38.4 billion in 1991 and a 1999 surplus of $19.4 billion **(Table 5.2).** The minimum surplus was $13.7 in 1995. But with high-tech imports rising rapidly, the 2000 surplus may fall to about that level. In 1988 high-tech products were 30.1 percent of total manufactures exports; in 1999 the share was modestly higher, at 32.7 percent. The share of high-tech imports has grown very rapidly, however, rising from 13.5 percent in 1988 to 20.5 percent in 1999.

The high-tech, non-high-tech classification applied to thousands of widely differing and constantly changing products is necessarily somewhat arbitrary, producing results that are imperfect, arguable, and of uncertain usefulness. Taken at face value, however, the data clearly show that US trade deficits are unlikely to be reversed or significantly affected by increased exports of high-tech goods. The maximum hi-tech surplus was $38.4 billion in 1991 but the percentage and amounts of US imports classified as hi-tech are increasing rapidly. The 1999 hi-tech surplus was only $19.4 billion, an amount well under the $24.5 billion surplus in aircraft alone, indicating that ex-aircraft, the United States runs deficits in high-

technology goods trade. These trends, particularly the rapidly rising share of high-tech products in US imports, indicate that US leadership in the design and development of high-tech products does not ensure high-tech surpluses large enough to offset growing deficits in non-high-tech products.

The rather modest and diminishing high-tech surpluses of recent years reflect several important changes in the world economy. Transmission abroad of US technology has accelerated, often via the licensing of US technology to the foreign affiliates of US companies. High speed, low-cost means of communication and transportation make the transfer of technology faster and cheaper than in earlier periods. Moreover, increased foreign R&D efforts and investments in modern production capabilities also have made other nations more competitive in high-tech goods. Internationalization of production has intensified as R&D, product innovation, and various production process stages formerly undertaken in the United States are increasingly carried out abroad.

Nevertheless, US trade performance in high-tech goods is stronger than in products of lower technology and is likely to remain so for the foreseeable future.

Major Manufactures Product Groups' Trade

To provide a more detailed product performance breakdown, manufactures exports and imports can be further subdivided from the five 1-digit product groups (noted earlier in this chapter) into 41 2-digit product groups. **Table 5.3** provides US export dollar values for manufactured goods at the 2-digit level of detail for 1993 and 1999, the dollar and percentage changes in exports over the 1993 to 1999 period, and the dollar value and percent of total manufactures exports for each 2-digit group in SITC order. **Table 5.3A** provides the same information aligned in descending order of 2-digit product groups by dollar value and share of 1999 manufactures exports. **Tables 5.4 and 5.4A** provide similar information about manufactures imports. Trade balance data in product group sequence and by rank order are in **Tables 5.5 and 5.5A.**

Before turning to individual 2-digit product group assessments an overview of their contributions can provide useful information. Looking first at exports, **Table 5.3** indicates that export growth of manufactures from 1993 to 1999 was substantial, 57.5 percent over the 6 year period, with particularly strong gains including SITC 77, Electrical Equipment (105.3 percent) and SITC 76, Telecommunications equipment (94.6 percent).

Table 5.3 A shows the concentration of US manufactures exports in a relatively few product groups; 14.6 percent of total in SITC 77, electrical machinery; 45.6 percent of the total in the top 5 categories and 69.1 percent in the top 10 categories.

The 57.5 percent manufactures export growth over the 1993-99 period was, however, significantly outpaced by import growth of 83.9 percent **(Table 5.4).** The major changes included a 75.4 percent, $62.9 billion dollar expansion in the largest import group, motor vehicle imports, SITC 78, to $146.2 billion **(Table 5.4A).**

Imports are also concentrated in a relatively few product groups. Motor vehicles in 1999 made up one-sixth (16.6 percent) of total manufactures imports. Fourth-ranked Apparel and Clothing (SITC 84) imports grew to $56.4 billion, 6.4 percent of total manufactures imports. The top 5 import product groups make up 48.6 percent of the total; the top ten groups account for 67.5 percent of total.

Table 5.5 reveals that the United States had positive trade balances in 1999 in only 13 of the 41 2-digit categories, compared to 16 in 1993. Performance measured by trade balances improved in only 10 of the 41 product groups over the 1993-99 period. Six of the ten improvements were modest gains in chemical

items, with those gains totaling only $6.19 billion. The major gainers were SITC 79, Transport Equipment (primarily aircraft), a $9.01 billion improvement to a total 1999 surplus of $34.47 billion, and SITC 87, Low Value Shipments, an increase of $5.29 billion, to a total 1999 surplus of $15.94 billion.

Turning to deficit balance items, the top-ranking motor vehicle (SITC 78) deficit increased by $47.41 billion to $89.56 billion. Apparel and clothing, the 4th largest import but the 2nd largest deficit, expanded by $19.31 billion to $48.14 billion. The five largest deficit product groups together produced a 1999 deficit of $223.09 billion.

The concentration of exports, imports, and large surpluses and deficits in a relatively few product groups helps to simplify the analysis of recent and projected manufactures trade and current account performance by narrowing the number of manufactures product groups requiring detailed examinations. To aid in assessing recent and projected future US trade performance this paper examines in some detail recent performance in twenty-one 2-digit manufactures product groups that represent 84.9 percent of total manufactures imports and 85.8 percent of total manufactures imports. WTO data on world trade provides US and foreign market shares on some of these 2-digit product groups. However, in some cases WTO data combine two or more 2-digit product groups. For example, WTO publishes “Office and Telecommunications” data that is the combination of SITC 75 (Office machines & ADP Equipment) and SITC 76 (Telecommunications equipment) and “chemicals” data that is the combination of SITC groups 51 through 59. Both WTO and US data are provided when applicable and potentially useful.

Table 5.1 U.S. Manufactures Trade

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
Total Mfrs (SITC 5-9)								
Exports	430.8	485.0	522.7	591.2	595.2	611.8	181.0	29.6%
Imports	557.9	629.6	659.9	728.6	792.4	882.7	324.8	36.8%
Balance	-127.0	-144.7	-137.2	-137.3	-197.2	-270.9	-143.9	-
Intermediate Goods								
Chemicals - SITC 5								
Exports	52.5	61.7	62.9	70.8	69.3	72.0	19.5	27.1%
Imports	33.9	40.4	44.9	50.3	54.6	62.2	28.3	45.5%
Balance	18.6	21.3	18.0	20.5	14.7	9.8	-8.8	-
Mfrs. By Mat'l - SITC 6								
Exports	44.0	53.5	55.8	62.3	61.8	62.2	18.2	29.3%
Imports	78.8	89.4	91.7	101.0	112.1	117.0	38.2	32.6%
Balance	-34.8	-35.9	-35.9	-38.7	-50.3	-54.8	-20.0	-
Finished Goods								
Mach.& Trans - SITC 7								
Exports	252.3	281.5	306.2	352.6	358.2	369.3	117.0	31.7%
Imports	308.2	350.5	362.8	395.9	423.9	479.9	171.7	35.8%
Balance	-55.9	-69.0	-56.6	-43.3	-65.7	-110.6	-54.7	-
Misc. Mfrs - SITC 8								
Exports	59.6	65.4	71.7	79.1	79.7	81.5	21.9	26.9%
Imports	113.9	123.9	131.6	149.0	163.0	176.7	62.8	35.5%
Balance	-54.3	-58.5	-59.9	-69.9	-83.0	-95.2	-40.9	-
Mfrs. Nec - SITC 9								
Exports	22.4	22.9	26.1	26.4	26.3	26.7	4.3	16.1%
Imports	23.0	25.5	28.9	32.3	38.8	47.0	24.0	51.1%
Balance	-0.6	-2.6	-2.8	-5.9	-12.5	-20.3	-19.7	-

Source: US Dept of Commerce

Table 5.2 U.S. Trade in High Technology Products

	Billions of Dollars		
	Exports	**Imports**	**Balance**
1988	76.9	48.9	28.0
1989	83.5	56.4	27.0
1990	93.4	59.3	34.1
1991	101.6	63.3	38.4
1992	107.1	71.9	35.2
1993	108.4	81.2	27.2
1994	120.8	98.4	22.4
1995	138.5	124.8	13.7
1996	154.9	130.4	24.5
1997	179.5	147.3	32.3
1998	186.4	156.7	29.7
1999	200.0	180.6	19.4

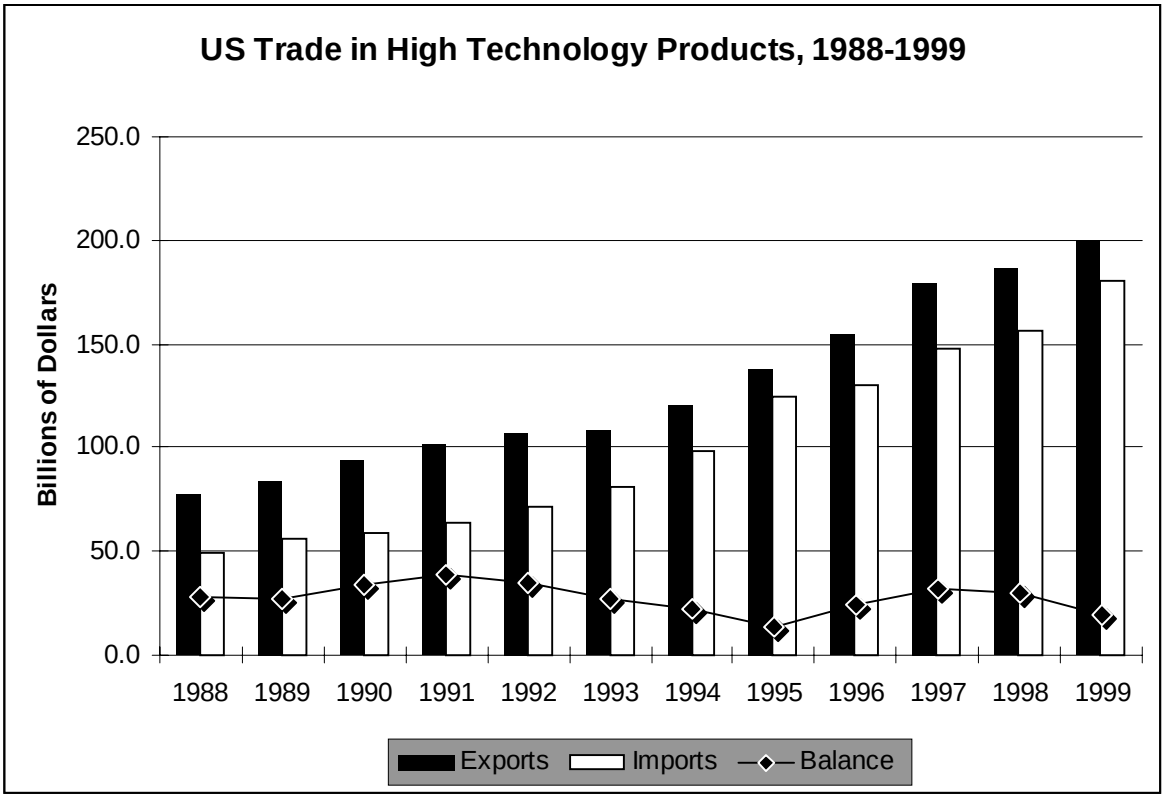


Table 5.3 US Manufactures Exports By Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999	% Change 1994-1999	% of 1999 Total Exports SITC 5-9
51	Organic Chemicals	11.24	15.75	4.52	40.2%	**2.6%**
52	Inorganic Chemicals	3.89	4.70	0.81	20.9%	**0.8%**
53	Dyeing, Tanning and Coloring Materials	2.03	3.69	1.65	81.4%	**0.6%**
54	Medicinal And Pharmaceutical Products	5.84	11.25	5.41	92.5%	**1.8%**
55	Essential Oils	3.14	5.01	1.87	59.5%	**0.8%**
56	Fertilizers	1.82	3.12	1.29	71.0%	**0.5%**
57	Plastics In Primary Form	7.41	11.77	4.36	58.9%	**1.9%**
58	Plastics In Nonprimary Form	3.42	5.36	1.95	56.9%	**0.9%**
59	Chemical Materials	7.08	11.33	4.26	60.1%	**1.9%**
61	Leather, Leather Mfr	0.91	1.04	0.13	14.5%	**0.2%**
62	Rubber Manufactures	2.73	4.90	2.18	79.8%	**0.8%**
63	Cork And Wood Manufactures	1.53	1.86	0.33	21.5%	**0.3%**
64	Paper, Paperboard	6.53	10.10	3.57	54.7%	**1.7%**
65	Textile Yarn, Fabrics	6.03	9.50	3.48	57.7%	**1.6%**
66	Nonmetallic Mineral	5.27	8.74	3.48	66.0%	**1.4%**
67	Iron And Steel	3.60	5.45	1.85	51.3%	**0.9%**
68	Nonferrous Metals	4.70	6.91	2.21	46.9%	**1.1%**
69	Manufactures Of Metals	7.87	13.65	5.78	73.4%	**2.2%**
71	Power Generating Machinery	19.68	32.38	12.70	64.6%	**5.3%**
72	Machinery Specialized	18.34	26.12	7.78	42.4%	**4.3%**
73	Metalworking Machinery	3.41	5.72	2.31	67.9%	**0.9%**
74	General Industrial Machry	20.13	30.73	10.60	52.7%	**5.0%**
75	Office Machines And ADP equipment	31.35	48.60	17.26	55.0%	**7.9%**
76	Telecommunications Equipment	14.24	27.71	13.47	94.6%	**4.5%**
77	Electrical Machry, Apparatus & Appliances	43.18	88.66	45.48	105.3%	**14.5%**
78	Motor Vehicles	41.18	56.64	15.46	37.5%	**9.3%**
79	Transport Equipment	33.39	52.74	19.35	57.9%	**8.6%**
81	Prefab Buildings; Sanitary, Plumbing, etc	1.12	1.38	0.26	22.9%	**0.2%**
82	Furniture & Bedding	2.86	4.70	1.85	64.7%	**0.8%**
83	Travel Goods, Handbags	0.22	0.38	0.16	72.2%	**0.1%**
84	Articles Of Apparel and Clothing	4.95	8.27	3.32	67.0%	**1.4%**
85	Footwear	0.70	0.84	0.14	19.3%	**0.1%**
87	Professional Scientific Instruments	15.84	26.91	11.06	69.8%	**4.4%**
88	Photo Appt, Equipment & Optical Goods	4.40	6.95	2.55	58.0%	**1.1%**
89	Miscellaneous Manufactured Articles	24.28	32.21	7.92	32.6%	**5.3%**
93	Special Transactions	4.43	5.50	1.07	24.1%	**0.9%**
95	Coin Including Gold	0.10	0.04	-0.06	-63.4%	**0.0%**
96	Coin (Other Than Gold)	0.00	0.01	0.00	25.0%	**0.0%**
97	Gold, Nonmonetary	9.06	5.23	-3.84	-42.3%	**0.9%**
98	Estimate Of Low Valued Import Transaction	#N/A	#N/A	#N/A	#N/A	**#N/A**
99	Low Value Shipments	10.65	15.94	5.29	49.7%	**2.6%**
5-9	MANUFACTURES	388.54	611.78	223.24	57.5%	**100.0%**

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	388.54	611.78	223.24	57.5%	**88.3%**
0-4	NON-MANUFACTURES	76.32	81.04	4.72	6.2%	**11.7%**
0-9	TOTAL	464.86	692.82	227.96	49.0%	**100.0%**

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Table 5.3A US Manufactures Exports by Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999	% Change 1994-1999	% of 1999 Total Exports SITC 5-9
77	Electrical Machry, Apparatus & Appliances	43.18	88.66	45.48	105.3%	**14.5%**
78	Motor Vehicles	41.18	56.64	15.46	37.5%	**9.3%**
79	Transport Equipment	33.39	52.74	19.35	57.9%	**8.6%**
75	Office Machines And ADP equipment	31.35	48.60	17.26	55.0%	**7.9%**
89	Miscellaneous Manufactured Articles	24.28	32.38	8.10	33.3%	**5.3%**
74	General Industrial Machry	20.13	32.21	12.08	60.0%	**5.3%**
71	Power Generating Machinery	19.68	30.73	11.05	56.2%	**5.0%**
72	Machinery Specialized	18.34	27.71	9.37	51.1%	**4.5%**
87	Professional Scientific Instruments	15.84	26.91	11.06	69.8%	**4.4%**
76	Telecommunications Equipment	14.24	26.12	11.88	83.5%	**4.3%**
51	Organic Chemicals	11.24	15.94	4.70	41.8%	**2.6%**
99	Low Value Shipments	10.65	15.75	5.10	47.9%	**2.6%**
97	Gold, Nonmonetary	9.06	13.65	4.59	50.6%	**2.2%**
69	Manufactures Of Metals	7.87	11.77	3.90	49.5%	**1.9%**
57	Plastics In Primary Form	7.41	11.33	3.93	53.0%	**1.9%**
59	Chemical Materials	7.08	11.25	4.17	58.9%	**1.8%**
64	Paper, Paperboard	6.53	10.10	3.57	54.7%	**1.7%**
65	Textile Yarn, Fabrics	6.03	9.50	3.48	57.7%	**1.6%**
54	Medicinal And Pharmaceutical Products	5.84	8.74	2.90	49.7%	**1.4%**
66	Nonmetallic Mineral	5.27	8.27	3.00	57.0%	**1.4%**
84	Articles Of Apparel and Clothing	4.95	6.95	2.00	40.3%	**1.1%**
68	Nonferrous Metals	4.70	6.91	2.21	46.9%	**1.1%**
93	Special Transactions	4.43	5.72	1.29	29.0%	**0.9%**
88	Photo Appt, Equipment & Optical Goods	4.40	5.50	1.10	25.1%	**0.9%**
52	Inorganic Chemicals	3.89	5.45	1.56	40.2%	**0.9%**
67	Iron And Steel	3.60	5.36	1.76	48.9%	**0.9%**
58	Plastics In Nonprimary Form	3.42	5.23	1.81	52.8%	**0.9%**
73	Metalworking Machinery	3.41	5.01	1.61	47.2%	**0.8%**
55	Essential Oils	3.14	4.90	1.76	56.0%	**0.8%**
82	Furniture & Bedding	2.86	4.70	1.85	64.7%	**0.8%**
62	Rubber Manufactures	2.73	4.70	1.98	72.5%	**0.8%**
53	Dyeing, Tanning and Coloring Materials	2.03	3.69	1.65	81.4%	**0.6%**
56	Fertilizers	1.82	3.12	1.29	71.0%	**0.5%**
63	Cork And Wood Manufactures	1.53	1.86	0.33	21.5%	**0.3%**
81	Prefab Buildings; Sanitary, Plumbing, etc	1.12	1.38	0.26	22.9%	**0.2%**
61	Leather, Leather Mfr	0.91	1.04	0.13	14.5%	**0.2%**
85	Footwear	0.70	0.84	0.14	19.3%	**0.1%**
83	Travel Goods, Handbags	0.22	0.38	0.16	72.2%	**0.1%**
95	Coin Including Gold	0.10	0.04	-0.06	-63.4%	**0.0%**
96	Coin (Other Than Gold)	0.00	0.01	0.00	25.0%	**0.0%**
98	Estimate Of Low Valued Import Transaction	#N/A	#N/A	#N/A	#N/A	**#N/A**
5-9	MANUFACTURES	388.54	611.78	223.24	57.5%	**100.0%**

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	388.54	611.78	223.24	57.5%	**88.3%**
0-4	NON-MANUFACTURES	76.32	81.04	4.72	6.2%	**11.7%**
0-9	TOTAL	464.86	692.82	227.96	49.0%	**100.0%**

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Table 5.4 US Manufactures Imports By Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999	% Change 1994-1999	% of 1999 Total Exports SITC 5-9
51	Organic Chemicals	9.32	21.86	12.54	134.7%	**2.5%**
52	Inorganic Chemicals	3.29	5.17	1.89	57.5%	**0.6%**
53	Dyeing, Tanning and Coloring Materials	1.70	2.63	0.93	54.8%	**0.3%**
54	Medicinal And Pharmaceutical Products	4.13	13.54	9.41	227.7%	**1.5%**
55	Essential Oils	1.81	3.15	1.34	74.2%	**0.4%**
56	Fertilizers	1.14	1.50	0.37	32.2%	**0.2%**
57	Plastics In Primary Form	2.72	5.44	2.72	99.8%	**0.6%**
58	Plastics In Nonprimary Form	2.12	3.84	1.71	80.6%	**0.4%**
59	Chemical Materials	2.94	5.07	2.13	72.5%	**0.6%**
61	Leather, Leather Mfr	0.94	1.19	0.24	25.7%	**0.1%**
62	Rubber Manufactures	4.14	7.16	3.02	72.9%	**0.8%**
63	Cork And Wood Manufactures	2.96	7.25	4.30	145.4%	**0.8%**
64	Paper, Paperboard	8.64	13.41	4.77	55.2%	**1.5%**
65	Textile Yarn, Fabrics	8.44	13.58	5.14	60.9%	**1.5%**
66	Nonmetallic Mineral	11.56	22.45	10.89	94.2%	**2.5%**
67	Iron And Steel	10.11	15.13	5.02	49.6%	**1.7%**
68	Nonferrous Metals	8.83	17.21	8.38	95.0%	**1.9%**
69	Manufactures Of Metals	10.56	19.63	9.07	85.9%	**2.2%**
71	Power Generating Machinery	17.16	31.53	14.37	83.7%	**3.6%**
72	Machinery Specialized	13.55	21.63	8.09	59.7%	**2.5%**
73	Metalworking Machinery	3.68	6.79	3.11	84.7%	**0.8%**
74	General Industrial Machry	17.08	31.45	14.36	84.1%	**3.6%**
75	Office Machines And ADP equipment	43.18	84.44	41.26	95.6%	**9.6%**
76	Telecommunications Equipment	27.30	50.96	23.66	86.6%	**5.8%**
77	Electrical Machry, Apparatus & Appliances	46.75	88.59	41.84	89.5%	**10.0%**
78	Motor Vehicles	83.33	146.20	62.87	75.4%	**16.6%**
79	Transport Equipment	7.94	18.28	10.34	130.2%	**2.1%**
81	Prefab Buildings; Sanitary, Plumbing, etc	1.76	4.33	2.56	145.3%	**0.5%**
82	Furniture & Bedding	6.25	16.18	9.93	158.9%	**1.8%**
83	Travel Goods, Handbags	2.65	4.15	1.49	56.3%	**0.5%**
84	Articles Of Apparel and Clothing	33.79	56.41	22.63	67.0%	**6.4%**
85	Footwear	11.18	14.07	2.89	25.9%	**1.6%**
87	Professional Scientific Instruments	8.45	17.64	9.19	108.7%	**2.0%**
88	Photo Appt, Equipment & Optical Goods	8.62	12.59	3.97	46.0%	**1.4%**
89	Miscellaneous Manufactured Articles	31.78	51.31	19.53	61.4%	**5.8%**
93	Special Transactions	13.71	31.78	18.07	131.8%	**3.6%**
95	Coin Including Gold	0.24	0.37	0.13	53.6%	**0.0%**
96	Coin (Other Than Gold)	0.01	0.01	0.01	120.0%	**0.0%**
97	Gold, Nonmonetary	2.02	3.03	1.02	50.6%	**0.3%**
98	Estimate Of Low Valued Import Transaction	4.25	11.79	7.54	177.4%	**1.3%**
99	Low value shipments; various shipments nik	0.00	0.00	0.00	#N/A	**0.0%**
5-9	MANUFACTURES	480.02	882.73	402.71	83.9%	**100.0%**

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	480.02	882.73	402.71	83.9%	**86.1%**
0-4	NON-MANUFACTURES	100.45	142.04	41.59	41.4%	**13.9%**
0-9	TOTAL	580.47	1024.77	444.30	76.5%	**100.0%**

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Table 5.4A US Manufactures Imports By Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999	% Change 1994-1999	% of 1999 Total Exports SITC 5-9
78	Motor Vehicles	83.33	146.20	62.87	75.4%	**16.6%**
77	Electrical Machry, Apparatus & Appliances	46.75	88.59	41.84	89.5%	**10.0%**
75	Office Machines And ADP equipment	43.18	84.44	41.26	95.6%	**9.6%**
84	Articles Of Apparel and Clothing	33.79	56.41	22.63	67.0%	**6.4%**
89	Miscellaneous Manufactured Articles	31.78	51.31	19.53	61.4%	**5.8%**
76	Telecommunications Equipment	27.30	50.96	23.66	86.6%	**5.8%**
93	Special Transactions	13.71	31.78	18.07	131.8%	**3.6%**
71	Power Generating Machinery	17.16	31.53	14.37	83.7%	**3.6%**
74	General Industrial Machry	17.08	31.45	14.36	84.1%	**3.6%**
66	Nonmetallic Mineral	11.56	22.45	10.89	94.2%	**2.5%**
51	Organic Chemicals	9.32	21.86	12.54	134.7%	**2.5%**
72	Machinery Specialized	13.55	21.63	8.09	59.7%	**2.5%**
69	Manufactures Of Metals	10.56	19.63	9.07	85.9%	**2.2%**
79	Transport Equipment	7.94	18.28	10.34	130.2%	**2.1%**
87	Professional Scientific Instruments	8.45	17.64	9.19	108.7%	**2.0%**
68	Nonferrous Metals	8.83	17.21	8.38	95.0%	**1.9%**
82	Furniture & Bedding	6.25	16.18	9.93	158.9%	**1.8%**
67	Iron And Steel	10.11	15.13	5.02	49.6%	**1.7%**
85	Footwear	11.18	14.07	2.89	25.9%	**1.6%**
65	Textile Yarn, Fabrics	8.44	13.58	5.14	60.9%	**1.5%**
54	Medicinal And Pharmaceutical Products	4.13	13.54	9.41	227.7%	**1.5%**
64	Paper, Paperboard	8.64	13.41	4.77	55.2%	**1.5%**
88	Photo Appt, Equipment & Optical Goods	8.62	12.59	3.97	46.0%	**1.4%**
98	Estimate Of Low Valued Import Transaction	4.25	11.79	7.54	177.4%	**1.3%**
63	Cork And Wood Manufactures	2.96	7.25	4.30	145.4%	**0.8%**
62	Rubber Manufactures	4.14	7.16	3.02	72.9%	**0.8%**
73	Metalworking Machinery	3.68	6.79	3.11	84.7%	**0.8%**
57	Plastics In Primary Form	2.72	5.44	2.72	99.8%	**0.6%**
52	Inorganic Chemicals	3.29	5.17	1.89	57.5%	**0.6%**
59	Chemical Materials	2.94	5.07	2.13	72.5%	**0.6%**
81	Prefab Buildings; Sanitary, Plumbing, etc	1.76	4.33	2.56	145.3%	**0.5%**
83	Travel Goods, Handbags	2.65	4.15	1.49	56.3%	**0.5%**
58	Plastics In Nonprimary Form	2.12	3.84	1.71	80.6%	**0.4%**
55	Essential Oils	1.81	3.15	1.34	74.2%	**0.4%**
97	Gold, Nonmonetary	2.02	3.03	1.02	50.6%	**0.3%**
53	Dyeing, Tanning and Coloring Materials	1.70	2.63	0.93	54.8%	**0.3%**
56	Fertilizers	1.14	1.50	0.37	32.2%	**0.2%**
61	Leather, Leather Mfr	0.94	1.19	0.24	25.7%	**0.1%**
95	Coin Including Gold	0.24	0.37	0.13	53.6%	**0.0%**
96	Coin (Other Than Gold)	0.01	0.01	0.01	120.0%	**0.0%**
99	Low value shipments; various shipments nik	0.00	0.00	0.00	#N/A	**0.0%**
5-9	MANUFACTURES	480.02	882.73	402.71	83.9%	**100.0%**

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	480.02	882.73	402.71	83.9%	**86.1%**
0-4	NON-MANUFACTURES	100.45	142.04	41.59	41.4%	**13.9%**
0-9	TOTAL	580.47	1024.77	444.30	76.5%	**100.0%**

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Table 5.5 US Manufactures Balances By Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999
51	Organic Chemicals	1.92	-6.11	-8.03
52	Inorganic Chemicals	0.60	-0.47	-1.07
53	Dyeing, Tanning and Coloring Materials	0.33	1.06	0.72
54	Medicinal And Pharmaceutical Products	1.71	-2.30	-4.00
55	Essential Oils	1.33	1.86	0.53
56	Fertilizers	0.69	1.62	0.93
57	Plastics In Primary Form	4.68	6.33	1.65
58	Plastics In Nonprimary Form	1.30	1.53	0.23
59	Chemical Materials	4.14	6.26	2.13
61	Leather, Leather Mfr	-0.03	-0.14	-0.11
62	Rubber Manufactures	-1.41	-2.26	-0.84
63	Cork And Wood Manufactures	-1.43	-5.40	-3.97
64	Paper, Paperboard	-2.11	-3.31	-1.20
65	Textile Yarn, Fabrics	-2.41	-4.07	-1.66
66	Nonmetallic Mineral	-6.29	-13.71	-7.41
67	Iron And Steel	-6.51	-9.68	-3.17
68	Nonferrous Metals	-4.12	-10.30	-6.18
69	Manufactures Of Metals	-2.69	-5.98	-3.29
71	Power Generating Machinery	2.51	0.85	-1.67
72	Machinery Specialized	4.79	4.49	-0.30
73	Metalworking Machinery	-0.27	-1.07	-0.80
74	General Industrial Machry	3.04	-0.72	-3.76
75	Office Machines And ADP equipment	-11.83	-35.84	-24.01
76	Telecommunications Equipment	-13.07	-23.25	-10.19
77	Electrical Machry, Apparatus & Appliances	-3.57	0.06	3.64
78	Motor Vehicles	-42.15	-89.56	-47.41
79	Transport Equipment	25.46	34.47	9.01
81	Prefab Buildings; Sanitary, Plumbing, etc	-0.64	-2.95	-2.31
82	Furniture & Bedding	-3.39	-11.48	-8.08
83	Travel Goods, Handbags	-2.43	-3.76	-1.33
84	Articles Of Apparel and Clothing	-28.84	-48.14	-19.31
85	Footwear	-10.47	-13.23	-2.76
87	Professional Scientific Instruments	7.39	9.26	1.87
88	Photo Appt, Equipment & Optical Goods	-4.22	-5.64	-1.41
89	Miscellaneous Manufactured Articles	-7.50	-19.11	-11.61
93	Special Transactions	-9.28	-26.28	-17.00
95	Coin Including Gold	-0.14	-0.33	-0.19
96	Coin (Other Than Gold)	0.00	-0.01	-0.01
97	Gold, Nonmonetary	7.05	2.19	-4.86
98	Estimate Of Low Valued Import Transaction	-4.25	-11.79	-7.54
99	Low Value Shipments	10.65	15.94	5.29
5-9	MANUFACTURES	-91.48	-270.95	-179.47

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	-91.48	-270.95	-179.47
0-4	NON-MANUFACTURES	-24.13	-61.00	-36.87
0-9	TOTAL	-115.61	-331.95	-216.33

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Table 5.5A US Manufactures Balances By Two-Digit Product Groups

(Billions of Dollars)

SITC	PRODUCT	1993	1999	$ Change 1994-1999
79	Transport Equipment	25.46	34.47	9.01
99	Low Value Shipments	10.65	15.94	5.29
77	Electrical Machry, Apparatus & Appliances	-3.57	0.06	3.64
59	Chemical Materials	4.14	6.26	2.13
87	Professional Scientific Instruments	7.39	9.26	1.87
57	Plastics In Primary Form	4.68	6.33	1.65
56	Fertilizers	0.69	1.62	0.93
53	Dyeing, Tanning and Coloring Materials	0.33	1.06	0.72
55	Essential Oils	1.33	1.86	0.53
58	Plastics In Nonprimary Form	1.30	1.53	0.23
96	Coin (Other Than Gold)	0.00	-0.01	-0.01
61	Leather, Leather Mfr	-0.03	-0.14	-0.11
95	Coin Including Gold	-0.14	-0.33	-0.19
72	Machinery Specialized	4.79	4.49	-0.30
73	Metalworking Machinery	-0.27	-1.07	-0.80
62	Rubber Manufactures	-1.41	-2.26	-0.84
52	Inorganic Chemicals	0.60	-0.47	-1.07
64	Paper, Paperboard	-2.11	-3.31	-1.20
83	Travel Goods, Handbags	-2.43	-3.76	-1.33
88	Photo Appt, Equipment & Optical Goods	-4.22	-5.64	-1.41
65	Textile Yarn, Fabrics	-2.41	-4.07	-1.66
71	Power Generating Machinery	2.51	0.85	-1.67
81	Prefab Buildings; Sanitary, Plumbing, etc	-0.64	-2.95	-2.31
85	Footwear	-10.47	-13.23	-2.76
67	Iron And Steel	-6.51	-9.68	-3.17
69	Manufactures Of Metals	-2.69	-5.98	-3.29
74	General Industrial Machry	3.04	-0.72	-3.76
63	Cork And Wood Manufactures	-1.43	-5.40	-3.97
54	Medicinal And Pharmaceutical Products	1.71	-2.30	-4.00
97	Gold, Nonmonetary	7.05	2.19	-4.86
68	Nonferrous Metals	-4.12	-10.30	-6.18
66	Nonmetallic Mineral	-6.29	-13.71	-7.41
98	Estimate Of Low Valued Import Transaction	-4.25	-11.79	-7.54
51	Organic Chemicals	1.92	-6.11	-8.03
82	Furniture & Bedding	-3.39	-11.48	-8.08
76	Telecommunications Equipment	-13.07	-23.25	-10.19
89	Miscellaneous Manufactured Articles	-7.50	-19.11	-11.61
93	Special Transactions	-9.28	-26.28	-17.00
84	Articles Of Apparel and Clothing	-28.84	-48.14	-19.31
75	Office Machines And ADP equipment	-11.83	-35.84	-24.01
78	Motor Vehicles	-42.15	-89.56	-47.41
5-9	MANUFACTURES	-91.48	-270.95	-179.47

Manufactures and Non-Manufactures Summary

5-9	MANUFACTURES	-91.48	-270.95	-179.47
0-4	NON-MANUFACTURES	-24.13	-61.00	-36.87
0-9	TOTAL	-115.61	-331.95	-216.33

Source: US Dept of Commerce

Note: Unrevised data. Last updated 4/19/00. Next update Spring 2001

Chemicals and Related Products Trade (SITC 51 through 59)

Description of the Product Group

Chemicals and related products is a very broad grouping. The US chemical industry produces over 60,000 products, ranging from basic organic and inorganic "commodity" chemicals used in other production processes and products to finished consumer goods, such as detergents and medications. It also includes synthetic resins, elastomers, and other specialty chemicals tailored to specific purposes.

This section of the report examines the entire chemicals group, including some groups that are relatively small portions of total manufactures exports and imports, in a more aggregated analysis than is given other product groups in this report. This is desirable because of the very large number of chemical products and the interrelated nature of the industry wherein many products become inputs to other chemical products and processes, giving rise to a large volume of trade within the chemical industry itself and the relatively stable composition of broad categories of products in chemical trade. In addition, except for some energy-rich developing countries that still produce only basic chemical products, the trade performance of important chemical producer countries is not tied to a single chemical product but typically depends on performance across a wide spectrum of products, from basic chemicals to finished consumer goods. Presenting all nine of the 2-digit "chemicals" product groups and a more detailed assessment of some of those groups also allows the use of WTO data for assessment of global and market share trends

Role In world Trade

Chemicals has long been a large component of world trade and a key factor in US trade. World exports of chemicals and related products were $503 billion in 1998, about 12.5 percent of world manufactures exports and 9.5 percent of total world merchandise trade, share percentages identical to those of 1994. Chemicals has represented about one-eighth of world manufactures trade over both the 1980s and 1990s. Annualized growth rates of world chemical exports have averaged about 7 percent, about the same as the growth rates for world manufactures trade.

The great majority of chemical production and chemical trade is concentrated in a few developed countries. For some time, over the 1980s and 1990s, Germany has been the world's largest chemicals exporter and during the 1990s the United States became the largest chemicals importer. The largest chemical exporter and importer countries and their respective shares of world chemical exports and imports are identified in **Table 5.5.1.** Together, the twelve countries shown account for 74.3 percent of 1998 world chemical exports and 62.2 percent of imports. Their export and import market shares also reflect the fact that, although a large portion of chemical trade is among developed countries, developed countries typically run surpluses in their chemical trade with developing countries. A number of developing countries are, however increasing their export capabilities. For example, although not shown in the table, WTO data show Ireland's export share rising from 0.8 percent in 1980 to 4.1 percent in 1998. Over the same period Korea increased its export share from 0.5 percent in 1980 to 2.0 percent in 1998 and Mexico from 1.4 percent to 2.2 percent.

These trends are not unusual to industrializing countries. In fact, because the chemical industry is a keystone industry, supplying essential inputs to other manufacturing industries, developing countries pursuing economic growth led by exports of manufactures all strive to develop their chemical industries. They do this not only to reduce dependence on imports but to gain the value added by chemical manufacturing processes and to acquire the high technologies associated with chemical manufacturing.

Global Competition Patterns

The US share of world chemical exports had declined from 14.8 percent in 1980 to 13.8 percent in 1998 **(Table 5.5.1)**, a modest decline, and one perhaps expected as world trade grows to include many developing countries and their exports**.** Moreover, given the effects of changing exchange rates on share calculations (a strong dollar increases the calculated share of US exports vis-à-vis those of other currencies) export shares provide an incomplete measure of competitiveness in world markets. The competitive analysis can, however, be improved by including import shares. Rising import shares may signal declining competitiveness. Import share calculations are, of course, also affected by exchange rates, in the same way as exports. A better measure of competitiveness changes uses both export shares and import shares to calculate "share balances," that is, export shares minus import shares. Share balances" can provide a useful, albeit crude, measure of changes in a country's international competitiveness.

Table 5.5.1 provides the export, import and share balances for leading chemical exporter and importer countries. Over the period 1980-1998 the US export share declined from 14.8 percent to 13.8 percent, a 1.0 percentage point decline, a not unexpected decline in view of the growth of chemical industries in many developing countries. At the same time, however, the US import share rose from 6.0 percent to 10.9 percent, a 4.9 percentage point increase. Together, these two market share movements indicate a 5.9 percentage point decline in the US "share balance," notwithstanding the fact that chemicals trade provided a 1999 US surplus of $8.3 billion. The decline indicates a lessened US role and diminished US competitiveness in world chemicals trade.

Some other major chemical producing countries -- Germany, France, the UK, Belgium-Luxembourg, the Netherlands -- also experienced share balance declines although smaller than those of the United States. For example, Germany, the largest chemical exporter, had an export share decline from 17.2 percent to 13.8 percent, a 3.4 percentage point slippage. Its share of world imports, however, also declined, from 8.9 percent to 7.9 percent, a 1.0 percentage point change, leaving Germany with only a 2.4 percentage point share balance loss compared to the 5.9 point US loss.

Role In US Trade and Recent Performance

Chemicals (SITC 5) trade has been critical to overall US trade performance, consistently accounting for more than one dollar of every ten dollars of total US goods exports. Chemical exports increased from $52.5 billion in 1994 to $72.0 billion in 1999, a 37 percent increase. But imports over the same period grew by 83 percent, from $33.9 billion to $62.2 billion. Chemicals trade has consistently provided US trade surpluses, typically in the $15 to $21 billion range in most of the 1990s but declining to $14.6 billion in 1998 and only $9.8 billion in 1999 **(Table 5.5.2).**

The chemical trade surplus has declined despite the fact that the trade balance improved in six of the nine chemicals SITC categories and declined in only three. Four of the 9 two-digit product groups have been particularly important in chemical trade in recent years. Declining performance in two product groups, organic chemicals (SITC 51) and pharmaceuticals (SITC 54) are largely responsible for the downturn in the US chemicals trade surplus and it appears there is a common thread in the causes for their declines.

Pharmaceuticals (SITC 54) performance has moved from a $1.5 billion 1994 surplus to a $2.3 billion 1999 deficit, a $3.8 billion decline **(Table 5.5.3).** This decline occurred notwithstanding the fact that pharmaceuticals exports increased by 81.9 percent. The change in the pharmaceutical balance stemmed from a 189.4 percent increase in imports, from only $4.7 billion in 1994 to $13.5 billion in 1999. A large

portion of pharmaceuticals trade is with the EU, 48.4 percent of exports, 69.7 percent of imports **(Table 5.5.4)**.

The primary factor in the move from surplus to deficits in pharmaceuticals trade is medicaments, SITC 542. An $0.2 billion surplus in 1994 was followed by increasing deficits, reaching $3.3 billion in 1999 **(Table 5.5.5).** The change deficit results almost wholly from very rapid expansion of imports from the EU-15, from $1.3 billion in 1994 to $6.7 billion in 1999. This produced a deficit in medicaments trade with the EU-15 of $4.0 billion in 1999, a $3.4 billion increase over the 1994 level.

Two factors appear important in the pharmaceuticals trade change from surplus to deficit: the elimination of duties on most pharmaceutical products, and the increasing outsourcing of pharmaceuticals production.

"Global trade in the pharmaceutical industry has generally increased since January 1, 1995, following the elimination of duties on most medicinal chemical products under the Uruguay Round Agreement. The United States, the United Kingdom, Germany, Ireland, Japan, and several other large pharmaceutical producing countries participated in this agreement. Because the world pharmaceutical industry is dominated by multinational corporations, there is substantial intracompany trade throughout the industry.

In addition, there is a continuing trend in the pharmaceutical industry toward outsourcing the production of bulk active ingredients and chemical intermediates used in the production of drugs. Such chemicals are often produced in highly specialized processes that only a limited number of facilities are equipped to perform. Outsourcing benefits pharmaceutical companies that need a timely and flexible source of these chemicals, which is often the situation for firms looking to push their products through clinical trials and, after regulatory approval, benefit as long as possible from patent protection. Because of the importance of getting new pharmaceutical products to the market as quickly as possible, companies are typically willing to use either domestic or foreign production facilities…

The United Kingdom and Germany benefited from the trend toward outsourcing in the pharmaceutical industry. Because of the large number of prominent multination pharmaceutical companies that are active in these two countries (e.g., Glaxo Wellcome, SmithKline Beecham, and Hoechst Marion Roussell), and their reputations for strong academic programs in organic chemistry, both the United Kingdom and Germany are attractive sites for contract manufacturing. An increasing amount of US imports from Germany and the United Kingdom can be attributed to outsourced production by US firms, in addition to intracompany trade.

The Irish economy has been strong over the past decade, largely because of its membership in the EU and a national tax policy that is favorable to large corporations. The most significant growth has been in high technology areas such as pharmaceuticals. Reportedly, 13 of the 15 leading multinational drug companies worldwide have established manufacturing facilities in Ireland. Because its production costs are low, Ireland's medicinal chemicals are highly price-competitive in the US market, which has led to a rise in imports that continued in 1998. However, because of the strong multinational presence, these US imports from Ireland, in part, reflect intracompany trade." ***Shifts In US Merchandise Trade In 1998, Publication 3220, USITC, August, 1999, p. 7-5.***

Organic chemicals (SITC 51) exports grew by 20.6 percent from 1994 to 1999 **(Table 5.5.6)**. Over the same period, however, organic chemical imports more than doubled and the product group's trade balance declined from a surplus of $2.3 billion to a deficit of $6.1 billion, an $8.4 billion negative change. From 1994 to 1999, the balance on organic chemicals trade with the EU slipped by $8.6 billion to a $9.0 billion deficit **(Table 5.5.7)**.

The decline in the organic chemicals surplus is overwhelmingly due to the rapid growth of organic-inorganic heterocyclic compounds (SITC 515) imports and stagnant exports. From 1994 to 1999 the trade deficit in this category expanded from $0.9 billion to $8.1 billion, a $7.2 billion increase **(Table 5.5.8)**. The deficit increased primarily because imports increased from $3.7 billion in 1994 to $12.2 billion in 1999, an $8.5 billion increase in only 5 years. Examination of the data reveals that $7.6 billion of the increase was in imports from the EU, $5.1 billion in imports from Ireland **(Table 5.5.8)**.

Further investigation also indicates that some of these heterocyclic compounds are intermediates or active ingredients for the production of pharmaceuticals, can be classified as medicinal chemical products and hence, since 1995, can enter duty free under terms of the Uruguay Round Agreement. Thus, these increases appear to be in part caused by the same factors that generated the rapid growth in pharmaceuticals. That is, the tendency to outsource pharmaceutical production, particularly to European locations, and the increase in pharmaceuticals trade resulting from the removal of duties on most medicinal products.

Positive movements in the chemicals group included continued strong performance in primary plastics (SITC 57) which provided 15.7 percent of total chemical exports and an increase from 1994's $5.2 billion surplus to a 1999 surplus of $6.3 billion, a $1.1 billion improvement **(Table 5.5.9).** The largest surpluses were in polyacetals and epoxide resins (SITC 574), $1.5 billion in 1999, and plastics (SITC 575), $3.2 billion in 1999. In both cases, about 40 percent of US exports of these items went to Canada and Mexico.

Similarly, the surplus in chemical materials, (SITC 59) which includes exports of $2.0 billion of "composite diagnostic or laboratory reagents.," grew from $4.5 billion in 1994 to $6.3 billion in 1999.

Two other categories also lost ground over the 1989-99 period: Inorganic chemicals (SITC 52), a $1.6 billion trade balance decline, and fertilizers (SITC 56), a $.2 billion shrinkage of its surplus **(Table 5.5.2)**. Both these categories, however, have been strongly affected by global market supply-demand conditions, and slow growth in global demand

Trade Outlook

First-half 2000 trade data indicate a further modest decline in the chemicals trade surplus, perhaps to $9 billion. Performance in the important organic chemicals group continues to weaken even as the pharmaceuticals deficit has stabilized and the surplus in the plastics group has continued to grow.

Over the longer term the results of the continued globalization of chemicals production on US trade performance are uncertain but worrisome. Dispersal of production and the increasing number of producers tends to periodic global oversupplies, intensified competition for global markets, and increased emphasis on finding the lowest cost production areas to maintain a competitive position. On balance these trends do not in themselves augur for US chemicals exports to increase faster than imports.

These effects can be illustrated by examining outcomes in the organic chemicals and pharmaceuticals product groups in which US performance has recently declined. The United States remains a strong producer and exporter of pharmaceuticals but recent trends appear to be weakening its trade position. Will these trends continue and will the US pharmaceuticals and organic chemicals positions continue to weaken? It is difficult to say but the specialization of pharmaceuticals production to service global markets and the resulting global dispersal of production locations on balance probably does not favor US production and exports. New pharmaceutical products typically require government approval before they can be marketed and companies may tend to locate production to serve the countries that first

approve the product. Also, in some cases environmental restrictions may be an important factor in deciding the production location. And, of course, labor and capital investment costs will also be important factors. The removal of duties on medicinal products also increases the importance of finding the lowest cost production site in decisions as to where to locate production. Taken together, these factors seem to indicate that it will be difficult to reverse the recent declines in organic chemicals (SITC 51) and pharmaceuticals (SITC 54) trade performance. Indeed, modest further declines may be in store.

Conclusions

- Chemicals make up a major portion of US manufactures trade, 12.0 percent of 1999 US manufactures exports, 7.3 percent of imports. For several years chemicals has provided one dollar of every ten of US goods exports. Chemicals trade has consistently provided surpluses, typically in the $15 to $21 billion range in most of the 1990s but declining to $14.6 billion in 1998 and only $9.8 billion in 1999. A further modest decline in 2000 seems likely.
- Chemicals is one of the most globalized manufacturing industries. US-based chemical production is one of the most competitive of US manufacturing industries. In part this is because of the industry's extensive overseas investments and the trade flows between US producers and their foreign affiliates and parents.
- However, the relative position of the US chemical industry in world markets declined during the 1980s and the 1990s. The US share of world chemical exports has declined; its import share has increased. The United States should continue to run chemicals trade surpluses for the foreseeable future. However, the competitive position of US-based production is not strong enough to ensure continued large surpluses in the new decade.
- Both organic chemicals trade, which includes items that are inputs to pharmaceutical products, and pharmaceuticals trade performance have declined rapidly in recent years, partly because of the globalization of pharmaceuticals production and the elimination of duties on medicinals. With global sales of pharmaceutical increasing rapidly, continuation of these trends would further reduce chemicals trade surpluses.
- Every industrializing country wants to build its own chemical industry because chemicals are essential ingredients to most manufacturing processes and because they want to acquire chemical manufacturing technologies. The increasing diversification of production locations tends to periodic global oversupplies, intensifying competition and increased importance of lowest cost production locations.
- Increased global economic growth rates and a decline in the dollar exchange rate would improve the chemicals trade position. In the face of continuing globalization of production, however, modest changes in both would probably be inadequate to return chemical surpluses to the $15 to $21 billion range of much of the 1990s.
- Absent a major increase in the ratio of foreign to US economic growth rates and/or a large decline in the dollar exchange rate, chemicals trade is unlikely to be an important source of significantly improved US trade performance during the current decade.

Table 5.5.1 Percent Shares in World Chemical Trade

		Billions of Dollars			$ Change
		1980	1990	1998	1980-98
US	Exports	14.8	13.3	13.8	-1
	Imports	6	7.6	10.9	4.9
	Share Balance	*8.8*	*5.7*	*2.9*	*-5.9*
Germany	Exports	17.2	17.9	13.8	-3.4
	Imports	8.9	10.2	7.9	-1
	Share Balance	*8.3*	*7.7*	*5.9*	*-2.4*
France	Exports	9.4	9.6	7.7	-1.7
	Imports	8.2	8	6.9	-1.3
	Share Balance	*1.2*	*1.6*	*0.8*	*-0.4*
UK	Exports	8.7	8	7.3	-1.4
	Imports	4.9	6.2	5.8	0.7
	Share Balance	*3.6*	*1.8*	*1.5*	*-2.1*
Belgium/Lux	Exports	5.3	5.6	6.2	0.9
	Imports	4	4.4	5.3	1.3
	Share Balance	*1.3*	*1.2*	*0.9*	*-0.4*
Japan	Exports	4.7	5.3	5.4	0.7
	Imports	4	4.9	4	0
	Share Balance	*0.7*	*0.4*	*1.4*	*0.7*
Netherlands	Exports	8	6.8	5.4	-2.6
	Imports	4.3	4.2	3.4	-0.9
	Share Balance	*3.7*	*2.6*	*2*	*-1.7*
Switzerland	Exports	4	4.7	4.4	0.4
	Imports	2.4	2.6	2.5	0.1
	Share Balance	*1.6*	*2.1*	*1.9*	*0.3*
Italy	Exports	3.9	3.7	4	0.1
	Imports	5.4	6.4	5.4	0
	Share Balance	*-1.5*	*-2.7*	*-1.4*	*0.1*
Canada	Exports	2.5	2.3	2.4	-0.1
	Imports	2.2	2.5	3.2	1
	Share Balance	*0.3*	*-0.2*	*-0.8*	*-1.1*
China	Exports	0.8	1.3	2.1	1.3
	Imports	1.9	2.1	3.9	2
	Share Balance	*-1.1*	*-0.8*	*-1.8*	*-0.7*
Spain	Exports	1.1	1.6	1.8	0.7
	Imports	1.7	2.8	3	1.3
	Share Balance	*-0.6*	*-1.2*	*-1.2*	*-0.6*

Source: WTO Annual Report, 1999

Table 5.5.2 Chemicals and Related Products (SITC 5) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
5-- Chemicals and Related Products								
Exports	52.5	61.7	62.9	70.8	69.3	72.0	19.5	37.2%
Imports	33.9	40.4	44.9	50.3	54.6	62.2	28.3	83.4%
Balance	18.5	21.3	18.1	20.5	14.6	9.8	(8.8)	-
of which								
51-- Organic Chemicals								
Exports	13.1	16.4	15.0	16.8	15.2	15.8	2.7	20.6%
Imports	10.8	13.3	14.8	16.9	18.3	21.9	11.1	102.4%
Balance	2.3	3.1	0.2	(0.1)	(3.1)	(6.1)	(8.4)	-
52-- Inorganic Chemicals								
Exports	4.2	4.6	4.7	5.4	4.8	4.7	0.5	13.2%
Imports	4.1	4.7	5.0	5.1	5.1	5.2	1.1	26.0%
Balance	0.0	(0.1)	(0.2)	0.3	(0.3)	(0.5)	(0.5)	-
53-- Dyeing, Tanning and Coloring Materials								
Exports	2.4	2.6	2.8	3.4	3.5	3.7	1.3	56.7%
Imports	1.9	2.1	2.2	2.5	2.5	2.6	0.8	40.9%
Balance	0.5	0.5	0.6	0.9	1.1	1.1	0.6	-
54-- Medicinal And Pharmaceutical Products								
Exports	6.2	6.6	7.3	8.2	9.7	11.2	5.1	81.9%
Imports	4.7	5.5	7.1	8.7	10.9	13.5	8.9	189.4%
Balance	1.5	1.0	0.3	(0.5)	(1.2)	(2.3)	(3.8)	-
55-- Essential Oils								
Exports	3.6	3.9	4.4	5.0	4.9	5.0	1.4	37.6%
Imports	2.0	2.3	2.4	2.7	2.9	3.2	1.2	57.9%
Balance	1.6	1.6	2.0	2.3	2.0	1.9	0.2	-
56-- Fertilizers								
Exports	2.7	3.2	3.1	3.1	3.3	3.1	0.4	15.2%
Imports	1.3	1.4	1.4	1.4	1.6	1.5	0.2	15.7%
Balance	1.4	1.8	1.7	1.7	1.7	1.6	0.2	-
57-- Plastics In Primary Form								
Exports	8.7	10.8	11.0	12.2	11.6	11.8	3.1	35.0%
Imports	3.5	4.3	4.4	4.9	5.1	5.4	1.9	55.0%
Balance	5.2	6.4	6.5	7.2	6.5	6.3	1.1	-
58-- Plastics In Nonprimary Form								
Exports	3.9	4.3	4.7	5.4	5.3	5.4	1.5	38.8%
Imports	2.4	2.8	3.0	3.3	3.5	3.8	1.4	58.3%
Balance	1.4	1.5	1.7	2.1	1.8	1.5	0.1	-
59-- Chemical Materials								
Exports	7.8	9.3	9.9	11.4	11.0	11.3	3.6	46.0%
Imports	3.2	3.9	4.6	4.8	4.8	5.1	1.8	56.6%
Balance	4.5	5.4	5.3	6.6	6.2	6.3	1.7	-

Source: US Dept of Commerce

Table 5.5.3 Medicinal and Pharmaceutical Products (SITC 54) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
54-- Medicinal And Pharmaceutical Produ								
Exports	6.2	6.6	7.3	8.2	9.7	11.2	5.1	81.9%
Imports	4.7	5.5	7.1	8.7	10.9	13.5	8.9	189.4%
Balance	1.5	1.0	0.3	(0.5)	(1.2)	(2.3)	(3.8)	-
of which								
541-- Medicinal Products, Except Medican								
Exports	3.9	4.3	4.5	4.8	5.2	5.4	1.6	40.9%
Imports	2.5	2.7	3.4	3.5	3.5	4.4	1.9	75.0%
Balance	1.4	1.5	1.1	1.3	1.7	1.1	(0.3)	-
542-- Medicaments (Including Veterinary M								
Exports	2.3	2.3	2.8	3.4	4.5	5.8	3.5	149.5%
Imports	2.2	2.8	3.7	5.2	7.4	9.2	7.0	320.3%
Balance	0.2	(0.5)	(0.9)	(1.8)	(3.0)	(3.3)	(3.5)	-

Source: US Dept of Commerce

Table 5.5.4 Medicinal and Pharmaceutical (SITC 54) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	6.2	6.6	7.3	8.2	9.7	11.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.0	1.0	1.2	1.3	1.6	1.8	15.7	15.7	15.8	16.0	16.2	16.3
	Mexico	0.2	0.2	0.2	0.2	0.3	0.3	3.0	2.4	2.5	2.6	2.7	2.6
	EU15	2.6	2.8	3.4	3.9	4.6	5.4	42.0	43.3	46.0	47.4	48.0	48.4
	Germany	0.5	0.5	0.6	0.7	0.7	0.7	7.7	7.2	8.4	8.0	6.8	6.5
	France	0.4	0.4	0.4	0.4	0.6	1.0	6.0	6.1	5.2	5.0	6.5	8.6
	Italy	0.3	0.3	0.4	0.4	0.6	0.8	4.2	4.8	5.4	5.4	6.4	7.2
	United Kingdom	0.4	0.5	0.7	0.7	0.7	1.0	6.7	7.0	9.4	8.6	7.1	9.0
	Ireland	0.2	0.1	0.1	0.2	0.2	0.1	2.7	2.0	1.4	2.6	1.7	1.1
	Other Europe	0.5	0.4	0.3	0.3	0.6	0.7	7.8	5.4	4.4	4.2	6.4	6.1
	Japan	0.8	0.9	0.9	0.9	0.9	1.1	13.6	14.5	11.9	10.8	9.1	9.7
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	1.5	1.3	1.4	1.3	1.1	1.0
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.0	1.0	1.1	0.7	0.5
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.4	1.5	1.2	0.7	0.8
	Singapore	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.4	0.4	0.6	0.4	0.6
	China	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.5	0.6	0.5	0.6	0.5
	Other Asia	0.1	0.1	0.2	0.2	0.1	0.2	1.9	2.2	2.1	2.1	1.5	1.5
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.2	1.6	1.9	1.9	1.8	1.8	1.9
	Rest of World	0.6	0.7	0.8	0.9	1.0	1.1	10.0	10.0	10.4	10.5	10.8	10.1
Imports	US from World	4.7	5.5	7.1	8.7	10.9	13.5	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.3	0.4	0.4	0.6	0.7	0.7	6.6	6.6	6.0	7.4	6.0	5.2
	Mexico	0.0	0.0	0.0	0.1	0.1	0.1	0.7	0.6	0.6	0.6	0.6	0.6
	EU15	2.9	3.5	4.7	5.7	7.5	9.4	60.9	62.9	66.0	64.9	69.2	69.7
	Germany	0.5	0.8	0.8	1.8	2.9	3.2	10.7	14.2	11.5	20.1	26.8	24.0
	France	0.3	0.3	0.4	0.4	0.6	0.7	5.9	5.8	5.3	5.1	5.4	5.0
	Italy	0.3	0.4	0.5	0.5	0.7	0.9	6.3	7.3	7.3	6.0	6.5	6.5
	United Kingdom	0.8	0.9	1.3	1.4	1.6	2.1	16.9	16.5	18.5	16.1	14.6	15.7
	Ireland	0.3	0.2	0.6	0.4	0.4	0.6	5.7	3.5	8.2	4.2	3.7	4.7
	Other Europe	0.6	0.8	0.8	0.9	1.0	1.1	13.8	13.8	11.0	10.7	9.3	8.3
	Japan	0.5	0.5	0.6	0.7	0.9	1.3	9.7	9.4	8.9	8.2	8.2	9.6
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.0	0.0
	Korea	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.3	0.3	0.6	0.2	0.1
	Singapore	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.6	0.4	0.4	0.4	0.4
	China	0.1	0.2	0.2	0.2	0.3	0.4	3.0	3.1	3.0	2.7	2.9	2.9
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.4	0.4
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1
	Rest of World	0.2	0.1	0.2	0.3	0.3	0.4	3.7	2.1	3.0	4.0	2.7	2.7
Balance	US with World	1.5	1.0	0.3	-0.5	-1.2	-2.3						
	Canada	0.7	0.7	0.7	0.7	0.9	1.1						
	Mexico	0.2	0.1	0.1	0.2	0.2	0.2						
	EU15	-0.3	-0.6	-1.3	-1.8	-2.9	-4.0						
	Germany	0.0	-0.3	-0.2	-1.1	-2.3	-2.5						
	France	0.1	0.1	0.0	0.0	0.0	0.3						
	Italy	0.0	-0.1	-0.1	-0.1	-0.1	-0.1						
	United Kingdom	-0.4	-0.5	-0.6	-0.7	-0.9	-1.1						
	Ireland	-0.1	-0.1	-0.5	-0.2	-0.2	-0.5						
	Other Europe	-0.2	-0.4	-0.5	-0.6	-0.4	-0.4						
	Japan	0.4	0.4	0.2	0.2	0.0	-0.2						
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1						
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1						
	Korea	0.1	0.1	0.1	0.0	0.0	0.1						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3						
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1						
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.2						
	Rest of World	0.4	0.5	0.6	0.5	0.7	0.8						

Source: US Dept of Commerce

Table 5.5.5 Medicaments (Including Veterinary Medicaments) (SITC 542) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	2.3	2.3	2.8	3.4	4.5	5.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.6	0.7	0.8	0.9	1.1	1.3	25.7	28.8	27.2	25.5	24.1	22.6
	Mexico	0.0	0.1	0.1	0.1	0.1	0.1	2.0	2.2	1.9	2.2	2.3	2.3
	EU15	0.7	0.7	1.0	1.4	1.8	2.7	30.5	30.3	37.0	41.1	41.3	45.9
	Germany	0.1	0.1	0.1	0.1	0.1	0.3	4.7	4.9	4.7	3.6	3.1	4.5
	France	0.1	0.1	0.1	0.1	0.2	0.4	3.7	4.7	4.4	2.3	4.7	6.9
	Italy	0.0	0.1	0.2	0.2	0.4	0.6	2.0	4.1	6.1	7.0	8.9	9.9
	United Kingdom	0.2	0.2	0.3	0.4	0.4	0.7	8.2	6.7	11.2	11.7	8.7	12.3
	Ireland	0.1	0.0	0.0	0.1	0.1	0.1	2.7	0.9	1.2	2.0	2.2	1.4
	Other Europe	0.3	0.1	0.1	0.1	0.4	0.4	12.0	5.3	4.3	4.4	8.7	7.5
	Japan	0.3	0.3	0.3	0.2	0.2	0.3	11.1	12.9	9.7	6.6	3.8	4.9
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.2	1.3	1.2	1.0	0.8
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.0	0.7	0.5
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.8	0.8	0.4	0.3
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.5	0.3	0.4
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.8	0.6	0.7	0.5
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.5	1.5	1.1	0.8	0.8
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	2.6	3.4	3.3	3.0	2.6	2.5
	Rest of World	0.3	0.2	0.3	0.4	0.6	0.6	10.8	10.8	10.5	12.1	13.3	11.0
Imports	US from World	2.2	2.8	3.7	5.2	7.4	9.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.2	0.2	0.3	0.5	0.5	0.5	9.2	8.8	8.9	10.0	6.4	5.0
	Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.2	0.3
	EU15	1.3	1.8	2.4	3.6	5.5	6.7	61.8	65.2	65.5	68.7	74.4	72.6
	Germany	0.2	0.4	0.4	1.3	2.5	2.8	7.3	14.7	10.0	25.6	33.9	30.0
	France	0.1	0.1	0.1	0.2	0.3	0.4	3.3	2.8	3.2	3.0	3.9	3.9
	Italy	0.1	0.1	0.2	0.3	0.5	0.6	4.0	3.9	5.5	5.2	6.2	6.9
	United Kingdom	0.6	0.7	1.1	1.2	1.3	1.6	27.6	26.0	29.9	22.7	17.6	17.4
	Ireland	0.1	0.1	0.1	0.1	0.2	0.4	3.5	2.7	3.9	2.7	3.1	4.2
	Other Europe	0.4	0.4	0.4	0.5	0.6	0.7	16.6	15.5	12.2	8.9	8.3	7.6
	Japan	0.1	0.2	0.3	0.4	0.5	1.0	5.9	7.3	8.1	7.3	7.4	11.2
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.2	0.2
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Rest of World	0.1	0.1	0.2	0.2	0.2	0.3	5.9	2.6	4.4	4.5	3.0	2.8
Balance	US with World	0.2	-0.5	-0.9	-1.8	-3.0	-3.3						
	Canada	0.4	0.4	0.4	0.3	0.6	0.9						
	Mexico	0.0	0.0	0.0	0.1	0.1	0.1						
	EU15	-0.6	-1.1	-1.4	-2.2	-3.7	-4.0						
	Germany	0.0	-0.3	-0.2	-1.2	-2.4	-2.5						
	France	0.0	0.0	0.0	-0.1	-0.1	0.0						
	Italy	0.0	0.0	0.0	0.0	-0.1	-0.1						
	United Kingdom	-0.4	-0.6	-0.8	-0.8	-0.9	-0.9						
	Ireland	0.0	-0.1	-0.1	-0.1	-0.1	-0.3						
	Other Europe	-0.1	-0.3	-0.3	-0.3	-0.2	-0.3						
	Japan	0.1	0.1	0.0	-0.2	-0.4	-0.7						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	0.0	0.0	0.0	0.0	0.0	0.0						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0						
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1						
	Rest of World	0.1	0.2	0.1	0.2	0.4	0.4						

Source: US Dept of Commerce

Table 5.5.6 Organic Chemicals (SITC 51) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
51-- Organic Chemicals								
Exports	13.1	16.4	15.0	16.8	15.2	15.8	2.7	20.6%
Imports	10.8	13.3	14.8	16.9	18.3	21.9	11.1	102.4%
Balance	2.3	3.1	0.2	(0.1)	(3.1)	(6.1)	(8.4)	-
of which								
511-- Hydrocarbons & Specified Derivative								
Exports	2.9	3.7	3.0	3.1	2.4	3.0	0.1	2.5%
Imports	1.0	1.4	1.2	1.2	1.1	1.2	0.2	17.1%
Balance	1.8	2.4	1.8	1.9	1.3	1.7	(0.1)	-
512-- Alcohols, Phenols & Halogenated D								
Exports	1.5	2.1	1.8	2.0	1.7	1.7	0.2	14.1%
Imports	1.3	1.4	1.3	1.4	1.3	1.3	0.0	1.1%
Balance	0.2	0.7	0.5	0.6	0.4	0.4	0.2	-
513-- Carboxylic Acids, Halides, & Derivat								
Exports	2.0	2.7	2.1	2.5	2.3	2.3	0.2	11.0%
Imports	1.3	1.7	1.8	1.9	1.8	1.9	0.6	44.9%
Balance	0.8	1.1	0.3	0.6	0.5	0.4	(0.4)	-
514-- Nitrogen-Function Compounds								
Exports	2.6	3.1	2.9	3.2	2.8	2.8	0.2	9.3%
Imports	2.0	2.3	2.7	2.7	2.7	3.0	1.0	49.4%
Balance	0.6	0.7	0.1	0.5	0.1	(0.2)	(0.7)	-
515-- Organo-Inorganic & Heterocyclic Co								
Exports	2.7	3.0	3.3	4.0	4.2	4.1	1.4	50.5%
Imports	3.7	4.7	5.7	7.6	9.3	12.2	8.6	232.8%
Balance	(0.9)	(1.6)	(2.4)	(3.5)	(5.1)	(8.1)	(7.2)	-
516-- Organic Chemicals								
Exports	1.4	1.7	1.9	2.0	1.8	1.9	0.6	41.5%
Imports	1.5	1.9	1.9	2.1	2.1	2.2	0.7	49.3%
Balance	(0.1)	(0.2)	(0.1)	(0.2)	(0.3)	(0.3)	(0.2)	-

Source: US Dept of Commerce

Table 5.5.7 Organic Chemicals (SITC 51) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	13.1	16.4	15.0	16.8	15.2	15.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.6	1.6	1.7	2.0	2.0	2.2	11.9	9.7	11.5	12.1	13.1	13.8
	Mexico	1.0	1.1	1.2	1.5	1.4	1.5	7.9	6.9	8.0	9.0	9.0	9.8
	EU15	3.5	4.2	4.1	5.0	5.1	4.7	27.1	25.8	27.2	29.9	33.8	29.7
	Germany	0.4	0.3	0.3	0.4	0.3	0.3	2.8	2.1	2.1	2.3	2.2	2.2
	France	0.3	0.3	0.4	0.5	0.5	0.5	2.5	2.0	2.5	2.8	3.4	3.1
	Italy	0.3	0.3	0.3	0.3	0.3	0.3	2.0	2.0	2.0	1.9	1.8	1.8
	United Kingdom	0.4	0.6	0.5	0.7	0.7	0.6	3.3	3.4	3.4	4.0	4.4	3.9
	Ireland	0.2	0.2	0.2	0.4	0.5	0.4	1.3	1.4	1.6	2.1	3.4	2.6
	Other Europe	0.4	0.5	0.5	0.6	0.5	0.6	2.9	3.0	3.5	3.8	3.1	3.6
	Japan	1.1	1.5	1.2	1.3	1.0	1.2	8.2	8.9	8.1	7.6	6.7	7.8
	Taiwan	1.3	1.8	1.2	1.1	0.8	0.9	10.1	10.9	7.8	6.3	5.2	5.8
	Hong Kong	0.1	0.2	0.2	0.2	0.1	0.2	0.7	1.0	1.1	0.9	0.9	1.0
	Korea	0.7	1.1	0.9	0.8	0.5	0.7	5.7	6.9	5.9	5.0	3.2	4.6
	Singapore	0.3	0.4	0.4	0.5	0.3	0.4	2.0	2.6	2.6	2.8	2.1	2.3
	China	0.2	0.3	0.2	0.2	0.2	0.3	1.8	1.6	1.6	1.2	1.4	1.9
	Other Asia	0.6	0.9	0.8	0.8	0.5	0.6	4.9	5.5	5.2	4.8	3.4	4.0
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	1.0	0.8	0.8	0.8	0.8	0.9
	Rest of World	2.1	2.7	2.5	2.7	2.6	2.3	15.7	16.4	16.5	15.8	17.3	14.9
Imports	US from World	10.8	13.3	14.8	16.9	18.3	21.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.1	1.5	1.3	1.3	1.2	1.3	9.9	11.1	8.9	7.6	6.3	5.9
	Mexico	0.3	0.4	0.3	0.4	0.3	0.3	2.5	2.7	2.3	2.2	1.8	1.6
	EU15	4.9	6.1	7.1	8.6	10.7	13.7	45.7	45.8	48.0	51.1	58.3	62.5
	Germany	1.2	1.5	1.7	1.8	1.9	1.8	11.2	11.3	11.3	10.8	10.2	8.0
	France	0.6	0.7	0.7	0.8	1.0	1.1	5.4	5.0	4.9	4.9	5.4	5.1
	Italy	0.4	0.5	0.6	0.6	0.7	0.8	4.0	3.7	3.7	3.6	3.9	3.9
	United Kingdom	1.4	1.4	1.6	1.7	2.0	2.6	12.7	10.8	11.0	10.4	11.0	11.7
	Ireland	0.4	0.8	1.2	2.1	3.6	5.5	3.5	5.8	8.3	12.7	19.9	25.2
	Other Europe	0.8	1.0	1.2	1.2	1.0	1.2	7.3	7.8	7.8	7.2	5.6	5.4
	Japan	1.5	1.8	2.1	2.2	2.3	2.2	14.0	13.6	13.9	13.3	12.4	10.1
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.4	0.4	0.3
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Korea	0.1	0.1	0.1	0.1	0.3	0.2	1.1	0.8	0.7	0.8	1.4	1.0
	Singapore	0.5	0.5	0.5	0.7	0.3	0.5	4.8	3.7	3.6	3.9	1.6	2.4
	China	0.2	0.2	0.3	0.3	0.3	0.4	1.7	1.7	1.8	2.0	1.8	1.8
	Other Asia	0.2	0.3	0.3	0.4	0.4	0.4	1.6	1.9	2.2	2.1	2.2	1.6
	South & Central America	0.2	0.2	0.2	0.2	0.2	0.2	2.0	1.5	1.3	1.2	0.8	0.9
	Rest of World	1.0	1.2	1.3	1.3	1.3	1.4	9.0	8.9	8.7	8.0	7.3	6.4
Balance	US with World	2.3	3.1	0.2	-0.1	-3.1	-6.1						
	Canada	0.5	0.1	0.4	0.7	0.8	0.9						
	Mexico	0.8	0.8	0.9	1.1	1.1	1.2						
	EU15	-1.4	-1.9	-3.0	-3.6	-5.5	-9.0						
	Germany	-0.8	-1.2	-1.4	-1.4	-1.5	-1.4						
	France	-0.3	-0.3	-0.3	-0.4	-0.5	-0.6						
	Italy	-0.2	-0.2	-0.3	-0.3	-0.4	-0.6						
	United Kingdom	-0.9	-0.9	-1.1	-1.1	-1.3	-1.9						
	Ireland	-0.2	-0.5	-1.0	-1.8	-3.1	-5.1						
	Other Europe	-0.4	-0.5	-0.6	-0.6	-0.6	-0.6						
	Japan	-0.4	-0.4	-0.8	-1.0	-1.3	-1.0						
	Taiwan	1.3	1.7	1.1	1.0	0.7	0.8						
	Hong Kong	0.1	0.2	0.2	0.1	0.1	0.1						
	Korea	0.6	1.0	0.8	0.7	0.2	0.5						
	Singapore	-0.3	-0.1	-0.1	-0.2	0.0	-0.2						
	China	0.1	0.0	0.0	-0.1	-0.1	-0.1						
	Other Asia	0.5	0.6	0.4	0.5	0.1	0.3						
	South & Central America	-0.1	-0.1	-0.1	-0.1	0.0	-0.1						
	Rest of World	1.1	1.5	1.2	1.3	1.3	0.9						

Source: US Dept of Commerce

Table 5.5.8 Organo-Inorganic & Heterocyclic Compounds (SITC 515) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	2.7	3.0	3.3	4.0	4.2	4.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.2	0.3	0.3	0.4	0.4	0.5	8.9	8.5	9.3	9.4	9.5	13.3
	Mexico	0.1	0.1	0.2	0.2	0.1	0.2	4.9	3.7	4.6	3.8	3.5	4.1
	EU15	1.1	1.2	1.3	1.6	2.0	1.7	40.9	39.8	37.8	40.2	47.5	42.3
	Germany	0.2	0.1	0.1	0.1	0.1	0.1	6.5	4.4	3.0	3.0	2.4	2.4
	France	0.1	0.1	0.1	0.3	0.3	0.3	5.2	2.4	4.4	6.3	6.9	7.0
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	2.1	2.6	2.5	1.9	2.2	2.4
	United Kingdom	0.1	0.2	0.2	0.2	0.2	0.2	4.4	6.5	4.6	4.1	4.8	4.1
	Ireland	0.1	0.0	0.1	0.1	0.3	0.2	2.2	1.6	4.0	3.6	7.0	4.8
	Other Europe	0.1	0.2	0.2	0.2	0.1	0.2	5.2	5.3	5.1	4.5	3.3	4.1
	Japan	0.2	0.2	0.2	0.3	0.2	0.3	6.7	7.9	7.4	6.7	4.2	7.1
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	3.0	4.6	4.1	3.3	3.0	2.8
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.9	0.9	0.6	0.4	0.5
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	2.5	2.4	2.1	2.0	1.8	2.1
	Singapore	0.1	0.1	0.1	0.1	0.1	0.1	1.9	2.0	2.1	1.7	1.4	1.6
	China	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.5	0.8	0.8	0.9	1.0
	Other Asia	0.1	0.1	0.2	0.2	0.1	0.1	3.9	3.8	4.6	5.7	2.5	2.9
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9	0.6	0.5	0.6	0.7
	Rest of World	0.5	0.6	0.7	0.8	0.9	0.7	19.1	18.9	20.7	20.6	21.7	17.4
Imports	US from World	3.7	4.7	5.7	7.6	9.3	12.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.5	0.5	0.4	0.3
	Mexico	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.4	0.4	0.3	0.2	0.5
	EU15	2.1	2.8	3.5	5.1	7.1	9.7	56.6	60.3	61.1	66.9	76.0	79.0
	Germany	0.6	0.7	0.8	0.9	1.0	0.8	15.4	15.2	14.5	12.2	11.1	6.9
	France	0.2	0.3	0.2	0.3	0.4	0.4	4.4	5.5	4.0	4.2	4.8	3.4
	Italy	0.2	0.2	0.2	0.2	0.4	0.4	4.3	3.7	3.3	3.2	3.9	3.6
	United Kingdom	0.7	0.7	0.8	1.0	1.1	1.5	17.9	14.5	13.4	12.8	12.3	12.5
	Ireland	0.3	0.6	1.0	2.0	3.6	5.4	8.0	13.6	17.9	26.5	38.2	44.0
	Other Europe	0.3	0.5	0.5	0.6	0.4	0.6	9.1	10.5	9.5	7.7	4.8	5.2
	Japan	0.5	0.6	0.8	0.9	0.9	0.9	13.7	13.7	14.1	11.6	10.0	7.1
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.2	0.2	0.1
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Korea	0.0	0.0	0.0	0.0	0.1	0.0	0.5	0.5	0.3	0.4	0.6	0.3
	Singapore	0.5	0.4	0.5	0.6	0.3	0.5	13.4	9.5	9.1	8.2	3.0	4.2
	China	0.0	0.0	0.1	0.1	0.1	0.1	1.1	0.9	1.4	1.2	1.2	1.0
	Other Asia	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5	0.6	0.6	0.8	0.6
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.2
	Rest of World	0.1	0.1	0.1	0.2	0.2	0.2	3.6	2.7	2.5	2.3	2.7	1.5
Balance	US with World	-0.9	-1.6	-2.4	-3.5	-5.1	-8.1						
	Canada	0.2	0.2	0.3	0.3	0.4	0.5						
	Mexico	0.1	0.1	0.1	0.1	0.1	0.1						
	EU15	-1.0	-1.6	-2.3	-3.4	-5.1	-7.9						
	Germany	-0.4	-0.6	-0.7	-0.8	-0.9	-0.7						
	France	0.0	-0.2	-0.1	-0.1	-0.2	-0.1						
	Italy	-0.1	-0.1	-0.1	-0.2	-0.3	-0.3						
	United Kingdom	-0.5	-0.5	-0.6	-0.8	-0.9	-1.4						
	Ireland	-0.2	-0.6	-0.9	-1.9	-3.3	-5.2						
	Other Europe	-0.2	-0.3	-0.4	-0.4	-0.3	-0.5						
	Japan	-0.3	-0.4	-0.6	-0.6	-0.8	-0.6						
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	0.1	0.1	0.1	0.1	0.0	0.0						
	Singapore	-0.4	-0.4	-0.5	-0.6	-0.2	-0.4						
	China	0.0	0.0	-0.1	-0.1	-0.1	-0.1						
	Other Asia	0.1	0.1	0.1	0.2	0.0	0.0						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	0.4	0.4	0.5	0.7	0.7	0.5						

Source: US Dept of Commerce

Table 5.5.9 Plastics in Primary Form (SITC 57) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	8.7	10.8	11.0	12.2	11.6	11.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.0	2.3	2.6	2.9	2.9	3.2	23.0	21.1	23.5	23.8	25.2	27.3
	Mexico	1.0	1.0	1.4	1.7	1.9	1.9	11.0	9.3	12.3	14.2	16.8	16.6
	EU15	1.8	2.1	2.0	2.1	2.1	2.0	20.4	19.5	17.8	17.3	18.3	16.8
	Germany	0.2	0.3	0.2	0.3	0.3	0.2	2.7	2.4	2.0	2.3	2.5	1.9
	France	0.1	0.1	0.1	0.1	0.2	0.1	0.9	0.9	1.1	1.0	1.4	1.1
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.8	0.8	0.7	0.6	0.7
	United Kingdom	0.3	0.3	0.2	0.3	0.3	0.2	2.9	2.7	2.3	2.2	2.3	2.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.6	1.0	0.9	1.0	0.8	0.7
	Japan	0.5	0.6	0.6	0.6	0.6	0.6	5.7	5.1	5.0	5.2	5.2	5.1
	Taiwan	0.4	0.4	0.4	0.4	0.3	0.4	4.5	4.0	3.7	3.6	3.0	3.4
	Hong Kong	0.4	0.7	0.7	0.6	0.4	0.4	5.1	6.9	6.0	4.6	3.7	3.6
	Korea	0.3	0.4	0.4	0.4	0.3	0.3	3.4	3.7	3.8	3.0	2.3	2.9
	Singapore	0.3	0.4	0.3	0.3	0.3	0.3	3.4	3.4	2.8	2.8	2.4	2.7
	China	0.1	0.3	0.3	0.3	0.3	0.4	1.6	2.6	2.9	2.8	2.8	3.3
	Other Asia	0.4	0.5	0.5	0.5	0.3	0.4	4.2	4.5	4.4	4.0	2.4	3.0
	South & Central America	0.3	0.3	0.3	0.4	0.3	0.3	3.4	3.2	3.0	3.2	2.9	2.8
	Rest of World	1.2	1.7	1.5	1.8	1.6	1.4	13.6	15.7	14.0	14.6	14.1	11.7
Imports	US from World	3.5	4.3	4.4	4.9	5.1	5.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.4	1.9	1.9	2.3	2.2	2.4	39.3	44.4	42.9	46.3	42.9	44.0
	Mexico	0.2	0.2	0.2	0.2	0.2	0.2	4.4	5.1	4.9	4.2	4.4	3.9
	EU15	1.2	1.3	1.4	1.4	1.5	1.5	33.1	28.9	31.7	28.2	28.8	27.2
	Germany	0.4	0.5	0.5	0.5	0.5	0.6	12.5	10.5	11.4	10.4	10.2	10.5
	France	0.1	0.1	0.2	0.2	0.2	0.2	3.9	3.2	3.5	3.5	3.3	3.2
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	3.0	2.5	2.5	2.2	2.6	2.3
	United Kingdom	0.1	0.2	0.2	0.2	0.2	0.2	4.0	3.5	3.7	3.6	3.2	3.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.6	0.4	0.4	0.4
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	2.1	1.6	1.7	1.7	1.6	1.7
	Japan	0.5	0.6	0.6	0.6	0.7	0.7	14.4	14.1	13.0	12.8	13.4	12.9
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	2.1	1.6	1.5	1.5	1.8	2.0
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0
	Korea	0.0	0.1	0.1	0.1	0.1	0.2	1.4	1.3	1.3	1.4	2.1	2.8
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.2	0.6	0.6	0.6
	Other Asia	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.3	0.4	1.1	1.5	2.0
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.5	1.0
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	2.5	2.1	2.0	1.9	2.2	1.5
Balance	US with World	5.2	6.4	6.5	7.2	6.5	6.3						
	Canada	0.6	0.3	0.7	0.6	0.7	0.8						
	Mexico	0.8	0.8	1.1	1.5	1.7	1.7						
	EU15	0.6	0.8	0.5	0.7	0.7	0.5						
	Germany	-0.2	-0.2	-0.3	-0.2	-0.2	-0.4						
	France	-0.1	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	-0.1	0.0						
	United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0						
	Japan	0.0	-0.1	0.0	0.0	-0.1	-0.1						
	Taiwan	0.3	0.4	0.3	0.4	0.3	0.3						
	Hong Kong	0.4	0.7	0.7	0.6	0.4	0.4						
	Korea	0.2	0.3	0.4	0.3	0.2	0.2						
	Singapore	0.3	0.4	0.3	0.3	0.3	0.3						
	China	0.1	0.3	0.3	0.3	0.3	0.4						
	Other Asia	0.4	0.5	0.5	0.4	0.2	0.3						
	South & Central America	0.3	0.3	0.3	0.4	0.3	0.3						
	Rest of World	1.1	1.6	1.4	1.7	1.5	1.3						

Source: US Dept of Commerce

Textiles (SITC 65)

Textiles and apparel have long been areas of concern in US trade. The two industries are closely linked with much of the output of the US textiles industry going to the apparel industry, albeit less than in earlier years when US clothing manufacturing supplied a much larger portion of US clothing consumption. World textile trade has been growing but less rapidly than other product groups. In 1998 it constituted 3.8 percent of world merchandise exports.

Description of the Product Group

In addition to a wide variety of fabrics, the textile industry produces a large number of products used as inputs by other industries -- for example, tire cord. It also includes many final products such as carpets, tents, and rope. Textiles, as defined in SITC 65, is divided into the following three-digit SITC categories.

651 Textile Yarn

652 Cotton Fabrics, Woven (Not Including Narrow Or Special Fabrics)

653 Fabrics, Woven, Of Man-Made Textile Materials

654 Other Textile Fabrics, Woven

655 Knitted Or Crocheted Fabrics (Including Tubular Knit Fabrics, Not Elsewhere Specified, Pile Fabrics, And Open Work Fabrics) N.E.S.

656 Tulles, Lace Embroidery, Ribbons, Trimmings, And Other Small Wares

657 Special Yarns, Special Textile Fabrics, And Related Products (For Example Rubberized Fabrics, Rope, Cord And Conveyor Belts)

658 Made-Up Articles, Wholly Or Chiefly Of Textile Materials, N.E.S, (For Example, Tarps, Tents, Bed Linens And Curtains)

659 Floor Coverings

Role In World Trade

World textiles exports totaled $151 billion in 1998, about 2.9 percent of world merchandise exports, compared with 3.1 percent in 1990 **(Table 5.65.1)**. The textiles group includes a wide variety of products, ranging from those made from natural fibers using relatively simple technologies not covered by patents, to synthetic fabrics employing very sophisticated technologies that may enjoy patent protection. Several industrialized countries continue to export items in the latter category. The EU is still a major textile exporter, $60.6 Billion in 1998, $21.8 billion of that to non-EU destinations. In addition, Korea and Taipei, countries well-advanced in their industrialization process, remain major exporters. Korea's exports of $11.2 billion provided 8.5 percent of its total merchandise exports; Taipei's $11.0 billion was 10.0 percent of its merchandise exports.

WTO data showing percent shares of world textile trade are provided in **Table 5.65.2.** The 6.1 percent US share of world exports is down only modestly from 1980's 6.7 percent share. However, as in many other product groups, the US share of imports has grown, doubling from the 4.3 percent share of 1980 to 8.6 percent in 1998.

Generally, the data show declining export shares for developed countries, rising shares for developing countries. For example, the export shares of Germany, The UK, and Japan declined significantly from 1980 to 1998, while those of China, Turkey, India, and Pakistan all increased. China's exports were 4.5

percent of the world total in 1980; 8.5 percent in 1998. Its share of world imports also increased. From 1.9 percent to 7.0 percent, probably reflecting the imports of fabrics for the manufacture and export of apparel and other goods.

Role in US Trade

In 1999 textiles accounted for 1.6 percent of US manufactures exports, 1.5 percent of imports, down from 2.0 and 1.6 percent in 1990. The 1999 deficit was $4.1 billion, up from $1.4 billion in 1990 and $2.6 billion in 1994 **(Table 5.65.3).**

Well over half of US textiles exports go to Canada and Mexico. Canada's 1999 share was 29.1 percent, not much changed from its 1994 share. From 1994 to 1999, however, reflecting its increasing manufacture of apparel, Mexico's share grew from 14.7 percent to 30.3 percent **(Table 5.65.4)**.

Imbalances in the nine three-digit subcategories of the textile group are small, all less than $1 billion, except for SITC 658, "made-up articles of textile materials," a category that includes items such as tarps, tents, bed linens, and curtains. The 1999 deficit in this sub-group, which includes labor inputs beyond those of textile manufacturing itself, was $3.2 billion, up from a 1994 deficit of $1.5 billion. Reflecting the more labor-intensive nature of these items, 60.9 percent of the imports came from Asian sources, 14.6 percent from Mexico **(Table 5.65.5)**.

Global Industry Trends

Like so many other industries, the world textiles industry is undergoing wrenching changes. *"Global market trends in the textile industry increasingly are being determined by the transition to a quota-free textile trade environment. The quota system that has been in place since the early 1960s will end on December 31, 2004. However, quota growth rates have been increasing and will continue to increase until the end of 2004. This situation is driving a realignment of markets and a restructuring of the industry that are well under way."* ***US Trade and Industry Outlook, 2000, p 9-1.***

This ongoing restructuring continues the market disturbances of the last few years caused by the Asian economic crisis. *"…currency devaluations combined with an urgent need to export at nearly any price to garner foreign exchange impelled many [Asian] countries to export textiles and apparel to the United States and other markets at rock bottom prices…The response of textile manufacturers to intensifying global competition has been threefold: …rationalization of production to emphasize products in which the manufacturer has the greatest competitive advantages and de-emphasize products that are more vulnerable to foreign competition. In the United States and other developed countries, this implies a de-emphasis on textile products consumed in the apparel industry and a greater emphasis on other products, such as home furnishings and industrial textiles. Second, …[investment in]new plant and equipment…textile firms around the world are under constant pressure to become more efficient through technology upgrades. Third, and perhaps most important, manufacturing is expanding into countries close to home markets…primarily to support production sharing arrangements for apparel, … For US textile producers, the most important regional expansion and partnering are taking place with Mexico…Other partnerships are taking place between US textile manufacturers and apparel producers in the Caribbean Basin Initiative (CBI) beneficiary countries…Another trend is for the US mills and converters to move slowly away from staple fabrics for the apparel industry and toward niche products and diversification into multiple sewn product markets…There has been a substantial job loss in the US textile industry, a trend that has been ongoing for almost 30 years. This job loss can be attributed partly to imports, but like many other industries in the United States, the textile industry has been able to increase its production through new technologies while decreasing the number of employees. Overall*

textile production has increased more than 20 percent since the beginning of the decade, even though industry employment has dropped over 13 percent." ***US Industry and Trade Outlook, 2000, p. 9-1.***

Trade Outlook

There is little likelihood of significant improvement in the textiles trade balance in the foreseeable future. Year 2000 first-half imports are up about 16 percent from 1999 levels, exports are off about 10 percent. Nor does the longer term hold much cause to expect improvement. The phase-out of textile quotas will intensify global competition and further open the US market. Exports will likely continue to increase but, absent a decline in US consumption, imports will probably increase more rapidly. A modest decline in the dollar exchange rate might increase US exports of some of the higher technology fabrics but would likely do little to reduce imports of the lower technology fabrics or imports of made-up articles of textile materials that account for most of the US textiles group deficit.

Conclusions

- Performances of the textile and apparel industries are closely linked, both in domestic economic and international trade outcomes. In 1998, together the two industries accounted for 8.3 percent of world manufactures exports, down from 8.8 percent in 1994. The size of the trade and the fact that it has often been a means of export-led growth by developing countries, with negative effects on the industries in developed countries, has long made trade in textiles and apparel politically sensitive and often subject to import restrictions.
- Unlike most US manufacturing, the textile industry long enjoyed some forms of protection against imports. But with the more rapid growth of other manufactured goods trade -- autos, computers, telecommunications equipment, etc. -- textiles and apparel are now much smaller portions of world trade and textiles and apparel restrictions are rapidly disappearing. NAFTA has largely eliminated barriers to imports from Mexico and Canada and WTO agreements are gradually phasing out import quotas by 2004.
- The overall performance of the domestic textile industry has depended heavily on the performance of the domestic apparel industry, its largest customer. The shift in apparel production from the United States to overseas locations has reduced the US market for US-produced textiles substantially.
- The shift of much of US apparel production to offshore and NAFTA locations that may rely on US textile supplies has increased US textile exports but the product group continues to run small deficits. In the 1990s these deficits typically ranged from $1 billion to $3 billion, with a 1999 deficit of $4.1 billion.
- Apparel production is intensely competitive and attempts to reduce costs are driving production locations closer to the markets to be served. Apparel production for the US market is not only migrating from the United States but is undergoing a shift from Asian and East European sources to CBI countries and Mexico. This shift may increase the use of US textiles in apparel manufactured for the US market and US textile exports. These gains, however, may be offset by increased imports of "made-up articles of textile materials," a sub-group of the textiles product group that is more labor intensive than textile production.
- US textiles industry employment has declined over the last three decades, partly due to imports. But through new technologies, overall textile production has increased by 20 percent since 1990.
- Gains in US apparel exports are unlikely to eliminate or significantly decrease US textiles deficits. The US textiles deficit will increase modestly in 2000, perhaps to $5 billion. Absent major declines in US economic growth rates and the dollar exchange rate, modest US trade deficits are likely to continue, perhaps with small increases.

Table 5.65.1 Textiles Exports of Selected Economies

	Billions of Dollars			% of Mdse Exports	
	1990	1995	1998	1990	1998
World	104.5	150.4	151	3.1%	2.9%
US	5	7.4	9.2	1.3%	1.4%
EU 15	50.8	60.5	60.6	3.4%	2.8%
Intra-EU	35.7	38.7	37.7	3.6%	2.8%
Extra-EU	15.1	21.8	22.9	2.9%	2.8%
Germany	14	14.4	13.3	3.3%	2.5%
Italy	9.5	12.8	13	5.6%	5.4%
Korea	6.1	12.3	11.3	9.3%	8.5%
Taipei	6.1	11.9	11	9.1%	10.0%

Source: WTO Annual Report, 1999

Table 5.65.2 Percent Shares in World Textile Trade

		Billions of Dollars			$ Change
		1980	1990	1998	1980-98
US	Exports	6.7	4.8	6.1	-0.5
	Imports	4.3	6.1	8.6	4.3
	Share Balance	*2.4*	*-1.3*	*-2.5*	*-4.9*
Italy	Exports	7.4	9.1	8.6	1
	Imports	4.5	5.6	4.2	-0.3
	Share Balance	*2.9*	*3.5*	*4.2*	*1.3*
China	Exports	4.5	5.9	8.5	4
	Imports	1.9	4.8	7	5.1
	Share Balance	*2.6*	*1.1*	*1.5*	*-1.1*
France	Exports	6.1	5.8	5	-1.1
	Imports	7	6.9	4.8	-2.2
	Share Balance	*-0.9*	*-1.1*	*0.2*	*1.1*
Germany	Exports	11.3	13.4	8.8	-2.5
	Imports	11.7	10.8	7	-4.7
	Share Balance	*-0.4*	*2.6*	*1.8*	*-2.2*
Japan	Exports	9.2	5.6	4	-5.2
	Imports	2.8	3.7	2.8	0
	Share Balance	*6.4*	*1.9*	*1.2*	*-5.2*
UK	Exports	5.6	4.2	3.6	-2
	Imports	6.1	6.4	5.3	-0.8
	Share Balance	*-0.5*	*-2.2*	*-1.7*	*-1.2*
Turkey	Exports	0.6	1.4	2.4	1.8
	Imports	0.1	0.5	1.5	1.4
	Share Balance	*0.5*	*0.9*	*0.9*	*0.4*
India	Exports	2.1	2.1	3.3	1.2
Korea	Exports	4	5.8	7.5	3.5
Pakistan	Exports	1.6	2.5	2.8	1.2

Source: WTO Annual Report, 1999

Table 5.65.3 Textile Yarn, Fabrics (SITC 65) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
65-- Textile Yarn, Fabrics								
Exports	6.6	7.4	8.0	9.2	9.2	9.5	2.9	44.2%
Imports	9.2	10.0	10.2	11.9	12.9	13.6	4.4	47.4%
Balance	(2.6)	(2.6)	(2.2)	(2.8)	(3.7)	(4.1)	(1.5)	-
of which								
651-- Textile Yarn								
Exports	1.2	1.5	1.7	1.9	1.9	1.9	0.6	53.4%
Imports	1.3	1.4	1.5	1.8	1.9	2.0	0.6	47.9%
Balance	(0.1)	0.1	0.1	0.2	0.0	(0.1)	0.0	-
652-- Cotton Fabrics, Woven								
Exports	0.7	0.8	0.9	1.0	1.0	1.2	0.4	59.4%
Imports	1.5	1.6	1.5	1.7	1.7	1.6	0.1	8.0%
Balance	(0.8)	(0.8)	(0.6)	(0.7)	(0.7)	(0.5)	0.3	-
653-- Woven Fabrics, Manmade Textile Material								
Exports	0.9	1.0	1.0	1.2	1.2	1.3	0.4	43.4%
Imports	1.3	1.3	1.3	1.4	1.4	1.3	0.0	0.4%
Balance	(0.4)	(0.3)	(0.2)	(0.3)	(0.2)	0.0	0.4	-
654-- Woven Fabrics Of Textile Material, Not Cotton Or								
Exports	0.2	0.3	0.3	0.3	0.2	0.2	(0.0)	-6.5%
Imports	0.7	0.7	0.7	0.8	0.8	0.7	0.1	7.8%
Balance	(0.5)	(0.4)	(0.4)	(0.5)	(0.5)	(0.5)	(0.1)	-
655-- Knitted Or Crocheted Fabrics								
Exports	0.3	0.4	0.5	0.6	0.6	0.6	0.3	81.8%
Imports	0.3	0.3	0.5	0.8	0.8	0.9	0.6	175.8%
Balance	0.0	0.1	(0.0)	(0.2)	(0.2)	(0.3)	(0.3)	-
656-- Tulles, Lace, Embroidery, Ribbons, Trimmings, Etc								
Exports	0.3	0.4	0.4	0.5	0.6	0.6	0.3	90.3%
Imports	0.3	0.4	0.4	0.5	0.5	0.5	0.2	51.3%
Balance	0.0	0.0	(0.0)	0.0	0.1	0.1	0.1	-
657-- Special Yarns, Special Textile Fabrics, Etc.								
Exports	1.6	1.7	1.8	2.1	2.1	2.1	0.6	37.3%
Imports	0.9	1.0	1.0	1.1	1.2	1.3	0.4	38.0%
Balance	0.6	0.7	0.7	1.0	0.8	0.8	0.2	-
658-- Made-Up Articles Of Textile Materials								
Exports	0.5	0.5	0.6	0.7	0.7	0.7	0.2	42.2%
Imports	2.0	2.4	2.4	2.9	3.4	3.9	1.9	95.2%
Balance	(1.5)	(1.9)	(1.8)	(2.2)	(2.7)	(3.2)	(1.7)	-
659-- Floor Coverings								
Exports	0.7	0.7	0.8	0.9	0.9	0.8	0.1	9.0%
Imports	0.8	0.9	0.9	1.0	1.1	1.3	0.5	66.5%
Balance	(0.0)	(0.1)	(0.1)	(0.1)	(0.3)	(0.5)	(0.4)	-

Source: US Dept of Commerce

Table 5.65.4 Textile Yarn, Fabrics (SITC 65) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	6.6	7.4	8.0	9.2	9.2	9.5	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.9	2.1	2.3	2.7	2.8	2.8	28.2	28.6	28.9	29.0	30.2	29.1
	Mexico	1.0	1.0	1.2	1.5	2.0	2.9	14.7	12.9	15.5	16.7	21.3	30.3
	EU15	1.2	1.4	1.4	1.6	1.5	1.2	18.0	18.7	17.6	17.2	16.4	12.7
	Germany	0.2	0.2	0.2	0.3	0.2	0.2	3.1	3.4	2.9	2.9	2.4	2.0
	France	0.1	0.1	0.1	0.1	0.1	0.1	1.4	1.4	1.1	1.0	1.1	1.0
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	1.2	1.3	1.2	1.2	1.3	1.1
	United Kingdom	0.3	0.3	0.4	0.4	0.4	0.3	4.6	4.6	4.7	4.5	4.3	3.6
	Ireland	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.6	0.6	0.5	0.5	0.2
	Other Europe	0.1	0.1	0.1	0.2	0.2	0.1	1.4	1.7	1.8	2.0	1.9	1.6
	Japan	0.3	0.3	0.3	0.3	0.2	0.2	3.8	3.9	3.8	3.5	2.7	2.4
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	1.3	1.3	1.2	1.2	1.0	0.8
	Hong Kong	0.2	0.2	0.2	0.3	0.2	0.2	3.3	3.3	3.0	3.2	2.6	2.4
	Korea	0.1	0.2	0.2	0.2	0.1	0.1	2.2	2.1	2.0	2.0	1.4	1.4
	Singapore	0.1	0.1	0.1	0.1	0.1	0.0	1.2	1.1	1.1	1.0	0.5	0.5
	China	0.0	0.1	0.1	0.1	0.1	0.1	0.5	0.7	0.6	0.7	0.8	0.9
	Other Asia	0.1	0.2	0.2	0.2	0.2	0.2	2.2	2.3	2.6	2.6	1.9	1.9
	South & Central America	0.5	0.6	0.6	0.7	0.8	0.7	7.0	7.7	7.9	8.0	8.3	7.4
	Rest of World	1.1	1.1	1.1	1.2	1.0	0.8	16.2	15.6	14.0	12.9	11.0	8.7
Imports	US from World	9.2	10.0	10.2	11.9	12.9	13.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.9	1.1	1.3	1.5	1.6	1.8	9.9	10.7	12.5	12.2	12.5	12.9
	Mexico	0.5	0.7	0.9	1.1	1.2	1.3	5.1	7.2	8.5	9.4	9.3	9.7
	EU15	2.2	2.3	2.3	2.4	2.4	2.5	24.1	22.7	22.0	19.7	18.9	18.1
	Germany	0.4	0.4	0.4	0.4	0.3	0.4	4.5	3.8	3.6	3.2	2.6	2.6
	France	0.2	0.2	0.2	0.2	0.3	0.3	2.6	2.5	2.4	2.0	2.0	1.9
	Italy	0.6	0.6	0.7	0.7	0.7	0.7	6.7	6.3	6.4	5.8	5.3	4.9
	United Kingdom	0.3	0.3	0.3	0.4	0.4	0.4	3.4	3.3	3.2	2.9	2.9	2.7
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.2	0.2
	Other Europe	0.4	0.4	0.4	0.5	0.6	0.7	4.7	4.4	4.1	4.3	4.6	4.8
	Japan	0.7	0.6	0.5	0.6	0.6	0.6	7.1	5.6	5.2	4.8	4.4	4.2
	Taiwan	0.6	0.6	0.7	0.7	0.7	0.8	6.3	6.0	6.5	6.3	5.7	5.6
	Hong Kong	0.2	0.2	0.2	0.2	0.2	0.2	2.2	2.0	1.7	1.4	1.5	1.6
	Korea	0.6	0.6	0.7	0.8	0.8	0.8	6.6	6.4	6.8	6.9	6.4	6.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
	China	1.0	1.2	1.0	1.4	1.4	1.6	11.3	11.5	10.2	11.5	11.2	11.7
	Other Asia	1.4	1.6	1.7	2.1	2.5	2.6	15.0	16.3	16.5	17.7	19.7	19.4
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.0	1.0	0.9	0.9	0.8
	Rest of World	0.6	0.6	0.5	0.6	0.6	0.7	6.5	6.1	4.9	4.8	5.0	4.8
Balance	US with World	-2.6	-2.6	-2.2	-2.8	-3.7	-4.1						
	Canada	0.9	1.0	1.0	1.2	1.2	1.0						
	Mexico	0.5	0.2	0.4	0.4	0.8	1.6						
	EU15	-1.0	-0.9	-0.8	-0.8	-0.9	-1.2						
	Germany	-0.2	-0.1	-0.1	-0.1	-0.1	-0.2						
	France	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2						
	Italy	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6						
	United Kingdom	0.0	0.0	0.0	0.1	0.0	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.3	-0.3	-0.3	-0.3	-0.4	-0.5						
	Japan	-0.4	-0.3	-0.2	-0.3	-0.3	-0.3						
	Taiwan	-0.5	-0.5	-0.6	-0.6	-0.6	-0.7						
	Hong Kong	0.0	0.0	0.1	0.1	0.0	0.0						
	Korea	-0.5	-0.5	-0.5	-0.6	-0.7	-0.7						
	Singapore	0.1	0.1	0.1	0.1	0.0	0.0						
	China	-1.0	-1.1	-1.0	-1.3	-1.4	-1.5						
	Other Asia	-1.2	-1.5	-1.5	-1.9	-2.4	-2.5						
	South & Central America	0.4	0.5	0.5	0.6	0.7	0.6						
	Rest of World	0.5	0.5	0.6	0.6	0.4	0.2						

Source: US Dept of Commerce

Table 5.65.5 Made-Up Articles of Textile Materials (SITC 658) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.5	0.5	0.6	0.7	0.7	0.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.2	0.2	0.2	0.3	0.3	0.3	34.9	35.7	34.0	35.4	40.2	40.1
	Mexico	0.1	0.1	0.1	0.1	0.1	0.1	17.4	12.4	16.2	17.1	16.1	17.8
	EU15	0.1	0.1	0.1	0.1	0.1	0.1	13.0	11.6	11.8	11.2	12.7	13.8
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.6	1.7	1.8	1.9	1.9
	France	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.1	1.4	1.3	1.6	2.3
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8	0.5	0.9	1.1	1.0
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	3.1	2.5	3.2	2.7	3.7	3.6
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.6	0.5	0.8	0.6
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.0	0.9	1.1	0.9
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	6.0	7.2	7.8	6.9	5.1	3.9
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	1.0	0.7	0.4	0.4
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.6	1.3	1.4	1.3	0.9
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.8	1.4	1.5	0.4	0.6
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.0	1.0	0.7	0.6
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.0	0.6	0.7	1.3	0.4
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.0	2.3	2.5	1.0	1.2
	South & Central America	0.0	0.0	0.0	0.0	0.1	0.1	5.3	6.4	6.0	6.0	6.7	7.6
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	14.8	16.2	15.6	14.7	13.0	11.8
Imports	US from World	2.0	2.4	2.4	2.9	3.4	3.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.1	0.1	0.1	0.1	2.4	2.1	2.6	2.5	2.5	3.0
	Mexico	0.3	0.3	0.3	0.5	0.5	0.6	12.6	14.3	14.4	15.9	15.2	14.6
	EU15	0.2	0.3	0.3	0.3	0.4	0.4	11.4	11.4	12.2	11.6	11.3	10.7
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.6	0.5	0.6	0.5
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.6
	Italy	0.0	0.0	0.0	0.0	0.0	0.1	1.1	1.2	1.4	1.4	1.4	1.6
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	1.3	1.3	1.1	1.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	Other Europe	0.0	0.1	0.1	0.1	0.1	0.2	2.3	2.4	2.7	3.1	4.1	4.8
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.6	0.6	0.5	0.6
	Taiwan	0.1	0.2	0.2	0.2	0.2	0.2	7.0	6.3	6.7	6.3	6.0	5.5
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	2.2	1.8	1.0	0.4	0.5	0.6
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	4.4	3.6	3.1	3.1	2.6	2.1
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	China	0.6	0.6	0.6	0.7	0.8	1.0	28.8	26.7	24.6	24.9	23.8	24.3
	Other Asia	0.4	0.6	0.6	0.7	0.9	1.1	20.0	23.4	25.7	24.9	27.1	27.6
	South & Central America	0.0	0.0	0.0	0.1	0.1	0.1	2.0	1.7	1.8	1.8	1.6	1.4
	Rest of World	0.1	0.1	0.1	0.1	0.2	0.2	6.3	5.7	4.8	4.8	4.9	4.7
Balance	US with World	-1.5	-1.9	-1.8	-2.2	-2.7	-3.2						
	Canada	0.1	0.1	0.2	0.2	0.2	0.2						
	Mexico	-0.2	-0.3	-0.2	-0.3	-0.4	-0.4						
	EU15	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	-0.1						
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	-0.1	-0.1	-0.1	-0.1	-0.2						
	Japan	0.0	0.0	0.0	0.0	0.0	0.0						
	Taiwan	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.6	-0.6	-0.6	-0.7	-0.8	-1.0						
	Other Asia	-0.4	-0.6	-0.6	-0.7	-0.9	-1.1						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	-0.1	-0.1	0.0	0.0	-0.1	-0.1						

Source: US Dept of Commerce

Nonmetallic Mineral Manufactures (SITC 66)

Imports of diamonds, cement, china, and glassware create persistent US deficits in this group of diverse products. US economic downturns, however, temporarily reduce import demand when they occur, by reducing construction activity and lowering consumer confidence.

Description of the Product Group

Nonmetallic mineral manufactures, not elsewhere specified, includes the following three-digit SITC categories:

661 Cement, Lime, And Fabricated Construction Materials (Excluding Glass And Clay Materials)
662 Clay Construction Materials And Refractory Construction Materials (e.g., Bricks And Tiles)
663 Mineral Manufactures, Not Elsewhere Specified
664 Glass
665 Glassware
666 Pottery (Including Chinaware And Porcelain)
667 Pearls And Precious And Semiprecious Stones (Including Diamonds)

Products in SITCs 661 through 665 are often used as construction materials. Optical fiber is included in SITC 773, electrical distribution equipment, rather than in this product group.

Role in US Trade

Nonmetallic mineral manufactures are a relatively small portion of US manufactures trade, 1.4 percent of 1999 US exports, 2.5 percent of imports. Deficits, however, are persistent and growing, rising from $5.0 billion in 1991 to $13.7 billion in 1999. The largest subcategory in the trade is pearls, precious & semiprecious stones, SITC 667, which includes non-industrial diamonds and registered a $7.4 billion 1999 deficit **(Table 5.66.1).** Deficits in other nonmetallic minerals subcategories have also been rising, however.

Nonmetallic minerals is a diverse product group, ranging from high weight, low-value items such as cement to low-weight, high value items such as diamonds. The geographic composition of nonmetallic minerals exports and imports is shown in **Table 5.66.2**. The major suppliers of this diverse group differ widely, however, from product to product. The key suppliers of pearls, precious and semiprecious stones are shown in **Table 5.66.3.** Diamonds are imported primarily from Europe, Israel, India and South Africa; colored gemstones from Thailand and India; pearls from Japan.

Outlook

None of the subcategories in the nonmetallic minerals product group show promise for improved performance if the US economy remains strong. Brief appraisals of some of the more important items follow.

SITC 651 Lime, Cement and Fabricated Construction Materials

Cement accounts for most of the trade and resulting deficits in this subcategory. The United States has never been a significant exporter of cement and the industry is undergoing many of the same "globalization" trends evident in other industries. "*The internationalization of the US and world cement*

industries continues. In the 1980s, large international firms began to purchase plants around the world. As a result, production capacity in the United States is now more than two-thirds foreign-owned. This trend continued to characterize the industry in 1998. With recent acquisitions in the industry, foreign-owned production capacity could be as high as 71 percent. The owners of US production facilities also purchase the bulk of US imports.

The United States has long been a net importer of cement…As domestic production has been stretched to full or near full capacity, imports have become an important part of US supply…In 1998 US imports of cement satisfied 23 percent of US consumption as measured by volume, up from 18 percent the previous year and in 1999 imports accounted for 27 percent of consumption…Imports are likely to continue to increase through 2004, although at diminishing levels. The United States has little cement available for export. Exports account for about 1 percent of US production and most are sent to Canada". ***US Industry and Trade Outlook 2000, p. 8-10.***

Some new cement capacity will be built in the United States but energy and environmental considerations have raised new plant costs to as much as $300 million. Major modernizations and expansions can cost more than $50 million. This will likely restrain new investments and ensure net imports will continue and enlarge. *"In addition to the cost issue, cement manufacturers must minimize energy consumption to reduce the release of harmful air emissions…[But to meet air emission requirements] An inordinate amount of energy is required to sustain a manufacturing process that involves a high-temperature 7-days a week, around the clock operation. As a result, energy accounts for 30 to 40 percent of total cement manufacturing costs. Legislation that requires plants to further restrict their emissions could negatively affect the US industry by limiting capacity expansion and encouraging imports."* ***US Industry and Trade Outlook 2000, p. 8-11.***

Cement trade deficits will continue, with the portion of total US requirements satisfied by imports and the amount of the deficits probably increasing if US construction activity remains strong. First-half data indicate the 2000 deficit will likely top the $2.0 billion 1999 level.

SITC 667 Pearls, Precious & Semiprecious Stones

Gem diamonds account for the vast majority of the trade and deficits in this category. US gem resources are not large; hence US diamond exports are produced from imported raw materials. The world diamond market is dominated by South African-based De Beers Consolidated Mines Ltd. De Beers sets nominal rough diamond prices to increase in a manner to account for, if not outpace, global inflation rates. Deficits in this subcategory will thus likely continue to increase, with the rate of growth set by the rate of increase in US affluence and increases in the unit prices of diamonds.

Conclusions

- Nonmetallic minerals is a modest portion of US manufactures trade, 1.4 percent of 1999 exports, 2.5 percent of imports, but it produces persistent, enlarging deficits. The 1999 deficit was $13.7 billion and a year 2000 expansion of $2 to $3 billion or more is likely.
- The trade balance in most SITC 66 subcategories is a function of imports; there is little US export capability or potential for import substitution.
- Diamonds is the largest import item in this product group. Based on first-half data, the 1999 SITC 667 pearls, precious & semiprecious stones deficit of $7.4 billion will likely expand by $2 billion or more.
- A recession would lessen import demand for most of the items in this product group, but only temporarily. Deficits are likely to continue to grow for the foreseeable future, probably outpacing growth in US GDP.

Table 5.66.1 Non-metallic Mineral (SITC 66) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
66-- Nonmetallic Mineral								
Exports	6.0	6.7	7.2	8.1	8.0	8.7	2.8	46.4%
Imports	13.3	14.4	15.6	17.8	19.5	22.4	9.1	68.6%
Balance	(7.3)	(7.7)	(8.4)	(9.8)	(11.6)	(13.7)	(6.4)	-
of which								
661-- Lime, Cement & Fabricated Construction Materials								
Exports	0.2	0.2	0.2	0.2	0.2	0.2	0.1	29.1%
Imports	1.0	1.1	1.3	1.5	1.9	2.3	1.3	130.3%
Balance	(0.8)	(1.0)	(1.1)	(1.3)	(1.7)	(2.0)	(1.2)	-
662-- Clay And Refractory Construction Materials								
Exports	0.3	0.4	0.4	0.4	0.4	0.4	0.0	9.1%
Imports	0.7	0.7	0.8	0.9	1.1	1.3	0.7	97.8%
Balance	(0.3)	(0.3)	(0.4)	(0.5)	(0.7)	(1.0)	(0.6)	-
663-- Mineral Manufactures								
Exports	1.1	1.2	1.3	1.6	1.5	1.5	0.4	39.1%
Imports	1.2	1.4	1.5	1.8	2.0	2.3	1.1	97.8%
Balance	(0.1)	(0.1)	(0.2)	(0.2)	(0.4)	(0.8)	(0.7)	-
664-- Glass								
Exports	1.5	1.7	1.8	2.1	2.0	2.1	0.6	43.1%
Imports	1.4	1.5	1.7	1.7	1.8	2.0	0.7	50.9%
Balance	0.1	0.2	0.2	0.4	0.3	0.1	(0.0)	-
665-- Glassware								
Exports	0.6	0.7	0.7	0.8	0.7	0.8	0.2	33.8%
Imports	1.2	1.3	1.4	1.6	1.6	1.8	0.7	56.6%
Balance	(0.6)	(0.7)	(0.7)	(0.7)	(0.9)	(1.0)	(0.5)	-
666-- Pottery								
Exports	0.1	0.1	0.1	0.1	0.1	0.1	0.0	17.3%
Imports	1.6	1.7	1.6	1.7	1.7	1.7	0.1	8.0%
Balance	(1.4)	(1.5)	(1.4)	(1.6)	(1.6)	(1.5)	(0.1)	-
667-- Pearls, Precious & Semiprecious Stones								
Exports	2.2	2.5	2.7	2.8	3.0	3.6	1.4	64.2%
Imports	6.4	6.7	7.4	8.6	9.4	11.0	4.6	71.4%
Balance	(4.2)	(4.2)	(4.8)	(5.8)	(6.5)	(7.4)	(3.2)	-

Source: US Dept of Commerce

Table 5.66.2 Non-metallic Mineral (SITC 66) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	6.0	6.7	7.2	8.1	8.0	8.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.5	1.5	1.6	1.7	1.8	2.1	24.4	22.5	22.0	21.5	22.9	23.6
	Mexico	0.4	0.4	0.4	0.5	0.6	0.7	7.2	5.6	6.0	6.4	7.3	8.3
	EU15	1.2	1.4	1.5	1.7	1.9	1.8	19.7	20.2	21.0	21.6	23.4	21.0
	Germany	0.1	0.2	0.2	0.2	0.3	0.3	2.2	2.6	2.8	3.0	3.3	3.0
	France	0.1	0.1	0.1	0.1	0.2	0.2	1.8	1.8	1.8	1.9	2.2	2.0
	Italy	0.0	0.1	0.1	0.1	0.1	0.1	0.6	0.7	0.8	1.0	0.9	0.8
	United Kingdom	0.2	0.2	0.3	0.3	0.3	0.3	3.6	3.4	3.6	3.8	3.7	3.5
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.3	0.5	0.4
	Other Europe	0.3	0.3	0.4	0.3	0.3	0.5	4.7	4.6	4.9	4.2	4.1	5.4
	Japan	0.4	0.5	0.6	0.6	0.5	0.5	7.3	7.4	8.0	7.9	6.1	6.1
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	1.7	1.6	1.8	1.5	1.1	1.0
	Hong Kong	0.6	0.6	0.6	0.6	0.4	0.5	9.6	8.9	7.8	7.1	5.4	5.4
	Korea	0.1	0.2	0.2	0.2	0.1	0.1	2.2	2.7	2.7	2.1	1.1	1.5
	Singapore	0.1	0.1	0.1	0.1	0.1	0.1	1.6	1.9	1.8	1.5	1.0	1.0
	China	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.9	0.9	1.0	1.1	0.9
	Other Asia	0.3	0.4	0.4	0.5	0.4	0.5	4.8	6.4	5.2	6.0	4.8	5.4
	South & Central America	0.1	0.1	0.1	0.2	0.2	0.2	2.1	2.1	2.0	2.1	2.3	2.0
	Rest of World	0.9	1.0	1.1	1.4	1.6	1.6	14.3	15.3	15.9	17.1	19.5	18.4
Imports	US from World	13.3	14.4	15.6	17.8	19.5	22.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.0	1.2	1.4	1.5	1.5	1.8	7.7	8.3	8.7	8.3	7.6	7.9
	Mexico	0.6	0.7	0.8	0.9	1.1	1.3	4.8	4.9	5.3	5.3	5.6	5.6
	EU15	4.3	4.5	4.8	5.4	5.9	6.3	32.3	31.2	30.9	30.1	30.0	27.9
	Germany	0.5	0.6	0.5	0.6	0.6	0.7	4.0	3.9	3.4	3.1	3.0	3.0
	France	0.4	0.4	0.4	0.5	0.5	0.5	2.7	2.8	2.6	2.6	2.5	2.2
	Italy	0.6	0.7	0.8	0.9	1.2	1.2	4.9	5.1	5.2	5.3	5.9	5.6
	United Kingdom	0.6	0.5	0.6	0.6	0.7	0.7	4.3	3.7	3.8	3.5	3.5	3.2
	Ireland	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.6	0.6	0.5	0.6
	Other Europe	0.6	0.6	0.6	0.7	0.7	0.8	4.5	4.3	3.7	3.9	3.8	3.7
	Japan	0.9	0.9	1.1	1.2	1.1	1.1	6.4	6.5	6.7	6.5	5.6	4.8
	Taiwan	0.3	0.3	0.2	0.2	0.2	0.2	2.6	2.0	1.5	1.3	1.0	0.8
	Hong Kong	0.1	0.2	0.2	0.3	0.3	0.3	1.1	1.3	1.5	1.6	1.5	1.4
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.3	0.3	0.4	0.6
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	China	0.6	0.8	1.0	1.2	1.4	1.7	4.6	5.8	6.2	6.9	7.4	7.5
	Other Asia	1.9	2.0	2.0	2.3	2.7	3.3	14.2	14.1	13.1	12.9	13.7	14.7
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3
	Rest of World	2.8	3.0	3.4	4.1	4.5	5.5	21.1	21.1	21.9	22.8	23.3	24.6
Balance	US with World	-7.3	-7.7	-8.4	-9.8	-11.6	-13.7						
	Canada	0.4	0.3	0.2	0.3	0.3	0.3						
	Mexico	-0.2	-0.3	-0.4	-0.4	-0.5	-0.5						
	EU15	-3.1	-3.1	-3.3	-3.6	-4.0	-4.4						
	Germany	-0.4	-0.4	-0.3	-0.3	-0.3	-0.4						
	France	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3						
	Italy	-0.6	-0.7	-0.8	-0.9	-1.1	-1.2						
	United Kingdom	-0.4	-0.3	-0.3	-0.3	-0.4	-0.4						
	Ireland	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1						
	Other Europe	-0.3	-0.3	-0.2	-0.4	-0.4	-0.4						
	Japan	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6						
	Taiwan	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1						
	Hong Kong	0.4	0.4	0.3	0.3	0.1	0.2						
	Korea	0.1	0.1	0.1	0.1	0.0	0.0						
	Singapore	0.1	0.1	0.1	0.1	0.1	0.1						
	China	-0.6	-0.8	-0.9	-1.1	-1.4	-1.6						
	Other Asia	-1.6	-1.6	-1.7	-1.8	-2.3	-2.8						
	South & Central America	0.1	0.1	0.1	0.2	0.2	0.1						
	Rest of World	-2.0	-2.0	-2.3	-2.7	-3.0	-3.9						

Source: US Dept of Commerce

Table 5.66.3 Pearls, Precious & Semiprecious Stones (SITC 67) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	2.2	2.5	2.7	2.8	3.0	3.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.1	0.1	0.1	2.8	2.3	2.4	2.7	2.6	2.6
	Mexico	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.3	0.3	0.4	1.9
	EU15	0.6	0.7	0.8	0.9	1.0	1.0	29.0	28.3	30.8	31.2	32.5	28.3
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.8	0.9	0.7	0.6	1.0
	France	0.0	0.0	0.1	0.0	0.0	0.1	1.4	1.6	2.0	1.4	1.5	1.6
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.3	0.2
	United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	3.3	2.9	3.8	3.6	3.7	3.5
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Other Europe	0.2	0.2	0.3	0.2	0.2	0.4	10.7	9.7	10.4	8.5	7.6	10.6
	Japan	0.1	0.2	0.2	0.1	0.1	0.1	6.7	7.1	5.8	2.9	3.0	3.4
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.7	0.8	0.5	0.4
	Hong Kong	0.5	0.5	0.5	0.4	0.3	0.4	21.5	20.0	17.0	16.1	11.1	11.5
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.0	0.1
	Singapore	0.0	0.1	0.1	0.0	0.0	0.0	1.8	2.4	2.2	1.7	1.0	1.0
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.2	4.9	5.9	5.0	4.2	4.1	6.6
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.2	0.3	0.4
	Rest of World	0.5	0.6	0.7	0.9	1.1	1.2	21.5	23.2	25.1	31.2	36.8	33.2
Imports	US from World	6.4	6.7	7.4	8.6	9.4	11.0	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.1	0.1
	Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	EU15	1.8	1.7	1.9	2.1	2.2	2.4	27.9	25.3	25.8	24.6	23.7	21.9
	Germany	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.6	0.6	0.4	0.4	0.5
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.2	0.2	0.1
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0
	United Kingdom	0.3	0.2	0.3	0.2	0.3	0.3	4.4	3.0	3.6	2.7	3.2	3.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	Other Europe	0.4	0.4	0.3	0.4	0.4	0.4	6.0	5.7	4.4	4.5	4.1	3.8
	Japan	0.1	0.1	0.2	0.2	0.2	0.2	0.9	0.9	2.1	2.0	1.7	1.7
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1
	Hong Kong	0.1	0.2	0.2	0.3	0.3	0.3	2.0	2.4	2.8	3.0	2.9	2.6
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.1
	China	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.5	0.6
	Other Asia	1.5	1.6	1.7	1.9	2.2	2.6	23.6	24.4	22.4	21.9	23.1	23.9
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	Rest of World	2.5	2.7	3.1	3.7	4.1	5.0	39.1	40.7	41.6	43.0	43.4	45.1
Balance	US with World	-4.2	-4.2	-4.8	-5.8	-6.5	-7.4						
	Canada	0.0	0.1	0.0	0.1	0.1	0.1						
	Mexico	0.0	0.0	0.0	0.0	0.0	0.1						
	EU15	-1.2	-1.0	-1.1	-1.2	-1.3	-1.4						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	-0.2	-0.1	-0.2	-0.1	-0.2	-0.2						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.1	-0.1	-0.1	-0.2	-0.2	0.0						
	Japan	0.1	0.1	0.0	-0.1	-0.1	-0.1						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.3	0.3	0.2	0.2	0.1	0.1						
	Korea	0.0	0.0	0.0	0.0	0.0	0.0						
	Singapore	0.0	0.1	0.0	0.0	0.0	0.0						
	China	0.0	0.0	0.0	0.0	0.0	-0.1						
	Other Asia	-1.4	-1.5	-1.5	-1.8	-2.1	-2.4						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	-2.0	-2.1	-2.4	-2.8	-3.0	-3.8						

Source: US Dept of Commerce

Iron and Steel (SITC 67)

Iron and steel were a subject of debate and policy actions during the 1980s and 1990s, including reactions to a surge of imports in 1998. In prior years, steel has been the subject of voluntary restraint agreements and the US industry has undertaken major restructuring and cost-cutting measures to survive. Nevertheless, steel trade has resulted in persistent US deficits. The 1981 deficit was $8.4 billion, improving to $6.5 billion in 1990. During the 1994-1999 period, however, annual deficits ranged from $8.4 to $13.2 billion.

Description of the Product Group

Iron and steel (abbreviated to "steel" in the remainder of this chapter) consists of the following three-digit SITC categories:

671 Pig Iron, Spiegeleisen, Sponge Iron, Iron Or Steel Powders And Shot, And Ferroalloy
672 Ingots And Other Primary Forms
673 Iron And Steel Bars, Rods, Angles, Shapes And Section
674 Universals, Plates And Sections
675 Hoop And Strip
676 Rails And Railway Track Construction Materials
677 Iron And Steel Wire, Whether Or Not Coated, But Not Insulated
678 Tubes, Pipes And Fittings
679 Iron And Steel Castings, Forgings, And Stampings, In The Rough State, Not Elsewhere Specified

Role in World Trade

According to WTO data steel has an important but declining share of world trade. World steel exports in 1998 were $141 billion, up from $10.6 billion in 1990 and $76.8 billion in 1980. But steel exports have been growing less rapidly in dollar value than other manufactures items. In 1998 steel was 3.5 percent of world manufactures exports, down from 4.4 percent in 1990 and larger portions in earlier years. These data reflect a continuing decline in the relative importance of steel and other industrial materials and the general tendency toward the increased role of finished goods in international trade.

Western Europe remains the world's largest steel exporting region, with 49.2 percent of world exports, down from a 61.0 percent share in 1990. Three-fourths of Western European exports, however, are to other West European destinations. Asia is gaining in importance as a steel exporter, its share rising from 19.5 percent in 1990 to 22.8 percent in 1998 (**WTO, 1999, p. 97**).

Germany in 1998 remained the largest exporter, with 11.0 percent of the world total, down from its 15.1 shares of 1980 and 1990 **(Table 5.67.1).** Japan in 1998 was 2nd ranking with a 10.5 percent share of world exports, a marked decline from its 1980 share of 20.4 percent**,** when it was the top steel exporter. Japan's 10.9 percentage point decline in its share balance over the 1980-99 period and its increased shares in automobiles and electronics are evidence of its transition from an industrializing nation relying heavily on the export of basic industrial materials to a manufacturer of more sophisticated products.

The United States had a 4.3 percent share of world exports in 1998, little changed from its 4.2 percent share of 1980. It is, however, the world's largest steel importer, 13.6 percent of the world total in 1998, up from a 9.8 percent share in 1980 and 9.3 percent in 1990.

Increasing portions of world exports are coming from developing countries, including: Korea, 5.1 percent; Russian Federation, 4.1 percent; Ukraine, 3.1 percent; and Brazil, 2.6 percent.

Role in US Trade

Steel's role in US manufactures trade has declined but steel trade remains politically sensitive. It accounted for 1.2 percent of US manufactures exports and 2.6 percent of imports in 1990. In 1999 these shares were down to 0.9 and 1.7 percent, respectively. Steel trade, however, remains a persistent and major contributor to US trade deficits. The steel deficit decreased during 1981-90 from $8.4 billion to $6.5 billion as imports fell faster than exports. In 1984 the steel deficit was a then record of $9.4 billion and import penetration rose to 26 percent. From 1994 to 1997 deficits ranged from $10.3 to $8.4 billion but in 1998 a surge of imports at depressed prices, mostly from Asian countries desperate for income to cope with their currency crises, sent the deficit to a new record of $13.2 billion **(Table 5.67.2)**. The deficit declined in 1999 to $9.7 billion.

US steel trade is divided in nine different product sub-groups, each with relatively small amounts of trade **(Table 5.67.2).** On a geographic basis, Canada and Mexico supplied 25.1 percent of US imports, the EU, 24.4 percent and Asia, 25.1 percent **(Table 5.67.3)**.

Global Industry Trends

The economic problems of Asian countries that began in 1997, together with a global steel over-capacity, precipitated a global steel crisis that dramatically increased US imports and the US deficit in steel trade in 1998. *"The rapidly developing countries in Asia had been major importers of steel. However, as their economies weakened, steel demand [globally] fell precipitously…With limited sales prospects at home, Asian steel makers shifted to exports to the remaining strong and open markets, principally the United States and the European Union (EU) nations). In addition, countries that had been shipping most of their exports to Asia, notably Japan and Russia, diverted their trade to the United States and EU markets. As a consequence, total US imports jumped 33 percent to a record 37.7 million tons in 1998."* ***US Industry and Trade Outlook, 2000, p. 13-1.***

As a result of the dramatic shifts in trade and the dramatic drop in steel prices caused by the Asian economic problems, more than 20 countries took formal trade actions affecting their steel trade. US actions included more than 60 anti-dumping and countervailing duty investigations as well as agreements with Brazil and Russia to limit US imports from those countries.

The recovery of Asian economies has improved the current situation but global over-capacity remains a problem. According to OECD Steel committee estimates *"the capacity utilization rate worldwide was only 75 percent in 1998 …it was forecast to decline to 71 percent in 1999 owing to an increase in capacity of 30 million tons and a 3 percent decline in production …Much of the excess capacity is believed to be unjustified economically. For social reasons, governments frequently have supported inefficient mills by maintaining import barriers, providing subsidies, or tolerating cartels …the difficulties of the steel industry worldwide are one factor in consolidations among major steelmakers … The US industry has undergone some consolidation but not as much as the steel industry in Europe has…Some major steel consumers, such as General Motors (GM) are encouraging international consolidation by instituting a global purchasing policy. In early 1999, GM announced agreements to buy 18 million tons of steel over 4 years from 40 global producers. Three-quarters of the steel was to be supplied by US-based producers. Still this represents GM's first attempt to buy large amounts of steel on a global basis."* ***US Industry and Trade Outlook 2000, p. 13-2.***

Trade Outlook

US steel trade performance is unlikely to be significantly improved by an expansion of US exports. In 1998 exports amounted to just 5 percent of total industry shipments and in first-half 1999 exports were about 4 percent of shipments. There is little prospect that exports will become more important. *"Many steelmakers argue that they have little incentive to exports, since they do not have the capacity even to supply the domestic market …In 1998, 70 percent of US exports were destined for the NAFTA partners …their large share is a result of proximity, the relative strength of those markets, the presence of the same end users (e.g., automobile companies), and certain market access provisions under NAFTA…**US Industry and trade Outlook 2000, p. 13-5.***

Similarly, there is little reason to expect a dramatic change in imports as a percent of apparent consumption, with the level likely to remain about 25 percent. World steel demand is likely to grow more slowly than world supply, keeping downward pressure on prices and inhibiting an enlarged share of the US market by US producers. US steel demand is a function of strength of the US economy, particularly those industries that consume steel, such as construction, automobiles, and machinery. For first-half 2000, exports were up by 18 percent, imports by 27 percent, indicating that the 2000 deficit will likely be larger than the $9.7 billion 1999 level. Assuming continued moderate or strong economic growth, steel deficits are likely to continue in the $9 to $11 billion range for the near term future.

Conclusions

- Steel trade is a relatively small portion of US manufactures trade -- 0.9 percent of exports, 1.6 percent of imports -- but it is politically sensitive and produces consistent deficits.
- World steel trade has been growing but less rapidly than other manufactured products. In 1998 it was 3.5 percent of world manufactures exports, down from 4.4 percent in 1990. It remains, however, a politically sensitive part of world trade, accounting for a number of US anti-dumping and other trade actions.
- Global over-capacity in the world steel industry is large. Over-capacity will continue to generate intense competition and make the US market -- the world's largest -- a continued target for exporters with excess supplies.
- The United States has had steel trade deficits for many years. Since 1987 deficits have ranged from $4.9 billion to $13.2 billion. A global steel crisis flooded the United States with imports in 1998, raising the deficit to $13.2 billion. The deficit then declined to $9.7 bill8ion in 1999 but first-half data indicate a likely increase of perhaps $2 billion or more in 2000.
- The US steel industry is oriented toward the domestic market. Increases in US exports sufficient to significantly shrink the iron and steel deficit cannot be expected. Nor, absent a major depreciation in the US dollar, is their reason to expect that US-based production will capture a larger share of the US market, reducing US dependence on imports.
- If US economic growth continues, and absent a major depreciation in the US dollar, US deficits in steel trade will likely continue near current levels.

Table 5.67.1 Percent Shares in World Iron and Steel Trade

		Billions of Dollars			$ Change
		1980	1990	1998	1980-98
US	Exports	4.2	3.3	4.3	0.1
	Imports	9.8	9.3	13.6	3.8
	Share Balance	*-5.6*	*-6*	*-8.7*	*-3.1*
Germany	Exports	15.1	15.1	11	-4.1
	Imports	8.1	11.3	7.9	-0.2
	Share Balance	*7*	*3.8*	*3.1*	*-3.9*
Japan	Exports	20.4	11.8	10.5	-9.9
	Imports	1.1	4	2.1	1
	Share Balance	*19.3*	*7.8*	*8.4*	*-10.9*
Belg/Lux	Exports	8.4	9	7	-1.4
	Imports	2.2	3.4	3.6	1.4
	Share Balance	*6.2*	*5.6*	*3.4*	*-2.8*
France	Exports	9.5	8.5	6.7	-2.8
	Imports	6.4	6.8	5.7	-0.7
	Share Balance	*3.1*	*1.7*	*1*	*-2.1*
Italy	Exports	4.9	5.6	5.2	0.3
	Imports	4.9	6	6	1.1
	Share Balance	*0*	*-0.4*	*-0.8*	*-0.8*
UK	Exports	3	5.1	3.9	0.9
	Imports	4	4.2	3.6	-0.4
	Share Balance	*-1*	*0.9*	*0.3*	*1.3*
Korea	Exports	2.2	3.4	5.1	2.9
Brazil	Exports	1.1	3.4	2.6	1.5
Sweden	Exports	3	3.2	2.6	-0.4
Austria	Exports	2.2	2.6	2.4	0.2
Canada	Imports	1.5	2	3.1	1.6

Source: WTO Annual Report, 1999

Table 5.67.2 Iron and Steel (SITC 67) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
67-- Iron And Steel								
Exports	3.9	5.8	5.3	6.2	6.0	5.4	1.5	39.6%
Imports	14.2	14.2	15.3	16.1	19.2	15.1	0.9	6.4%
Balance	(10.3)	(8.4)	(10.0)	(9.9)	(13.2)	(9.7)	0.6	-
of which								
671-- Pig Iron and Iron & Steel Powder								
Exports	0.2	0.2	0.3	0.3	0.3	0.2	0.1	30.5%
Imports	1.3	1.9	1.9	1.8	2.0	1.8	0.4	31.4%
Balance	(1.2)	(1.7)	(1.6)	(1.5)	(1.8)	(1.5)	(0.4)	-
672-- Iron Or Steel & Semifinish Products								
Exports	0.1	0.2	0.2	0.2	0.2	0.1	(0.0)	-10.1%
Imports	1.9	1.6	1.9	1.6	1.7	1.7	(0.2)	-11.6%
Balance	(1.8)	(1.3)	(1.7)	(1.4)	(1.5)	(1.6)	0.2	-
673-- Iron & Nonalloy Steel Flat-Roll Products								
Exports	0.5	1.4	0.7	0.8	0.7	0.8	0.2	40.6%
Imports	3.2	2.6	3.0	3.5	4.8	2.6	(0.6)	-18.7%
Balance	(2.7)	(1.2)	(2.2)	(2.7)	(4.1)	(1.9)	0.8	-
674-- Iron & Natural Steel Flat-Rolled Products								
Exports	0.4	0.5	0.6	0.6	0.6	0.7	0.3	70.0%
Imports	1.5	1.2	1.2	1.2	1.2	1.4	(0.1)	-7.0%
Balance	(1.0)	(0.7)	(0.6)	(0.6)	(0.5)	(0.6)	0.4	-
675-- Alloy Steel Flat-Rolled Products								
Exports	0.3	0.5	0.5	0.6	0.6	0.7	0.3	90.4%
Imports	1.7	1.8	1.9	2.0	2.1	1.7	(0.0)	-1.0%
Balance	(1.3)	(1.3)	(1.4)	(1.3)	(1.5)	(1.0)	0.3	-
676-- Iron & Steel Bars, Rods, Angles, Shapes & Section								
Exports	0.7	0.8	0.9	0.9	0.8	0.8	0.1	18.9%
Imports	2.0	2.3	2.5	2.7	3.6	2.9	0.9	44.9%
Balance	(1.3)	(1.5)	(1.6)	(1.8)	(2.7)	(2.1)	(0.8)	-
677-- Iron & Steel Rails & Railway Track Const Material								
Exports	0.1	0.0	0.1	0.1	0.1	0.1	0.0	23.6%
Imports	0.2	0.2	0.2	0.2	0.3	0.2	0.1	34.0%
Balance	(0.1)	(0.1)	(0.1)	(0.1)	(0.2)	(0.1)	(0.0)	-
678-- Iron And Steel Wire								
Exports	0.2	0.2	0.2	0.2	0.3	0.3	0.1	82.3%
Imports	0.5	0.6	0.5	0.6	0.6	0.6	0.1	14.9%
Balance	(0.4)	(0.4)	(0.3)	(0.3)	(0.4)	(0.3)	0.0	-
679-- Iron & Steel Tubes, Pipes & Fittings								
Exports	1.4	1.8	1.9	2.3	2.4	1.8	0.4	29.5%
Imports	1.9	2.0	2.2	2.5	2.9	2.3	0.4	21.6%
Balance	(0.5)	(0.2)	(0.4)	(0.2)	(0.6)	(0.5)	0.0	-

Source: US Dept of Commerce

Table 5.67.3 Iron and Steel (SITC 67) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	3.9	5.8	5.3	6.2	6.0	5.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.8	2.2	2.1	2.9	2.8	2.8	45.9	37.2	40.5	47.2	46.5	50.9
	Mexico	0.7	0.7	0.9	1.1	1.2	1.1	18.4	12.6	18.1	17.4	19.4	21.1
	EU15	0.3	0.7	0.5	0.5	0.5	0.4	7.7	11.8	9.5	8.0	8.5	8.2
	Germany	0.1	0.1	0.1	0.1	0.1	0.1	1.3	1.6	1.4	1.4	1.4	1.6
	France	0.0	0.0	0.0	0.0	0.1	0.1	0.8	0.7	0.7	0.8	0.9	1.0
	Italy	0.0	0.1	0.1	0.0	0.0	0.0	0.9	2.6	1.6	0.8	0.8	0.8
	United Kingdom	0.1	0.1	0.1	0.2	0.1	0.1	2.6	2.2	2.6	2.4	2.5	2.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.2	0.3	0.3
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	1.5	1.6	1.4	1.3	1.0	1.3
	Japan	0.1	0.2	0.2	0.1	0.1	0.1	2.6	3.7	3.2	2.1	1.7	2.1
	Taiwan	0.0	0.2	0.1	0.1	0.0	0.0	1.2	3.4	1.9	1.1	0.7	0.7
	Hong Kong	0.0	0.1	0.0	0.0	0.1	0.0	0.7	1.1	0.6	0.6	1.3	0.5
	Korea	0.1	0.3	0.1	0.1	0.0	0.1	1.6	4.9	2.5	1.3	0.8	1.0
	Singapore	0.0	0.1	0.1	0.1	0.0	0.1	0.9	1.3	1.3	1.1	0.8	1.2
	China	0.0	0.2	0.1	0.1	0.1	0.1	1.1	2.7	1.2	0.9	1.0	1.3
	Other Asia	0.2	0.3	0.2	0.2	0.1	0.1	4.9	5.1	4.2	3.0	2.4	1.7
	South & Central America	0.1	0.1	0.1	0.2	0.2	0.1	2.6	2.1	2.1	2.9	2.9	2.1
	Rest of World	0.4	0.7	0.7	0.8	0.8	0.4	10.9	12.3	13.6	13.1	12.9	7.9
Imports	US from World	14.2	14.2	15.3	16.1	19.2	15.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.4	2.6	2.7	2.7	2.8	2.6	17.2	18.6	18.0	17.0	14.5	17.2
	Mexico	0.6	0.9	1.1	1.3	1.3	1.2	4.5	6.5	7.3	8.2	6.5	7.9
	EU15	4.7	4.0	4.7	4.4	4.4	3.7	33.3	28.3	31.0	27.3	22.8	24.4
	Germany	1.1	1.0	1.3	1.2	1.1	0.9	7.6	6.8	8.2	7.7	5.7	6.1
	France	0.7	0.7	0.8	0.7	0.7	0.7	5.2	4.8	5.1	4.2	3.8	4.3
	Italy	0.6	0.4	0.4	0.5	0.4	0.3	3.9	2.6	2.9	2.8	2.1	1.9
	United Kingdom	0.5	0.5	0.5	0.5	0.6	0.4	3.8	3.7	3.5	2.9	3.1	2.9
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	1.4	1.6	1.5	2.1	2.7	1.4	9.9	11.0	9.6	13.1	13.8	9.6
	Japan	1.9	1.7	1.6	1.7	3.1	1.6	13.6	11.8	10.2	10.9	16.2	10.5
	Taiwan	0.2	0.2	0.2	0.2	0.3	0.4	1.3	1.3	1.2	1.5	1.7	3.0
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Korea	0.6	0.6	0.6	0.7	1.2	0.9	4.0	4.1	3.8	4.0	6.3	6.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	China	0.1	0.2	0.3	0.3	0.4	0.4	0.7	1.7	1.9	2.0	2.2	2.5
	Other Asia	0.2	0.2	0.2	0.3	0.5	0.4	1.6	1.6	1.5	1.6	2.5	2.9
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	0.8	1.0	0.9	0.9	0.7	0.9
	Rest of World	1.9	2.0	2.2	2.2	2.4	2.2	13.1	14.1	14.5	13.5	12.7	14.7
Balance	US with World	-10.3	-8.4	-10.0	-9.9	-13.2	-9.7						
	Canada	-0.6	-0.5	-0.6	0.2	0.0	0.2						
	Mexico	0.1	-0.2	-0.2	-0.2	-0.1	-0.1						
	EU15	-4.4	-3.3	-4.2	-3.9	-3.9	-3.2						
	Germany	-1.0	-0.9	-1.2	-1.1	-1.0	-0.8						
	France	-0.7	-0.6	-0.7	-0.6	-0.7	-0.6						
	Italy	-0.5	-0.2	-0.4	-0.4	-0.4	-0.2						
	United Kingdom	-0.4	-0.4	-0.4	-0.3	-0.4	-0.3						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-1.3	-1.5	-1.4	-2.0	-2.6	-1.4						
	Japan	-1.8	-1.5	-1.4	-1.6	-3.0	-1.5						
	Taiwan	-0.1	0.0	-0.1	-0.2	-0.3	-0.4						
	Hong Kong	0.0	0.1	0.0	0.0	0.1	0.0						
	Korea	-0.5	-0.3	-0.5	-0.6	-1.2	-0.9						
	Singapore	0.0	0.1	0.1	0.1	0.0	0.1						
	China	-0.1	-0.1	-0.2	-0.3	-0.4	-0.3						
	Other Asia	0.0	0.1	0.0	-0.1	-0.3	-0.3						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	-1.4	-1.3	-1.5	-1.4	-1.7	-1.8						

Source: US Dept of Commerce

Nonferrous Metals (SITC 68)

The United States runs substantial persistent deficits in most nonferrous metals and imports large portions of its consumption of silver, platinum, zinc, nickel and tin. The US metals and related mining industries have been declining for a long time and significant improvement in this product group is highly unlikely.

Description of the Product Group

Nonferrous metals consists of the following three-digit SITC categories:

681 Silver, Platinum, And Other Metals Of The Platinum Group
682 Copper
683 Nickel
684 Aluminum
685 Lead
686 Zinc
687 Tin
689 Tungsten Molybdenum, Tantalum, Magnesium, And Other Base Metals And Cremates (Bonded Ceramic Metallic Mixtures).

This product group includes semifabricated articles such as bars, rods, pipes, foils, plates, and wire; metal manufactures are recorded under SITC 69 and elsewhere. Nonmonetary gold is recorded under SITC 97

Role in US Trade

The relative importance of nonferrous metals in world and US trade has been declining as developed countries have gradually been reducing the intensity of their use of metals, as measured by tons consumed per unit of GNP. Metal consuming industries have economized on the use of metals by substituting plastics and other materials. Because refining and smelting are energy intensive, rising costs for energy and pollution abatement have tended to increase the prices of metals compared with substitutes.

Nonferrous metals is a small portion of US manufactures trade, 1.1 percent of 1999 exports, 1.9 percent of imports, down from 1.7 percent and 2.5 percent in 1990. Nevertheless, it generates persistent deficits of more than trivial size. From 1987 to 1990 deficits were in the $4 to $6 billion range, falling to $2.8 billion in 1991 and then beginning a rise that led to a $10.3 billion deficit in 1999 **(Table 5.68.1)**.

Items in this product group included in the 1999 top 100 exports and imports at the 5-digit SITC level were:

(Billions of Dollars)

	Exports	Imports
SITC 681 Silver, Platinum & Other Precious Metals		
Platinum, metals, alloys	n.a.	2.08
SITC 684 Aluminum		
Aluminum alloys, unwrought	n.a.	2.13
Aluminum, unwrought, not alloyed	n.a.	1.84
Aluminum & aluminum alloy plate	2.06	n.a.

The United States runs consistent deficits in each of the eight subcategories in this product group. Performance, however, is driven primarily by the outcome in three subcategories: silver and platinum group metals (SITC 681), copper (SITC 682), and aluminum (SITC 684), with 1999 deficits of $3.0 billion, $2.3 billion and $2.7 billion respectively. In addition, rising imports brought the 1999 deficit in zinc trade (SITC 687) to $1.1 billion.

A large portion -- 50.3 percent of 1999 exports, 39.7 percent of imports -- of US trade in nonferrous metals is with its NAFTA partners, Canada and Mexico **(Table 5.68.2).** *"Various ferrous and nonferrous metal consuming sectors, such as the steel, automotive, and appliances industries are highly integrated between the United States and Canada, resulting in extensive trade flows of raw materials, intermediate products, and finished products between the two nations. The lowering of trade restrictions between North American Free Trade Agreement countries has encouraged metals producers and consumers to integrate their North American production and distribution operations to more efficiently serve regional end-use markets in North America".* ***Shifts In US Merchandise Trade in 1998, US International Trade Commission, p. 10-4.***

Other major nonferrous metals trading partners include Europe, 19.7 percent of 1999 exports, 33.5 percent of imports, and Japan, 8.3 percent of exports.

Outlook

Reflecting the decline of its mining industries, the United States has become more dependent for several nonferrous metals on secondary production (the use of imported raw materials and recycled materials) and imports. The decline of mining and smelting in the United States over recent decades stems from several causes. *"A [1986] Congressional Research Service study found that the US mining and processing industry has declined significantly, but that it is too soon to announce its death (US Congress, Congressional Research Service, 1986, 141). At one time the United States had the largest, shallowest, highest grade, and easiest to refine ore deposits in the world, excluding the Soviet Union, as well as lower labor costs per unit of output, better technologies, and cheaper energy than the rest of the world. A long list of factors, however, have greatly reduced or eliminated the US comparative advantage in mining and smelting. According to the National Research Council (1990, 52), these include depletion of resources, new discoveries abroad, high labor costs, the application of more efficient "greenfield" mine designs and equipment, the diffusion of technology and sophisticated management techniques, the movement of consuming industries to other countries, greater substitution away from metals and greater economy in the use of metals in the United States, increasing US electricity costs and development of less expensive sources abroad, stricter US regulations to protect the environment and workers' health, safety, and other rights, the desire of developing countries to process their own ores, the consequent emergence of government-owned companies, and the availability* of

concessionary capital to firms in the developing countries (National Research Council 1990, 52.)" ***Narrowing the US Current Account Deficit, p. 213.***

Following are brief looks at the prospects for key items in the nonferrous metals subcategories.

Silver and Platinum (SITC 681)

The United States is a large producer and has been a net exporter of gold and refined silver. However, it moved into deficit in silver beginning in 1998 and is 90 percent dependent on foreign sources for platinum group metals. Platinum group metals include palladium and other metals which serve as catalysts, especially as automotive emission control catalysts. Annual deficits in this subcategory will continue with the size of the deficit determined primarily by US consumption, the resulting volume of imports, and the unit price of platinum group metals. Platinum prices have been somewhat stronger recently and first-half 2000 data indicate the platinum deficit will likely increase by about $1 billion to a year 2000 total of about $4 billion. In addition, the silver deficit is on target for an expansion of about $300 million to a total of about $700 million.

Deficits in this subcategory will continue, with the size of the deficits set primarily by US consumption rates and import unit prices. About half of US silver consumption goes for photographic use. Automobile production and replacements of automobile catalytic systems are the chief drivers of palladium consumption. Export expansion is not a realistic means of narrowing the palladium deficit. Moreover, other things equal, a decline in the dollar may serve to raise metal unit prices.

Copper SITC 682

The United States is the largest consumer and the second largest mine producer of copper, a metal that competes with aluminum for several electrical, thermal transfer, and structural applications. The United States was a net exporter of copper but that has changed. *"As more environmentally compliant smelter capacity came on stream and concentrate production declined, the United States became a net importer of copper concentrates after 15 years as a net importer…In 1998 US net imports of refined copper, principally from Canada, Chile, and Mexico amounted to about 600,000 tons, or adjusting for stock increases, 15 percent of the demand for refined copper". **US Trade and Industrial Outlook 2000, p.1-8.***

The dependence on imports will likely continue to increase. *"On the basis of announced cutbacks, irrespective of the impact of the pending mergers, US copper mine production is expected to decline by about 180,000 tons in 1999 and a further 200,000 tons in 2000, while refinery production is expected to decline by as much as 280,000 tons and 350,000 tons, respectively. The United States is expected to relinquish to Chile its position as the largest world producer of refined copper. Consumption of copper in 1999 and 2000 is expected to grow a modest 2 percent per year, and domestic import dependence for refined copper is expected to grow significantly". **US Trade and Industrial Outlook 2000, p.1-9.***

Based on first-half data, the 2000 copper deficit will likely increase modestly from the $2.3 billion 1999 level.

Nickel SITC 683

The United States has had no nickel ore production since 1986 and has shed a substantial amount of smelting and refining capacity. Nickel demand is tied closely to stainless steel production, its principal use. Based on first-half data the nickel deficit will likely rise significantly in 2000, perhaps rising to $1.2 billion from the 1999 level of $.5 billion, a $.7 billion increase.

Deficits in this subcategory will continue with the size determined primarily by US consumption rates and unit prices.

Aluminum SITC 684

The United States is the world's largest user of aluminum. The largest users are the auto industry, followed by beverage containers and a variety of electrical uses. It is also the world's largest producer but, nevertheless, is a net importer. *"[The United States] imports substantial quantities of aluminum metal and is completely dependent on foreign sources for the aluminum ore -- bauxite -- it needs. It also imports large quantities of the intermediate product alumina …About 75 percent of aluminum is imported, principally as bauxite and alumina and a lesser amount as aluminum metal and its alloys."* ***US Industry and Trade Outlook 2000, p. 1-6.***

US import dependence will continue to result in deficits in this product group, with the size of the deficits primarily a function of US consumption rates and unit prices. First half data indicate the deficit will increase substantially in 2000, perhaps by $.8 billion to around $3.5 billion.

Lead (SITC 685), Zinc (SITC 686), Tin (SITC 687) and miscellaneous nonferrous base metals (SITC 689)

Trade is these subcategories is modest but contains metals in which the US is partially dependent on imports for its supplies. Concerning zinc, which registered a $1.1 billion deficit in 1999: *"Inadequate domestic metal production will continue to be compensated for by imports and increased secondary production. Because of geographic proximity and lower tariffs, most imports are from Canada and Mexico. Spurred by strict environmental protection laws, an ever increasing share of zinc is being recycled. Currently about one-third of consumption is met by secondary [recycling] production."* ***US Industry and Trade Outlook 2000, p. 1-11.***

Strict environmental regulations spur recycling but they may also contribute to the movement of production to foreign sites. In 1998 imports satisfied 20 percent of lead requirements, 35 percent of zinc.

US deficits in lead, zinc, and tin will continue, and perhaps increase, as growing US needs are typically unmet by expanded production. As with the other nonferrous metals, export expansion is not a realistic option and the size of the deficits will be determined primarily by US consumption and unit prices.

Conclusions

- Nonferrous metals is a very small portion of US manufactures trade, 1.1 percent of 1999 exports, 1.9 percent of imports, but it generates persistent deficits. Deficits rose from $2.8 billion in 1991 to $10.3 billion in 1999 and, based on first-half data, may top $13 billion in 2000.
- Trade performance in this product group is largely driven by imports of platinum, copper and aluminum. Domestic production is inadequate in each of these to meet US needs. About 75 percent of aluminum is imported, 15 percent of refined copper, and 90 percent of platinum group metals.
- Mining and smelting industries in the United States have declined for a variety of reasons, including the costs and restrictions imposed by safety and environmental considerations. The US metals and related mining industries have been declining for a long time, and significant improvement is highly unlikely, given relatively high US electricity and labor costs, the lack of significant new deposits, and the mobility of capital and technology.
- Trade deficits in this product group will continue, and probably enlarge, with the amounts determined primarily by the level of US consumption of nonferrous metals and their unit prices. Export expansion is not a viable means of decreasing the deficits, which, unless unit prices of metal imports decline, will enlarge to match consumption growth. Faster economic growth and increased demand for metals in other countries could boost metal unit prices, as might a fall in the dollar exchange rate.

Table 5.68.1 Nonferrous Metals (SITC 68) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
68-- Nonferrous Metals								
Exports	5.4	7.5	7.2	7.8	7.6	6.9	1.5	28.4%
Imports	11.6	14.5	13.6	15.2	16.1	17.2	5.6	48.8%
Balance	(6.2)	(7.0)	(6.4)	(7.4)	(8.6)	(10.3)	(4.1)	-
of which								
681-- Silver, Platinum & Other Platinum Group Metals								
Exports	0.7	1.1	1.1	1.4	1.5	1.2	0.5	76.3%
Imports	1.8	2.3	2.3	2.4	3.7	4.1	2.3	127.8%
Balance	(1.1)	(1.1)	(1.2)	(1.1)	(2.2)	(3.0)	(1.8)	-
682-- Copper								
Exports	1.3	1.7	1.6	1.5	1.3	1.1	(0.1)	-10.9%
Imports	2.3	3.0	3.0	3.3	3.1	3.4	1.1	49.6%
Balance	(1.0)	(1.2)	(1.4)	(1.8)	(1.8)	(2.3)	(1.3)	-
683-- Nickel								
Exports	0.2	0.3	0.3	0.4	0.4	0.3	0.1	50.4%
Imports	0.7	1.2	1.1	1.1	0.9	0.9	0.1	17.8%
Balance	(0.5)	(0.9)	(0.8)	(0.8)	(0.5)	(0.5)	(0.0)	-
684-- Aluminum								
Exports	2.8	3.8	3.5	3.8	3.7	3.6	0.8	29.8%
Imports	4.9	5.8	4.8	5.6	6.0	6.3	1.3	27.1%
Balance	(2.1)	(2.0)	(1.3)	(1.7)	(2.3)	(2.7)	(0.5)	-
685-- Lead								
Exports	0.0	0.0	0.1	0.1	0.1	0.1	0.1	186.6%
Imports	0.1	0.2	0.2	0.2	0.2	0.2	0.0	32.3%
Balance	(0.1)	(0.1)	(0.1)	(0.0)	(0.1)	(0.1)	0.0	-
686-- Zinc								
Exports	0.0	0.1	0.1	0.1	0.1	0.1	0.0	55.2%
Imports	0.8	0.9	0.9	1.2	1.0	1.2	0.4	50.1%
Balance	(0.7)	(0.9)	(0.9)	(1.2)	(1.0)	(1.1)	(0.4)	-
687-- Tin								
Exports	0.1	0.1	0.1	0.1	0.1	0.1	0.0	18.7%
Imports	0.2	0.3	0.3	0.3	0.3	0.3	0.1	26.6%
Balance	(0.1)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.0)	-
689-- Miscellaneous Nonferrous Base Metals								
Exports	0.3	0.3	0.4	0.4	0.4	0.4	0.1	39.9%
Imports	0.6	0.9	1.0	1.1	1.0	0.9	0.2	34.6%
Balance	(0.4)	(0.5)	(0.6)	(0.7)	(0.6)	(0.5)	(0.1)	-

Source: US Dept of Commerce

Table 5.68.2 Nonferrous Metals (SITC 68) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	5.4	7.5	7.2	7.8	7.6	6.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.8	2.2	2.0	2.3	2.2	2.3	32.9	29.0	28.1	29.8	29.3	33.4
	Mexico	0.8	0.7	0.9	0.9	1.2	1.2	14.1	9.2	12.1	12.1	15.3	16.9
	EU15	0.7	1.4	1.3	1.6	1.8	1.3	13.8	18.9	17.5	20.0	23.6	18.2
	Germany	0.1	0.2	0.2	0.2	0.2	0.2	2.1	2.2	2.1	2.2	2.6	3.6
	France	0.1	0.1	0.1	0.2	0.2	0.2	1.8	1.8	1.6	2.2	2.5	2.5
	Italy	0.0	0.1	0.1	0.2	0.3	0.2	0.9	0.9	1.5	2.2	3.7	3.0
	United Kingdom	0.2	0.7	0.5	0.7	0.7	0.3	3.9	9.1	6.8	8.5	9.9	5.1
	Ireland	0.0	0.1	0.0	0.0	0.0	0.0	0.7	0.7	0.3	0.5	0.5	0.3
	Other Europe	0.1	0.1	0.2	0.2	0.2	0.1	1.3	1.3	3.0	2.5	2.8	1.5
	Japan	0.7	1.0	0.9	0.7	0.6	0.6	13.5	12.8	12.8	9.3	7.4	8.3
	Taiwan	0.3	0.4	0.3	0.2	0.2	0.2	5.8	5.9	4.4	3.1	2.7	2.4
	Hong Kong	0.1	0.2	0.1	0.1	0.1	0.1	1.4	2.0	2.0	1.9	1.4	1.4
	Korea	0.2	0.4	0.3	0.3	0.2	0.2	3.6	5.3	3.9	3.6	2.3	2.6
	Singapore	0.1	0.1	0.1	0.1	0.0	0.0	1.2	1.6	1.1	0.8	0.6	0.7
	China	0.1	0.1	0.2	0.2	0.1	0.1	1.7	1.8	2.2	2.2	1.6	2.0
	Other Asia	0.1	0.3	0.3	0.2	0.2	0.1	2.5	3.5	3.6	2.9	2.0	1.6
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	1.3	1.1	1.0	1.2	1.3	1.1
	Rest of World	0.4	0.6	0.6	0.8	0.7	0.7	7.0	7.5	8.3	10.6	9.7	9.9
Imports	US from World	11.6	14.5	13.6	15.2	16.1	17.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	4.7	6.1	5.9	6.3	5.9	6.0	41.0	42.0	43.2	41.5	36.4	34.7
	Mexico	0.5	0.8	0.7	0.7	1.0	0.9	4.2	5.7	5.0	4.8	6.3	5.0
	EU15	1.5	1.8	1.8	2.3	2.3	2.2	13.2	12.6	13.4	14.9	14.1	12.6
	Germany	0.5	0.5	0.6	0.6	0.7	0.7	4.1	3.7	4.0	4.1	4.4	4.2
	France	0.2	0.2	0.2	0.2	0.2	0.2	1.4	1.3	1.3	1.4	1.5	1.1
	Italy	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.5	0.6	0.6	0.5	0.4
	United Kingdom	0.3	0.3	0.4	0.5	0.5	0.5	2.3	2.4	2.8	3.1	3.4	3.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	1.8	2.5	2.1	2.3	3.0	3.6	15.5	17.3	15.6	15.4	18.7	20.9
	Japan	0.3	0.4	0.4	0.5	0.5	0.5	2.7	2.6	2.6	3.2	3.0	2.8
	Taiwan	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.4	0.4	0.5	0.5	0.6
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	Korea	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.4	0.7	0.8
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	China	0.1	0.2	0.1	0.2	0.3	0.4	1.1	1.2	1.1	1.2	1.8	2.1
	Other Asia	0.1	0.2	0.1	0.1	0.1	0.1	0.8	1.1	0.9	1.0	0.8	0.7
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.1	0.1	0.1
	Rest of World	2.4	2.4	2.4	2.6	2.8	3.4	20.4	16.6	17.3	16.9	17.5	19.5
Balance	US with World	-6.2	-7.0	-6.4	-7.4	-8.6	-10.3						
	Canada	-3.0	-3.9	-3.9	-4.0	-3.7	-3.7						
	Mexico	0.3	-0.1	0.2	0.2	0.1	0.3						
	EU15	-0.8	-0.4	-0.6	-0.7	-0.5	-0.9						
	Germany	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5						
	France	-0.1	-0.1	-0.1	0.0	-0.1	0.0						
	Italy	0.0	0.0	0.0	0.1	0.2	0.1						
	United Kingdom	-0.1	0.3	0.1	0.2	0.2	-0.2						
	Ireland	0.0	0.1	0.0	0.0	0.0	0.0						
	Other Europe	-1.7	-2.4	-1.9	-2.2	-2.8	-3.5						
	Japan	0.4	0.6	0.6	0.2	0.1	0.1						
	Taiwan	0.3	0.4	0.3	0.2	0.1	0.1						
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1						
	Korea	0.2	0.4	0.3	0.2	0.1	0.0						
	Singapore	0.1	0.1	0.1	0.1	0.0	0.0						
	China	0.0	0.0	0.0	0.0	-0.2	-0.2						
	Other Asia	0.0	0.1	0.1	0.1	0.0	0.0						
	South & Central America	0.0	0.0	0.0	0.1	0.1	0.1						
	Rest of World	-2.0	-1.8	-1.8	-1.7	-2.1	-2.7						

Source: US Dept of Commerce

Manufactures of Metal (SITC 69)

This product group includes a variety of products made primarily from iron, steel, or aluminum, that are used extensively in construction and in the production of other goods. Restructuring of the world steel industry significantly affected trade in metal manufactures. Production shifted significantly from Japan, the EU, and the United States to newly emerging steel producers, which enjoyed cost advantages, thanks to relatively low labor costs and more efficient production.

Description of the Product Group

Eight 3-digit SITC groups make up this miscellaneous group of metal manufactures:

691 Structures And Parts Of Structures, Not Elsewhere Specified Of Iron, Steel Or Aluminum (E.G. Door And Window Frames, Shutters, Balustrades, Plates, Strips, Rods, Angles, Shapes, Sections, Tubes, And The Like, Prepared For Use In Structures

692 Metal Containers For Storage And Transport (Cans, Casks, Drums, Boxes, Vats, Etc.)

693 Wire Products (Excluding Insulated Electrical Wiring) And Fencing Grills

694 Nails, Screws, Nuts, Bolts, Rivets, And The Like, Of Iron, Steel, Or Copper

695 Tools For Use In The Hand Or In Machines (Shovels, Picks, Hoes, Scythes, Saws, Wrenches And Spanners, Files, Hammers, Vices, Pliers, Etc.)

696 Cutlery (Razors, Scissors, Spoons, Forks, Knives, And Knife Blades)

697 Household Equipment Of Base Metal, Not Elsewhere Specified (Nonelectric Kitchen Stoves, Water Heaters, Etc., Pots, Pans, Etc.)

699 Manufactures Of Base Metal, Not Elsewhere Specified (Safes, Pins, Needles, Buckles, Springs, Anchors, Chain, Etc.)

Role In US Trade

Manufactures of metal provided 2.2 percent of total US manufactures exports and 2.2 percent of imports in 1999. Deficits are consistent in this product group, declining from $4.4 billion in 1987 to $2.1 billion in 1991 but then gradually rising to $6.0 billion in 1999 **(Table 5.69.1)**.

Items from this product group appearing in 1999's top 100 exports and imports at the 5-digit SITC level were:

(Billions of Dollars)

	Exports	Imports
SITC 694 Nails, Screws, Etc.		
Screws, bolts, nuts, etc.	1.12	1.69
SITC 699 Manufactures of Base Metal		
Articles of iron, steel, not elsewhere specified	1.75	n.a.

The United States had 1999 deficits in each of the 8 subcategories in this product group, excepting metal containers, SITC 692. Over two-thirds of US exports are in tools (SITC 695) and manufactures of base metal (SITC 699). Imports are somewhat more widely dispersed among the subcategories, including imports of $2.5 billion of fasteners (nails, screws, nuts, etc.).

The majority -- 62.1 percent -- of manufactures of metal exports go to Canada and Mexico; 17.5 percent to Europe **(Table 5.69.2)**. Canada and Mexico supplied 30.6 percent of 1999 imports, Europe 19.3

percent. Asia was the largest supplier, however, 47.4 percent of the total, with China's share rising from 8.1 percent in 1994 to 14.7 percent in 1999.

Outlook

Steel costs are an important part of the total cost of manufactures of metal, most of which are low-technology products. Countries with low labor costs and access to steel at favorable prices have advantages in these products, with the result that there have been major shifts in production locations in the last two decades. *"The technology for metal manufactures is widely available and is not changing rapidly. Most items are easily manufactured with only modest capital investments. These characteristics, in addition to the commodity nature of much of the output in this industry, mean that raw material and labor costs are the most important determinants of the location of production. The expansion of production capacity for metal manufactures in many of the newly emergent steel producers -- which often have substantially lower labor costs -- will continue to place strong competitive pressures on US producers."* ***Narrowing the Current Account Deficit, p. 239.***

Only a small part of the world's metal manufactures output is traded internationally. High shipping costs relative to value, particularly for metal containers and structural metal, dictate local or regional markets for many of these products.

Nevertheless, the low technology, commodity nature of many of the items in this product group promises intensifying competition among developing countries for US and world markets. The demands for many of the items are derived from demands for goods that use these products as inputs. Less than half of the output in this industry consists of goods for final consumption.

Deficits in this product group will persist and likely grow but growth would be mitigated -- if not reversed -- by downturns in the US economy. Partly because of their bulky nature and resulting high transportation costs, many of the products also are sensitive to exchange rates. A significant decline in the exchange rate could restrain or lower imports. Absent these conditions, however, the deficits are likely to slowly enlarge from the 1999 level of $6.0 billion.

Conclusions

- Metal manufactures accounted for 2.2 percent of 1999 manufactures imports and 2.2 percent of exports. The 1999 deficit of $6.0 billion was up from $3.0 billion in 1994.
- A substantial shift in production occurred during the 1980s and is continuing. Japan, the EU, and the United States have lost export shares of these low-technology, often highly standardized goods to Asian and other developing countries. Many of the countries that have taken market share are newly emergent steel producers that have promoted the production of metal manufactures as a way to increase the value added of their exports. Labor costs, although often not as important as steel costs, are an important competitive factor in metal manufactures production. These factors seem to ensure that competition among developing countries for US and world markets will continue to grow.
- Deficits in this product group will persist and likely grow but growth would be mitigated -- if not reversed -- by downturns in the US economy. Partly because of their bulky nature and resulting high transportation costs, many of the products also are sensitive to exchange rates. A significant decline in the exchange rate could restrain or lower imports. Absent these conditions, however, the deficit will likely slowly enlarge from the 1999 level of $6.0 billion.

Table 5.69.1 Manufactures of Metals (SITC 69) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
69-- Manufactures Of Metals								
Exports	9.1	10.3	11.6	12.9	13.2	13.7	4.6	50.6%
Imports	12.1	13.7	14.7	16.5	18.0	19.6	7.5	62.4%
Balance	(3.0)	(3.4)	(3.1)	(3.6)	(4.8)	(6.0)	(3.0)	-
of which								
691-- Metal Structures & Parts; Iron, Steel, Aluminum								
Exports	0.5	0.6	0.7	0.8	0.7	0.7	0.2	35.2%
Imports	0.3	0.4	0.5	0.6	0.9	1.1	0.8	305.6%
Balance	0.3	0.2	0.2	0.2	(0.2)	(0.4)	(0.7)	-
692-- Metal Containers For Storage Or Transport								
Exports	0.7	0.8	0.8	0.9	0.8	0.7	0.1	8.8%
Imports	0.3	0.4	0.5	0.5	0.5	0.6	0.2	69.9%
Balance	0.3	0.4	0.4	0.5	0.4	0.2	(0.2)	-
693-- Wire Products & Fencng Grills								
Exports	0.3	0.3	0.3	0.4	0.4	0.4	0.1	38.5%
Imports	0.6	0.7	0.7	0.7	0.7	0.7	0.2	26.0%
Balance	(0.3)	(0.4)	(0.3)	(0.3)	(0.3)	(0.3)	(0.0)	-
694-- Nails, Screws, Nuts, Etc,								
Exports	1.0	1.1	1.5	1.4	1.6	1.6	0.7	68.2%
Imports	2.0	2.2	2.2	2.3	2.4	2.5	0.5	25.9%
Balance	(1.0)	(1.1)	(0.7)	(0.8)	(0.8)	(0.8)	0.2	-
695-- Tools For Use In The Hand Or In Machines								
Exports	1.6	1.8	1.9	2.4	2.3	2.3	0.7	40.8%
Imports	2.1	2.4	2.4	2.9	3.1	3.1	1.0	49.7%
Balance	(0.5)	(0.6)	(0.5)	(0.5)	(0.8)	(0.9)	(0.4)	-
696-- Cutlery								
Exports	0.3	0.4	0.4	0.4	0.4	0.5	0.2	46.8%
Imports	0.6	0.7	0.7	0.8	0.9	1.0	0.4	59.7%
Balance	(0.3)	(0.4)	(0.3)	(0.4)	(0.5)	(0.5)	(0.2)	-
697-- Household Equipment Of Base Metal								
Exports	0.5	0.5	0.6	0.6	0.6	0.5	0.0	1.0%
Imports	1.7	1.9	2.0	2.3	2.5	2.9	1.2	72.3%
Balance	(1.2)	(1.4)	(1.4)	(1.7)	(1.9)	(2.4)	(1.2)	-
699-- Manufactures Of Base Metal								
Exports	4.1	4.7	5.5	5.9	6.4	6.9	2.7	66.3%
Imports	4.5	5.0	5.7	6.4	7.1	7.7	3.2	70.0%
Balance	(0.4)	(0.3)	(0.2)	(0.5)	(0.7)	(0.8)	(0.4)	-

Source: US Dept of Commerce

Table 5.69.2 Manufactures of Metals (SITC 69) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	9.1	10.3	11.6	12.9	13.2	13.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	3.3	3.6	4.0	4.5	5.0	5.4	36.9	35.5	34.1	35.0	37.5	39.4
	Mexico	1.9	1.9	2.4	2.4	2.7	3.1	21.0	18.7	21.0	19.0	20.5	22.7
	EU15	1.3	1.5	1.7	2.0	2.1	2.2	14.0	14.7	14.7	15.3	16.1	15.9
	Germany	0.3	0.4	0.4	0.4	0.5	0.5	3.8	4.1	3.8	3.5	3.5	3.6
	France	0.1	0.2	0.2	0.3	0.2	0.3	1.4	1.5	1.5	1.9	1.9	2.0
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.9	0.9	0.7	0.8	0.8
	United Kingdom	0.4	0.4	0.5	0.6	0.7	0.7	4.1	4.3	4.3	4.6	5.4	5.3
	Ireland	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.4	0.6	0.7	0.7
	Other Europe	0.1	0.1	0.2	0.2	0.2	0.2	1.3	1.3	1.6	1.6	1.5	1.6
	Japan	0.4	0.5	0.6	0.6	0.5	0.4	4.7	5.1	4.8	4.4	4.0	3.1
	Taiwan	0.1	0.1	0.1	0.2	0.1	0.1	1.3	1.3	1.2	1.2	1.1	1.0
	Hong Kong	0.1	0.1	0.2	0.2	0.1	0.1	1.5	1.4	1.4	1.3	1.1	0.9
	Korea	0.2	0.2	0.3	0.2	0.1	0.1	1.8	2.1	2.4	1.7	0.8	1.0
	Singapore	0.1	0.2	0.2	0.3	0.3	0.3	1.4	1.9	1.6	2.5	2.3	2.1
	China	0.1	0.1	0.2	0.1	0.1	0.1	0.7	0.9	1.5	1.0	0.9	0.9
	Other Asia	0.3	0.4	0.5	0.6	0.4	0.2	2.8	3.6	4.1	4.6	2.8	1.5
	South & Central America	0.3	0.3	0.3	0.4	0.4	0.4	2.9	3.0	2.7	3.1	3.0	2.7
	Rest of World	0.9	1.1	1.0	1.2	1.1	1.0	9.7	10.5	8.9	9.3	8.4	7.2
Imports	US from World	12.1	13.7	14.7	16.5	18.0	19.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.0	2.3	2.7	3.1	3.6	3.9	16.5	16.8	18.0	18.8	19.9	19.7
	Mexico	0.9	1.1	1.4	1.6	1.8	2.1	7.8	8.1	9.4	9.5	10.0	10.9
	EU15	2.3	2.7	2.8	3.0	3.2	3.3	19.2	19.6	19.0	18.3	18.0	16.9
	Germany	0.8	0.9	0.9	1.0	1.0	1.1	6.2	6.4	6.1	5.8	5.5	5.5
	France	0.3	0.4	0.4	0.4	0.4	0.4	2.6	2.8	2.6	2.2	2.2	1.8
	Italy	0.3	0.3	0.4	0.4	0.4	0.4	2.4	2.4	2.4	2.3	2.2	2.2
	United Kingdom	0.3	0.4	0.4	0.5	0.5	0.5	2.8	2.8	2.8	3.0	3.0	2.7
	Ireland	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.4	0.4	0.3	0.3
	Other Europe	0.3	0.3	0.4	0.4	0.4	0.5	2.4	2.5	2.7	2.2	2.2	2.4
	Japan	1.9	2.1	2.1	2.2	2.1	2.0	15.8	15.6	14.1	13.2	11.4	10.3
	Taiwan	2.0	2.2	2.2	2.3	2.4	2.5	16.9	15.8	14.7	14.0	13.5	12.7
	Hong Kong	0.1	0.1	0.1	0.2	0.2	0.1	1.1	0.9	1.0	0.9	0.9	0.8
	Korea	0.5	0.6	0.6	0.6	0.6	0.8	4.4	4.1	3.7	3.4	3.5	3.9
	Singapore	0.0	0.0	0.0	0.1	0.1	0.0	0.3	0.2	0.2	0.4	0.3	0.1
	China	1.0	1.2	1.4	1.8	2.2	2.9	8.1	9.0	9.6	11.0	12.4	14.7
	Other Asia	0.5	0.6	0.7	0.9	0.9	1.0	4.2	4.0	4.6	5.3	5.1	4.9
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.2	0.3
	Rest of World	0.4	0.4	0.4	0.4	0.5	0.5	3.0	3.1	2.7	2.7	2.5	2.4
Balance	US with World	-3.0	-3.4	-3.1	-3.6	-4.8	-6.0						
	Canada	1.4	1.3	1.3	1.4	1.4	1.5						
	Mexico	1.0	0.8	1.1	0.9	0.9	1.0						
	EU15	-1.0	-1.2	-1.1	-1.1	-1.1	-1.1						
	Germany	-0.4	-0.5	-0.5	-0.5	-0.5	-0.6						
	France	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1						
	Italy	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3						
	United Kingdom	0.0	0.1	0.1	0.1	0.2	0.2						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3						
	Japan	-1.5	-1.6	-1.5	-1.6	-1.5	-1.6						
	Taiwan	-1.9	-2.0	-2.0	-2.2	-2.3	-2.4						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	-0.4	-0.3	-0.3	-0.3	-0.5	-0.6						
	Singapore	0.1	0.2	0.2	0.3	0.2	0.3						
	China	-0.9	-1.1	-1.2	-1.7	-2.1	-2.8						
	Other Asia	-0.3	-0.2	-0.2	-0.3	-0.5	-0.8						
	South & Central America	0.2	0.3	0.3	0.4	0.4	0.3						
	Rest of World	0.5	0.7	0.6	0.8	0.7	0.5						

Source: US Dept of Commerce

Power Generating Machinery (SITC 71)

Power generating machinery includes motive power for road vehicles, aircraft, and marine craft as well as electric motors and other stationary power generating equipment. Trade performance, however is largely determined by aircraft and road vehicle (internal combustion) engines. Aircraft engines are also addressed in the "other transportation " SITC 79) section of this paper; internal combustion engines in the "road vehicles" (SITC 78) section.

Description of the Product Group

Power generating machinery (SITC 71) consists of these three-digit SITC categories:

711 Steam Or Other Vapor Generating Boilers
712 Steam Turbines & Other Vapor Turbines
713 Internal Combustion Engines
714 Nonelectric Engines And Motors
715 Rotating Electric Plant And Parts
718 Power Generating Machinery & Parts

Role in US Trade

Electrical machinery and equipment is a significant but not very dynamic portion of US manufactures trade, 5.3 percent of 1999 exports, 3.6 percent of imports. Since 1987 it has yielded balances ranging from a $0.3 billion deficit in 1987 to a $3.2 billion surplus in 1991. The 1999 balance was an $0.8 billion surplus **(Table 5.71.1)**. Performance in this product group is dominated by automobile and truck engines (SITC 713) and aircraft engines (SITC 714). Together, these two categories provided 84.6 percent of 1999 SITC 71 exports, 79.0 percent of imports.

Power generating machinery items included in the top 100 exports and imports at the 5-digit SITC level included:

(Billions of Dollars)

	Exports	Imports
SITC 713 Internal combustion piston engines		
Reciprocating piston engines	4.56	6.03
Parts, n.e.s. for internal combustion engines	2.90	2.83
Compression ignition (diesel) engines	1.81	n.a.
Parts for diesel engines	1.23	n.a.
SITC 714 Nonelectric engines and motors		
Parts for turbojets/turbo propellors	3.09	4.05
Parts for gas turbines	2.61	n.a.
Gas turbines	1.25	n.a.
SITC 716 Rotating electric plant and parts		
Parts for electric motors and generators	1.15	n.a.
Electric motors	n.a.	1.76

Internal combustion engine (SITC 713) trade yields consistent small deficits, rising to $2.4 billion in 1999. The majority (71.8 percent) of 1999 US internal combustion engine exports go to Canada and Mexico to support production of US nameplate vehicles in those countries **(Table 5.71.2).** Import sources are more diversified; 26 percent from Canada, 16.7 percent from Mexico. Over one-third (35.2

percent) of the total comes from Japan to support US production of Japanese nameplates, 11 percent from Germany.

Nonelectric engine (SITC 714) trade, mostly engines for large aircraft, yields consistent modest surpluses, rising to $4.8 billion in 1999. Large aircraft engine production is dominated by US companies and by two European competitors, Rolls-Royce in the UK and SNECMA in France. Half of US SITC 714 exports (mostly aircraft engines) are to EU15 countries, roughly matching the distribution of aircraft and the engine replacement market **(Table 5.71.3)**. Three-fourths of US engine imports, however, are from the EU15, principally the UK and France.

SITC 716 trade, mostly electric motors, yields small but increasing deficits, rising to $2.1 billion in 1999. Well over half of US exports of SITC 716 (mostly electric motors and parts) goes to Canada and Mexico, much of it to support production of items for export to the United States **(Table 5.71.4)**. Exports to Mexico reached $1 billion in 1999, 29.2 percent of the total. Mexico's share of US imports has also been increasing rapidly, rising from $0.7 billion and 23.9 percent in 1994 to $1.7 billion and 31.6 percent in 1999.

Outlook

Performance in this product group is largely a function of the trade in motor vehicle and aircraft engines. Internal Combustion (Auto) Engine exports are mostly to Canada and Mexico to support their vehicle production, most of which is exported to the United States. Engine imports from these countries and from Japan to support US-based production are, however, larger, leaving the United States with consistent internal combustion engine deficits. Modest motor vehicle engine deficits in the range of $2 to $4 billion are likely to continue for the foreseeable future, driven primarily by engine imports from Mexico and Canada for installation in US nameplate vehicles and by imports from Japan for Japanese nameplate vehicles. Deficits in this category are likely to continue to be a function of the volume of US-based automobile production. Without an unlikely major change in the US auto market or the siting of engine production there is little likelihood of major favorable changes in the trade balance in this subcategory.

The market for large aircraft engines will likely continue to be dominated by US and EU15 producers but the competition among US and EU producers for market shares will continue and escalate with the expansion of airlines by many developing countries, particularly in the Asia-Pacific area. Aircraft engine (SITC 714, nonelectric engines and motors) surpluses reflect the strong US position in aircraft and aircraft engines, which will likely continue. The surpluses may gradually increase from the $4.8 billion 1999 level as air transportation continues to grow.

On the other hand increasing, albeit modest, deficits -- $2.1 billion in 1999 -- in SITC 716 seem to indicate a declining competitiveness in US electric motor production as imports from developing countries continue to rise. **(Table 5.71.3)**. *"As firms in the motor and generator industry search for cost-reduction strategies, relocation of plants to countries with low cost labor is becoming an increasingly common approach. This in part accounts for Mexico's large and expanding share of exports to the United States…the largest percentage increases in volume since 1992 have come from low-cost producers such as Malaysia … Mexico …Thailand … and South Korea…Imports are expected to increase at an annual rate of 8 percent from 2000 to 2004, continuing to make inroads into the U.S. market".* ***US Industry and Trade Outlook, 2000, p. 19-7.***

Conclusions

- Power generating machinery is a significant but not very dynamic portion of US manufactures trade, 5.3 percent of 1999 exports, 3.6 percent of imports. It has yielded modest surpluses in recent years -- $3.6 billion in 1997, but only $0.8 billion in 1999 -- largely on the basis of increasing surpluses in aircraft engines.
- Overall performance in the product group is set primarily by the balance between motor vehicle engine deficits ($2.4 billion in 1999) and aircraft engine surpluses ($4.8 billion in 1999), with declining US competitiveness in electric motors also playing a role.
- Motor vehicle engine (SITC 713 internal combustion engine) deficits are mainly the result of imports from Canada, Mexico, and Japan for installation in US and Japanese nameplate cars and light trucks produced in the United States. Deficits will likely continue at or near current levels and are unlikely to be affected by modest changes in relative US-foreign economic growth rates and/or dollar exchange rates.
- Much of the $8.9 billion internal combustion engine exports to Canada and Mexico will return to the United States in cars and trucks manufactured for the US market. From the standpoint of the overall US trade balance, increased exports of engines to these countries thus may be more than offset by increased imports of cars and trucks.
- Aircraft engine surpluses should continue and may grow modestly from current levels as air transport and the number of large aircraft continue to grow, particularly in the Asia-Pacific area.
- On balance, the power generating machinery product group does not offer significant potential for improving US trade performance and is unlikely to be much affected by modest changes in US/global economic growth rates and/or the dollar exchange rate.

Table 5.71.1 Power Generating Machinery (SITC 71) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
71-- Power Generating Machinery								
Exports	20.9	22.4	23.2	28.1	30.0	32.4	11.5	55.2%
Imports	19.6	20.5	22.5	24.5	28.1	31.5	12.0	61.2%
Balance	1.3	1.9	0.7	3.6	1.8	0.8	(0.5)	-
of which								
711-- Steam Or Other Vapor Generating Boilers								
Exports	0.4	0.5	0.6	0.8	0.6	0.5	0.1	14.4%
Imports	0.1	0.2	0.3	0.1	0.2	0.2	0.1	75.6%
Balance	0.3	0.3	0.3	0.7	0.5	0.3	(0.0)	-
712-- Steam Turbines & Other Vapor Turbines								
Exports	0.6	0.7	0.7	0.8	0.6	0.5	(0.1)	-10.2%
Imports	0.2	0.1	0.1	0.1	0.2	0.2	0.1	34.1%
Balance	0.4	0.6	0.6	0.7	0.5	0.3	(0.1)	-
713-- Internal Combustion Piston Engines								
Exports	8.3	8.8	9.0	10.5	10.8	12.4	4.1	49.9%
Imports	10.1	11.2	12.0	11.8	12.9	14.8	4.7	46.0%
Balance	(1.9)	(2.3)	(3.0)	(1.3)	(2.0)	(2.4)	(0.5)	-
714-- Nonelectric Engines And Motors								
Exports	8.4	8.6	9.2	11.8	13.7	15.0	6.5	77.6%
Imports	5.7	5.2	6.1	8.2	10.1	10.1	4.4	78.0%
Balance	2.7	3.5	3.1	3.6	3.6	4.8	2.1	-
716-- Rotating Electric Plant And Parts								
Exports	2.7	3.1	3.1	3.6	3.5	3.4	0.7	25.2%
Imports	3.0	3.3	3.4	3.6	4.2	5.5	2.5	81.0%
Balance	(0.4)	(0.2)	(0.3)	(0.1)	(0.7)	(2.1)	(1.8)	-
718-- Power Generating Machinery & Parts								
Exports	0.5	0.6	0.6	0.6	0.7	0.7	0.2	32.1%
Imports	0.4	0.5	0.6	0.6	0.7	0.7	0.3	64.5%
Balance	0.1	0.1	(0.0)	(0.0)	(0.0)	(0.0)	(0.1)	-

Source: US Dept of Commerce

Table 5.71.2 Internal Combustion Piston Engines (SITC 713) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	8.3	8.8	9.0	10.5	10.8	12.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	4.3	4.6	4.8	5.4	6.5	7.5	51.6	51.9	53.2	51.4	59.6	60.3
	Mexico	1.1	1.2	1.0	1.5	1.3	1.4	13.3	13.1	11.0	13.9	11.7	11.5
	EU15	0.9	1.2	1.3	1.5	1.3	1.6	11.0	13.3	14.1	13.8	12.3	12.6
	Germany	0.1	0.1	0.1	0.2	0.2	0.2	1.3	1.5	1.5	1.8	2.0	1.9
	France	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.1	1.1	1.3	1.0	1.1
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.8	1.0	1.1	0.9	0.9	1.1
	United Kingdom	0.3	0.4	0.4	0.5	0.4	0.5	3.8	4.3	4.2	4.3	3.4	4.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.9	0.8	0.7	0.7	0.5
	Japan	0.3	0.3	0.4	0.4	0.3	0.5	3.0	3.4	4.3	3.4	2.8	4.3
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.3
	Hong Kong	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.5	0.5	0.6	0.4	0.3
	Korea	0.1	0.2	0.1	0.2	0.1	0.1	1.6	1.8	1.6	1.7	0.5	0.6
	Singapore	0.2	0.2	0.2	0.2	0.1	0.1	2.6	1.9	1.8	1.9	0.8	0.9
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.3	0.4	0.4
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	1.2	1.5	1.6	1.3	0.7	0.8
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.1	1.0	0.9	0.9	0.7
	Rest of World	1.1	0.9	0.9	1.0	1.0	0.8	12.9	9.9	9.5	9.8	9.0	6.7
Imports	US from World	10.1	11.2	12.0	11.8	12.9	14.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.8	1.7	2.4	2.6	3.1	3.8	17.5	15.1	20.0	22.1	24.4	26.0
	Mexico	1.6	1.9	2.0	2.0	2.2	2.5	15.5	16.8	16.2	17.2	17.4	16.7
	EU15	1.7	2.0	2.0	2.2	2.6	2.7	17.1	17.7	16.9	18.8	19.9	17.9
	Germany	1.0	1.2	1.1	1.2	1.5	1.6	10.2	10.6	9.0	9.7	11.6	11.0
	France	0.1	0.1	0.2	0.1	0.1	0.1	0.9	1.1	1.3	1.2	0.8	0.6
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.9	1.2	1.0	1.0	0.9	0.6
	United Kingdom	0.3	0.3	0.4	0.4	0.4	0.5	3.3	2.9	3.0	3.5	3.4	3.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.2
	Japan	4.6	5.2	5.2	4.4	4.3	5.2	45.4	46.5	43.0	37.4	33.6	35.2
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.3	0.3
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	China	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.4
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.4	0.3	0.3	0.4	0.4	0.4	3.5	2.9	2.9	3.5	3.4	2.9
Balance	US with World	-1.9	-2.3	-3.0	-1.3	-2.0	-2.4						
	Canada	2.5	2.9	2.4	2.8	3.3	3.6						
	Mexico	-0.5	-0.7	-1.0	-0.6	-1.0	-1.0						
	EU15	-0.8	-0.8	-0.8	-0.8	-1.2	-1.1						
	Germany	-0.9	-1.1	-0.9	-1.0	-1.3	-1.4						
	France	0.0	0.0	-0.1	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	0.0	0.1	0.0	0.0	-0.1	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.1	0.1	0.1	0.1	0.0	0.0						
	Japan	-4.3	-4.9	-4.8	-4.1	-4.0	-4.7						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.0	0.0	0.0	0.1	0.0	0.0						
	Korea	0.1	0.1	0.1	0.2	0.0	0.1						
	Singapore	0.2	0.2	0.1	0.2	0.1	0.1						
	China	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1						
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1						
	Rest of World	0.7	0.6	0.5	0.6	0.5	0.4						

Source: US Dept of Commerce

Table 5.71.3 Nonelectric Engines and Motors (SITC 714) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	8.4	8.6	9.2	11.8	13.7	15.0	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.7	0.9	1.3	1.4	1.4	1.7	8.8	10.7	13.6	11.8	10.6	11.3
	Mexico	0.1	0.1	0.1	0.3	0.4	0.3	1.6	1.1	1.3	2.1	3.0	2.3
	EU15	4.2	3.8	4.1	5.2	6.9	7.5	49.9	43.9	45.1	44.4	50.3	50.2
	Germany	0.5	0.6	0.7	0.8	1.1	1.2	6.2	7.2	7.7	6.7	8.0	7.9
	France	2.0	1.3	1.3	1.8	2.5	2.7	23.3	15.0	14.2	15.1	18.0	17.8
	Italy	0.1	0.2	0.3	0.3	0.4	0.4	1.6	2.3	2.8	2.6	2.6	2.6
	United Kingdom	0.8	0.9	1.0	1.3	1.9	2.1	9.9	9.9	11.2	10.8	13.8	14.0
	Ireland	0.1	0.1	0.1	0.1	0.1	0.2	1.6	1.3	1.3	0.9	1.0	1.3
	Other Europe	0.5	0.4	0.5	0.5	0.4	0.4	5.3	4.8	5.4	4.1	3.3	2.9
	Japan	0.7	0.8	0.7	0.9	0.9	1.0	7.8	9.5	7.7	7.3	6.6	6.6
	Taiwan	0.2	0.2	0.2	0.2	0.2	0.1	1.8	2.6	1.7	1.5	1.2	0.8
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1	0.9	1.0	0.6	0.9	0.4	0.4
	Korea	0.2	0.4	0.2	0.3	0.3	0.3	2.4	4.8	2.6	2.9	2.2	2.0
	Singapore	0.3	0.3	0.4	0.4	0.5	0.6	3.9	3.6	4.1	3.7	3.9	3.9
	China	0.2	0.1	0.2	0.2	0.2	0.2	2.0	1.2	2.4	1.7	1.2	1.4
	Other Asia	0.4	0.4	0.3	0.5	0.4	0.4	4.5	4.7	3.8	4.5	2.8	2.6
	South & Central America	0.1	0.1	0.1	0.0	0.0	0.1	0.6	0.6	0.6	0.4	0.3	0.7
	Rest of World	0.9	1.0	1.0	1.8	2.0	2.2	10.5	11.6	11.0	14.9	14.3	14.9
Imports	US to World	5.7	5.2	6.1	8.2	10.1	10.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.8	1.0	1.1	1.1	1.4	1.5	14.9	19.7	18.8	14.0	13.6	14.4
	Mexico	0.0	0.1	0.1	0.1	0.1	0.1	0.6	1.2	1.1	1.0	0.8	1.0
	EU15	4.2	3.4	3.9	5.8	7.4	7.6	74.4	65.4	64.2	71.4	73.4	75.0
	Germany	0.5	0.5	0.7	0.8	1.0	1.0	8.1	9.1	11.2	10.4	9.7	9.9
	France	2.0	1.3	1.3	1.9	2.7	2.7	34.5	25.8	21.2	23.0	26.4	26.4
	Italy	0.1	0.1	0.1	0.2	0.2	0.2	1.9	2.0	2.3	1.8	1.7	2.0
	United Kingdom	1.5	1.3	1.6	2.7	3.3	3.4	27.2	24.6	25.9	32.5	33.0	33.8
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.5	0.3	0.4
	Other Europe	0.1	0.1	0.2	0.2	0.2	0.2	2.1	2.9	2.8	2.2	1.9	2.3
	Japan	0.1	0.2	0.2	0.3	0.3	0.2	2.4	2.9	3.8	3.6	3.3	2.5
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.2
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
	Korea	0.0	0.0	0.0	0.0	0.1	0.1	0.7	0.7	0.6	0.6	0.7	0.9
	Singapore	0.1	0.1	0.1	0.2	0.2	0.0	2.5	2.3	2.5	2.5	2.1	0.2
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.8	0.2	0.2	0.3
	Other Asia	0.0	0.0	0.1	0.1	0.0	0.1	0.2	0.6	0.9	0.8	0.4	0.7
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.1	0.2	0.3	0.3	0.3	0.2	1.5	3.6	4.4	3.3	3.2	2.4
Balance	US to World	2.7	3.5	3.1	3.6	3.6	4.8						
	Canada	-0.1	-0.1	0.1	0.2	0.1	0.2						
	Mexico	0.1	0.0	0.0	0.2	0.3	0.2						
	EU15	0.0	0.4	0.2	-0.6	-0.5	-0.1						
	Germany	0.1	0.1	0.0	-0.1	0.1	0.2						
	France	0.0	0.0	0.0	-0.1	-0.2	0.0						
	Italy	0.0	0.1	0.1	0.2	0.2	0.2						
	United Kingdom	-0.7	-0.4	-0.5	-1.4	-1.5	-1.3						
	Ireland	0.1	0.1	0.1	0.1	0.1	0.2						
	Other Europe	0.3	0.3	0.3	0.3	0.3	0.2						
	Japan	0.5	0.7	0.5	0.6	0.6	0.7						
	Taiwan	0.1	0.2	0.2	0.2	0.1	0.1						
	Hong Kong	0.1	0.1	0.1	0.1	0.0	0.1						
	Korea	0.2	0.4	0.2	0.3	0.2	0.2						
	Singapore	0.2	0.2	0.2	0.2	0.3	0.6						
	China	0.1	0.1	0.2	0.2	0.1	0.2						
	Other Asia	0.4	0.4	0.3	0.5	0.3	0.3						
	South & Central America	0.1	0.1	0.1	0.0	0.0	0.1						
	Rest of World	0.8	0.8	0.7	1.5	1.6	2.0						

Source: US Dept of Commerce

Table 5.71.4 Rotating Electric Plant and Parts (SITC 716) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	2.7	3.1	3.1	3.6	3.5	3.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.6	0.7	0.6	0.7	0.9	0.9	20.6	22.3	20.8	19.5	25.3	26.6
	Mexico	0.5	0.5	0.6	0.7	0.8	1.0	18.6	15.1	19.3	20.6	22.5	29.2
	EU15	0.4	0.4	0.4	0.4	0.5	0.4	14.2	13.3	11.7	12.2	13.2	12.3
	Germany	0.0	0.1	0.1	0.1	0.1	0.1	1.8	2.1	2.2	1.9	2.3	1.7
	France	0.1	0.1	0.1	0.1	0.1	0.1	2.8	1.9	2.1	2.0	2.2	3.4
	Italy	0.0	0.0	0.0	0.0	0.1	0.0	1.1	1.2	1.1	1.1	1.5	0.9
	United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	4.5	3.4	2.6	3.5	3.6	3.4
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.4	0.7	0.2
	Other Europe	0.0	0.0	0.1	0.1	0.1	0.0	1.5	1.3	1.8	1.8	3.7	1.4
	Japan	0.1	0.1	0.1	0.2	0.1	0.1	2.5	4.2	2.6	4.2	3.6	2.6
	Taiwan	0.1	0.1	0.1	0.1	0.0	0.0	2.8	2.5	2.2	2.2	1.1	1.1
	Hong Kong	0.1	0.1	0.1	0.1	0.0	0.0	3.0	2.9	3.0	2.2	1.3	1.3
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	2.8	3.6	4.6	2.6	2.0	2.4
	Singapore	0.1	0.1	0.1	0.1	0.0	0.1	3.1	2.2	2.6	2.2	1.1	1.7
	China	0.0	0.1	0.1	0.1	0.1	0.1	1.6	2.8	2.8	4.2	2.3	1.7
	Other Asia	0.3	0.2	0.2	0.3	0.1	0.1	11.1	6.8	6.7	7.9	3.3	2.7
	South & Central America	0.1	0.2	0.1	0.1	0.2	0.1	3.7	6.2	2.5	1.7	4.4	3.1
	Rest of World	0.4	0.5	0.6	0.7	0.6	0.5	14.5	17.0	19.4	18.7	16.2	14.0
Imports	US from World	3.0	3.3	3.4	3.6	4.2	5.5	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.3	0.4	0.4	0.4	0.4	0.5	10.8	11.9	11.4	10.6	10.3	8.2
	Mexico	0.7	0.8	1.0	1.2	1.5	1.7	23.9	25.4	29.4	33.8	35.3	31.6
	EU15	0.7	0.7	0.6	0.6	0.8	1.3	22.0	19.9	19.3	17.7	19.8	24.3
	Germany	0.2	0.3	0.3	0.2	0.3	0.4	8.2	8.6	8.1	6.8	7.3	7.7
	France	0.1	0.1	0.1	0.1	0.1	0.2	4.3	3.3	2.6	2.0	2.6	3.1
	Italy	0.0	0.0	0.1	0.0	0.1	0.1	1.0	1.2	1.5	1.3	1.2	1.5
	United Kingdom	0.1	0.1	0.1	0.1	0.2	0.3	4.3	3.4	3.7	3.8	4.1	5.3
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	2.2	1.9	2.6	2.6	2.5	2.5
	Japan	0.7	0.7	0.6	0.6	0.6	1.0	24.4	22.2	18.9	16.8	14.3	17.9
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	2.8	2.6	2.6	2.6	2.0	1.7
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8	0.6	0.3	0.2	0.3
	Korea	0.1	0.1	0.1	0.1	0.1	0.2	1.8	1.7	1.8	2.3	2.5	2.9
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.1	0.8	0.6	0.4
	China	0.2	0.2	0.2	0.3	0.3	0.3	5.5	6.6	6.6	7.0	6.6	5.6
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	1.9	2.8	2.8	2.9	2.9	2.3
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	2.5	3.0	2.7	2.6	2.9	2.2
Balance	US with World	-0.4	-0.2	-0.3	-0.1	-0.7	-2.1						
	Canada	0.2	0.3	0.3	0.3	0.5	0.4						
	Mexico	-0.2	-0.4	-0.4	-0.5	-0.7	-0.8						
	EU15	-0.3	-0.3	-0.3	-0.2	-0.4	-0.9						
	Germany	-0.2	-0.2	-0.2	-0.2	-0.2	-0.4						
	France	-0.1	-0.1	0.0	0.0	0.0	-0.1						
	Italy	0.0	0.0	0.0	0.0	0.0	-0.1						
	United Kingdom	0.0	0.0	0.0	0.0	0.0	-0.2						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.0	0.0	0.0	-0.1						
	Japan	-0.7	-0.6	-0.6	-0.5	-0.5	-0.9						
	Taiwan	0.0	0.0	0.0	0.0	0.0	-0.1						
	Hong Kong	0.0	0.1	0.1	0.1	0.0	0.0						
	Korea	0.0	0.1	0.1	0.0	0.0	-0.1						
	Singapore	0.1	0.0	0.0	0.1	0.0	0.0						
	China	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3						
	Other Asia	0.2	0.1	0.1	0.2	0.0	0.0						
	South & Central America	0.1	0.2	0.1	0.1	0.2	0.1						
	Rest of World	0.3	0.4	0.5	0.6	0.5	0.3						

Source: US Dept of Commerce

Specialized Industrial Machinery (SITC 72)

The products included in SITC 72 (normally referred to as "machinery specialized for particular industries") are used in a wide variety of construction and production processes. As with general industrial machinery (SITC 74), demand depends largely on the overall level of economic activity. This product group has diminished in relative importance in US and world trade. In 1999 it was 4.3 percent of US manufactured exports, down from 5.1 percent in 1990; imports were 2.5 percent of the total, down from 3.5 percent in 1990.

Description of the Product Group

SITC 72 contains a diverse group of products. The industry is divided into several three-digit SITC subcategories:

721 Agricultural Machinery (Excluding Tractors) And Parts Thereof

722 Tractors (Other Than Those In 744.11 And 783.2; Tractors Used In Agriculture Are The Largest Part Of This Group).

723 Civil Engineering And Contractors' Plant And Equipment And Parts Thereof, Not Elsewhere Specified (Includes Bulldozers, Excavators, Pile Drivers, And Road Rollers)

724 Textile And Leather Machinery And Parts Thereof, Not Elsewhere Specified

725 Paper-Mill And Pulp-Mill Machinery, Paper-Cutting Machines And Other Machinery For The Manufacture Of Paper Articles And Parts Thereof, Not Elsewhere Specified

726 Printing And Bookbinding Machinery And Parts Thereof, Not Elsewhere Specified

727 Food-Processing Machines (Excluding Domestic) And Parts Thereof, Not Elsewhere Specified

728 Other Machinery And Equipment Specialized For Particular Industries And Parts Thereof, Not Elsewhere Specified (Includes Machine Tools Specialized For Particular Industries; Equipment For Sorting, Crushing Or Mixing Stones Or Earth; Machinery For The Rubber And Artificial Plastic Materials Industries; And Machinery For The Tobacco Industry)

Role in US Trade

In the early 1980s specialized industrial equipment yielded substantial surpluses, $9.4 billion in 1981, $5.2 billion of that from civil engineering equipment. Since then, however, performance has declined and then recovered. From 1987 to 1999 balances ranged from a $1.6 billion 1987 deficit to a $9.2 billion surplus in 1997. The 1999 surplus was $4.5 billion **(Table 5.72.1)**.

About two-thirds of US exports and imports are accounted for by civil engineering & contractors' plant and equipment (SITC 723) and machinery specialized for particular industries (SITC 728). Items included in the top 100 exports at the five-digit SITC level in 1999 were:

(Billions of Dollars)

	Exports	Imports
SITC 723 Civil engineering & Contractors' Equipment		
Parts for boring or sinking machines	3.31	n.a.
Parts, n.e.s. for civil engineering equipment	1.09	n.a.
SITC 728 Machinery specialized for particular industries		
Parts, n.e.s. for machinery & mechanical apparatus	2.00	n.a.
Machines having individual functions	n.a.	2.55

US exports are globally dispersed, just over one-fourth of the 1999 total went to Mexico and Canada, just over one-fifth to the EU. The remainder was spread over a wide variety of destinations, including many developing countries **(Table 5.72.2).** Imports are much more concentrated; just under half from the EU, almost one-fourth from Japan and most (11.4 percent) of the remainder from Canada.

Outlook

EU countries have long dominated exports of specialized industrial machinery, with a 1989 share of 52.4 percent of world exports. **(Narrowing the US Current Account Deficit, p. 263).** US competitiveness in this market declined markedly during the 1980s, with the US share of world exports falling from 26.8 percent in 1981 to 14.2 percent in 1989. Although recent world market share data is not available, slow growth in US exports make it likely that the US share has not improved since 1989.

Weak performance in Latin American markets appears to be a major factor in the sluggish US export performance in this product group. In 1981 Latin America took 25.4 percent of US specialized industrial machinery exports. In 1999 the share (including Mexico) was only 12.3 percent.

The technology used to produce most specialized industrial machinery tends to be well known and generally available. Thus, producers are unlikely to enjoy a cost advantage stemming from the use of superior production technology. Purchase decisions tend to focus on price, quality, and after-sale service considerations. Labor and other production costs and exchange rates can play an important role in determining price competitiveness.

A decline in the dollar exchange rate could improve US performance in this product group but significant parts of the industry have shifted to locations outside the United States, a change that modest dollar declines are unlikely to reverse.

Modest surpluses should continue for the foreseeable future and could enlarge somewhat as a result of increased foreign growth, a slowing of US economic growth, or a decline in the dollar exchange rate. A major recoupment of lost US market share that would lead to surpluses much above the 1997 level of $9.2 billion, however, appears unlikely.

Conclusions

- Specialized industrial machinery is a significant but declining portion of US manufactures trade, 4.3 percent of 1999 exports, 2.5 percent of imports. Nevertheless, it produced surpluses ranging from $3.9 billion in 1994 to $9.2 billion in 1997 and $4.5 billion in 1999.
- US competitiveness in this product group declined significantly during the 1980s, leaving the EU with over 50 percent of world exports.
- Much of the machinery in this group of disparate products is made with well-known technologies and price competitiveness is important. Exchange rates can play an important role in export competitiveness.
- Increases in foreign growth rates and a decline in the US dollar exchange rate could improve trade performance but large increases in specialized machinery surpluses are unlikely.

Table 5.72.1 Machinery, Specialized (SITC 72) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
72-- Machinery Specialized								
Exports	20.7	24.3	26.6	30.4	28.7	26.1	5.5	26.4%
Imports	16.8	19.0	18.5	21.2	23.0	21.6	4.9	29.1%
Balance	3.9	5.3	8.1	9.2	5.7	4.5	0.6	-
of which								
721-- Agricultural Machinery (Excl Tractors) & Parts								
Exports	2.0	2.1	2.5	2.9	2.6	2.2	0.1	6.0%
Imports	0.9	0.9	1.0	1.1	1.2	1.0	0.2	20.0%
Balance	1.2	1.2	1.5	1.7	1.4	1.1	(0.1)	-
722-- Tractors								
Exports	1.2	1.4	1.5	1.9	1.9	1.3	0.1	8.3%
Imports	1.8	1.9	1.7	2.0	2.2	1.6	(0.2)	-11.2%
Balance	(0.6)	(0.6)	(0.2)	(0.2)	(0.3)	(0.3)	0.3	-
723-- Civil Engineering & Contractors' Plant & Equipmen								
Exports	7.1	7.5	8.3	9.8	10.3	7.9	0.8	11.8%
Imports	3.5	3.6	3.6	4.4	5.5	5.1	1.6	45.6%
Balance	3.6	3.8	4.8	5.3	4.7	2.9	(0.8)	-
724-- Textile & Leather Machinery & Pts								
Exports	1.2	1.3	1.3	1.5	1.4	1.3	0.1	6.9%
Imports	2.7	2.7	2.3	2.5	2.7	2.2	(0.5)	-17.1%
Balance	(1.5)	(1.4)	(1.0)	(1.0)	(1.3)	(1.0)	0.5	-
725-- Paper Mill And Pulp Mill Machines								
Exports	0.6	0.8	0.8	1.0	0.8	0.7	0.1	14.3%
Imports	0.8	0.9	1.1	1.0	0.9	0.9	0.1	16.2%
Balance	(0.2)	(0.1)	(0.2)	(0.1)	(0.2)	(0.2)	(0.0)	-
726-- Printing & Bookbinding Machinery								
Exports	1.2	1.4	1.5	1.6	1.5	1.4	0.1	11.4%
Imports	1.6	2.0	1.8	2.0	2.2	2.3	0.7	47.8%
Balance	(0.3)	(0.6)	(0.3)	(0.5)	(0.7)	(0.9)	(0.6)	-
727-- Food-Processing Machines (Excluding Domestic)								
Exports	0.6	0.7	0.7	0.7	0.7	0.6	(0.0)	-0.5%
Imports	0.4	0.5	0.5	0.5	0.6	0.6	0.2	38.6%
Balance	0.2	0.1	0.2	0.2	0.1	0.0	(0.2)	-
728-- Machinery Specialized For Particular Industries								
Exports	6.7	9.1	10.0	11.2	9.6	10.8	4.1	61.0%
Imports	5.2	6.4	6.6	7.6	7.6	7.9	2.7	53.1%
Balance	1.5	2.7	3.4	3.6	2.0	2.9	1.3	-

Source: US Dept of Commerce

Table 5.72.2 Machinery, Specialized (SITC 72) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	20.7	24.3	26.6	30.4	28.7	26.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	4.1	4.3	4.5	5.8	5.4	4.8	20.0	17.8	17.0	19.1	19.0	18.4
	Mexico	1.6	1.2	1.3	1.9	2.3	2.4	7.9	4.9	5.1	6.2	8.2	9.1
	EU15	4.1	5.1	5.1	5.4	5.5	5.7	19.8	20.9	19.0	17.7	19.3	21.7
	Germany	0.7	1.0	0.9	1.0	1.1	1.0	3.5	4.1	3.5	3.3	3.7	3.7
	France	0.7	0.8	0.8	0.8	0.7	0.7	3.3	3.5	3.1	2.6	2.4	2.7
	Italy	0.2	0.3	0.3	0.3	0.4	0.4	1.2	1.3	1.2	1.1	1.3	1.7
	United Kingdom	0.9	1.2	1.3	1.3	1.3	1.1	4.5	4.8	4.7	4.4	4.6	4.3
	Ireland	0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.4	0.4	0.5	0.9	1.3
	Other Europe	0.8	0.8	1.0	1.3	1.1	0.8	3.8	3.5	3.8	4.2	4.0	3.2
	Japan	1.1	1.5	1.7	1.6	1.3	1.5	5.1	6.2	6.5	5.4	4.5	5.8
	Taiwan	0.4	0.6	0.8	1.1	1.0	1.5	2.0	2.7	2.9	3.8	3.5	5.9
	Hong Kong	0.2	0.3	0.2	0.3	0.2	0.2	1.0	1.3	0.9	0.9	0.8	0.7
	Korea	0.8	1.5	1.6	1.3	0.7	1.1	3.9	6.1	6.2	4.2	2.3	4.2
	Singapore	0.5	0.6	0.8	1.0	0.9	1.0	2.5	2.6	3.1	3.2	3.3	3.8
	China	0.7	0.7	0.7	0.8	0.5	0.5	3.3	2.8	2.6	2.5	1.9	1.8
	Other Asia	1.0	1.4	1.7	1.8	1.2	0.8	5.0	5.8	6.4	5.9	4.3	3.2
	South & Central America	0.6	0.6	0.6	0.8	1.0	0.8	2.9	2.7	2.3	2.7	3.3	3.2
	Rest of World	4.7	5.5	6.4	7.3	7.4	5.0	22.9	22.8	24.2	24.2	25.9	19.2
Imports	US from World	16.8	19.0	18.5	21.2	23.0	21.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.8	2.2	2.3	2.7	2.7	2.5	10.8	11.5	12.3	12.5	11.7	11.4
	Mexico	0.2	0.3	0.3	0.4	0.5	0.5	1.4	1.6	1.7	2.1	2.3	2.1
	EU15	8.1	9.1	9.0	10.2	11.2	10.7	48.3	48.2	48.4	48.3	48.9	49.3
	Germany	3.4	3.9	3.8	4.0	4.3	4.2	20.0	20.3	20.5	18.7	18.7	19.4
	France	0.8	0.9	0.9	1.1	1.4	1.1	4.6	4.8	4.6	5.0	6.0	5.3
	Italy	1.1	1.2	1.3	1.6	1.7	1.7	6.5	6.6	6.9	7.7	7.6	7.8
	United Kingdom	1.2	1.3	1.2	1.6	1.7	1.5	7.2	6.8	6.7	7.6	7.4	6.9
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2
	Other Europe	0.8	0.9	0.9	0.9	0.9	0.9	4.7	5.0	4.8	4.2	4.1	4.4
	Japan	4.6	5.1	4.6	5.4	5.6	5.2	27.4	26.8	25.0	25.3	24.5	23.9
	Taiwan	0.4	0.4	0.5	0.5	0.6	0.6	2.6	2.2	2.4	2.6	2.5	2.8
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	Korea	0.2	0.2	0.3	0.3	0.4	0.4	1.0	1.1	1.5	1.6	1.8	1.7
	Singapore	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.2
	China	0.1	0.1	0.1	0.2	0.2	0.2	0.6	0.5	0.7	0.7	0.8	1.1
	Other Asia	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.3	0.5	0.5
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.5	0.5	0.5	0.5	0.6	0.5	2.8	2.7	2.6	2.2	2.5	2.5
Balance	US with World	3.9	5.3	8.1	9.2	5.7	4.5						
	Canada	2.3	2.1	2.3	3.2	2.8	2.3						
	Mexico	1.4	0.9	1.0	1.4	1.8	1.9						
	EU15	-4.0	-4.1	-3.9	-4.9	-5.7	-5.0						
	Germany	-2.6	-2.9	-2.9	-3.0	-3.2	-3.2						
	France	-0.1	-0.1	0.0	-0.3	-0.7	-0.4						
	Italy	-0.8	-0.9	-1.0	-1.3	-1.4	-1.3						
	United Kingdom	-0.3	-0.1	0.0	-0.3	-0.4	-0.4						
	Ireland	0.1	0.1	0.1	0.1	0.2	0.3						
	Other Europe	0.0	-0.1	0.1	0.4	0.2	-0.1						
	Japan	-3.5	-3.6	-2.9	-3.7	-4.3	-3.7						
	Taiwan	0.0	0.2	0.3	0.6	0.4	0.9						
	Hong Kong	0.2	0.3	0.2	0.3	0.2	0.2						
	Korea	0.6	1.3	1.4	0.9	0.3	0.7						
	Singapore	0.5	0.6	0.8	0.9	0.9	0.9						
	China	0.6	0.6	0.6	0.6	0.4	0.3						
	Other Asia	1.0	1.4	1.6	1.7	1.1	0.7						
	South & Central America	0.6	0.6	0.6	0.8	0.9	0.8						
	Rest of World	4.3	5.0	6.0	6.9	6.8	4.5						

Source: US Dept of Commerce

General Industrial Machinery (SITC 74)

General industrial machinery and equipment includes a broad variety of products that are used extensively in construction and for the transportation of materials. Demand for these products depends largely on the overall level of economic activity and, more specifically, on building construction, mining, and public works activities, such as road and airport construction and water and sewage improvement.

Description of the Product Group

General industrial machinery and equipment is divided into the following three-digit SITC groups:

741 Heating And Cooling Equipment
742 Pumps For Liquids And Liquid Elevators
743 Pumps (Other Than For Liquids), Compressors, And Fans
744 Mechanical Handling Equipment (Work Trucks, Cranes, Hoists, And Conveyances)
745 Other Nonelectrical Machinery, Tools, And Mechanical Apparatus (Powered Hand Tools, Vending Machines, Etc.)
746 Ball And Roller Bearings
747 Taps, Cocks, Valves, And Similar Appliances For Pipes, Boiler Shells, Tanks, Vats, And The Like
748 Transmission Shafts And Cranks; Bearing Housings And Plain Shaft Bearings; Gears And Gearing; Ball Screws; Gear Boxes, And Other Speed Changers
749 Nonelectric Parts And Accessories Of Machinery

Role in US Trade

General industrial machinery provided 5.0 percent of 1999 manufactures exports, 3.6 percent of imports. Since 1987 balances have ranged from a 1987 deficit of $2.8 billion to a $5.1 billion surplus in 1997. However, reduced exports to Asia following the Asian economic crisis and continued growth in imports moved 1999 to a $0.7 billion deficit.

Performance in each of the nine 3-digit product groups is detailed in **Table 5.74.1.** Reflecting the effects of the Asian economic crisis that began in 1997, exports in 1999 were below their 1997 levels in most of the subcategories. US producers have traditionally been strong in heating and cooling equipment but the surplus in that category slipped from $3.7 billion in 1997 to $2.7 billion in 1999. Similarly, air pumps and compressors, another traditionally strong US performer, slipped from a 1997 surplus of $2.1 billion to a surplus of only $0.6 billion.

The effects of the Asian crisis on performance in this product group are evident in the general fall-off in exports to Asian destinations in 1998 and 1999 **(Table 5.74.2).** Exports to Canada and Mexico, however, have continued to increase. In 1999 these two NAFTA partners took 46.3 percent of US exports in the general industrial machinery product group. Many of these exports (e.g., ball and roller bearings, gears, gear boxes) will, of course, be utilized in production of items for the US market. The EU also takes a large portion of exports in this category, 19.3 percent in 1999.

Canada and Mexico provided 29.2 percent of 1999 general industrial machinery imports, the EU 32.6 percent. Japan is also an important supplier but its share is declining, falling from 24.2 percent in 1994 to 17.1 percent in 1999. Over the same 1994-99 period imports from China rose to $1.8 billion and its share of US imports rose from 3.1 percent to 5.5 percent.

It is noteworthy that the United States ran consistent substantial ($3-$4 billion) deficits in this product category with both the EU and Japan over the 1994-98 period. The deficit with each was $4.3 billion in 1999. In other words, the pre-1999 surpluses in this product group were generated on exports to Canada and Mexico, much of which will return in imports of other goods, and from exports to industrializing countries that are building their own manufacturing capabilities.

Items in this product group appearing in the 1999 top 100 export and import items at the 5-digit SITC level were:

(Billions of Dollars)

	Exports	Imports
SITC 741 Heating and Cooling Equipment		
Parts for air conditioning equipment	1.88	n.a.
SITC 743 Pumps, compressors and fans		
Compressors for refrigeration equipment	1.00	n.a.
SITC 747 Taps, cocks, valves		
Taps, cocks, & valves	1.42	2.68

Outlook

Most of the industries in this product group face the same problems of globalization and intensifying competition as do producers in other industries. For example in the case of valves and pipe fittings *"Developing countries are building their own valve and pipe-fitting industries. Initially, production in developing countries far exceeds domestic demand and so many valves and pipe fittings are exported…The industry is very globalized. The developing countries are present in low-tech commodity type valves, while the industrialized countries dominate in the more high-tech and highly engineered products…Imports will have a major effect on the future of the US industrial valves and pipe fittings industry. Manufacturers of commodity type valves and pipe fittings have faced stiff competition from the newly industrializing countries and recently from developing countries such as India and China. The depreciations of many Asian currencies as a consequence of financial crises hurt the competitiveness of US valve and pipe fitting products."* ***US Industry and Trade Outlook, 2000, p.15-7.***

And in the case of ball and roller bearings *"A sharp drop in demand for bearings from Asian manufacturers has been an important reason for the significant over-capacity that characterizes the world bearing industry. That over-capacity has precipitated sharp competition among the largest world bearing manufacturers for market share. The competition is particularly stiff in the commodity type bearing sectors…In recent years, the largest companies have been establishing operations in Asia to better service the emerging automotive manufacturing industries and heavy equipment and machinery operations being developed in the Asian countries…In recent years, US bearing plants have faced growing pressure from imports from China. Increased pressure to reduce the cost of bearing inputs makes imports from China attractive, and as the quality of Chinese bearing products improves, US bearing consumers are expected to buy an increasing number of bearings from that country."* ***US Industry and Trade Outlook 2000, p. 15-9.***

Although US trade in this product group resulted in small surpluses during the 1994-98 period, it consistently produced deficits with Europe and Japan. The surpluses came from exports to Canada and Mexico -- much of which was used in products exported to the United States -- and from exports to industrializing countries. However, most of the items in this product group can and will be produced in rising volumes in these industrializing countries. This production will intensify the competition for US and foreign markets, making it more difficult for the United States to return to a surplus position.

Small deficits in this product group will likely continue in the near term. However, a decline in the dollar exchange rate vis-à-vis the euro and the yen would add to the competitiveness of US-based production in this product group. Improving economies in Asia would also help to boost exports and would lessen the pressure on US manufacturers from distress-priced imports.

Large gains, however, are unlikely and, in the longer term, US producers are likely to face increasing competition from producers in newly industrializing countries. The world market in this product category is not large enough -- and, absent a very large decline in the US dollar exchange rate, the US competitive position is unlikely to be strong enough -- to make increased US exports of general industrial machinery a major factor in narrowing US manufactures trade deficits.

Conclusions

- General industrial machinery is a significant portion of US manufactures good trade; 5.0 percent of 1999 exports, 3.6 percent of imports. It provided small surpluses ranging up to $5.1 billion in the 1994-1998 period but the Asian economic crisis reduced US exports, resulting in a small ($0.7 billion) deficit in 1999.
- The surpluses achieved during most of the 1990s resulted from exports to NAFTA countries and developing countries, mostly in Asia. Much of the exports to NAFTA destinations returns to the United States incorporated in other goods. Trade with Japan and the EU in this product group has produced deficits; $3-$4 billion annually with each.
- Most of the industries in this product group face the same problems of globalization and intensifying competition as do producers in other manufacturing industries.
- Small deficits are likely to continue in the near term. A decline in the dollar exchange rate and improving Asian economies could return balances to small US surpluses. Large surpluses, however, are unlikely.
- The world market in this product category is not large enough -- and the US competitive position is unlikely to be strong enough -- to make general industrial machinery a major factor in narrowing US manufactures trade deficits.

Table 5.74.1 General Industrial Machinery (SITC 74) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
74-- General Industrial Machry								
Exports	22.6	25.0	27.4	31.4	31.0	30.7	8.2	36.2%
Imports	21.3	24.1	25.3	26.3	28.8	31.4	10.1	47.4%
Balance	1.2	0.9	2.1	5.1	2.2	(0.7)	(1.9)	-
of which								
741-- Heating & Cooling Equipment								
Exports	5.0	5.7	6.0	6.9	6.8	6.5	1.5	30.5%
Imports	2.4	2.7	3.2	3.2	3.3	3.8	1.4	57.8%
Balance	2.6	3.0	2.8	3.7	3.6	2.7	0.1	-
742-- Pumps For Liquids and Liquid Elevators								
Exports	2.3	2.4	2.6	3.0	3.0	2.9	0.7	30.0%
Imports	1.8	2.0	2.1	2.2	2.4	2.5	0.7	37.9%
Balance	0.5	0.4	0.5	0.8	0.5	0.5	(0.0)	-
743-- Pumps, Air Or Other Gas Compressors And Fans								
Exports	4.7	5.2	5.8	6.9	6.4	6.6	2.0	41.7%
Imports	4.3	4.8	5.0	4.9	5.4	6.1	1.8	41.2%
Balance	0.4	0.5	0.8	2.1	1.0	0.6	0.2	-
744-- Mechanical Handling Equipment								
Exports	2.9	3.5	3.9	4.4	4.3	4.1	1.2	40.8%
Imports	2.5	3.1	3.2	3.7	4.5	4.8	2.3	89.3%
Balance	0.4	0.4	0.7	0.7	(0.2)	(0.7)	(1.1)	-
745-- Nonelectrical Machinery and Tools								
Exports	2.7	2.8	3.1	3.4	3.4	3.3	0.7	24.8%
Imports	2.2	2.4	2.7	2.8	3.0	3.3	1.1	48.0%
Balance	0.5	0.4	0.4	0.6	0.4	0.1	(0.4)	-
746-- Ball Or Roller Bearings								
Exports	0.7	0.9	0.9	1.0	1.0	1.0	0.3	36.3%
Imports	1.2	1.4	1.4	1.5	1.6	1.4	0.2	20.2%
Balance	(0.4)	(0.5)	(0.5)	(0.5)	(0.6)	(0.4)	0.0	-
747-- Taps, Cocks, Valves & Similar Appliances								
Exports	2.0	2.2	2.5	2.9	3.0	3.1	1.2	59.1%
Imports	2.7	3.0	3.2	3.6	4.0	4.4	1.7	63.4%
Balance	(0.7)	(0.8)	(0.7)	(0.8)	(1.0)	(1.2)	(0.5)	-
748-- Trasmission Shafts And Cranks								
Exports	1.2	1.3	1.4	1.7	1.7	1.6	0.4	30.8%
Imports	2.4	2.8	2.8	2.7	3.0	3.5	1.1	46.8%
Balance	(1.2)	(1.5)	(1.4)	(1.0)	(1.4)	(1.9)	(0.8)	-
749-- Nonelectric Parts & Accessories Of Machinery								
Exports	1.1	1.1	1.1	1.3	1.5	1.5	0.4	31.9%
Imports	1.8	2.0	1.6	1.6	1.6	1.7	(0.1)	-6.8%
Balance	(0.7)	(0.9)	(0.5)	(0.4)	(0.1)	(0.2)	0.5	-

Source: US Dept of Commerce

Table 5.74.2 General Industrial Machinery (SITC 74) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	22.6	25.0	27.4	31.4	31.0	30.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	6.8	7.4	7.7	8.9	9.4	10.0	30.4	29.4	28.2	28.2	30.4	32.6
	Mexico	2.5	1.9	2.3	3.2	3.8	4.2	10.9	7.6	8.5	10.3	12.1	13.7
	EU15	3.5	4.3	4.7	5.6	6.0	5.9	15.7	17.1	17.1	17.7	19.3	19.3
	Germany	0.7	0.9	0.9	1.0	1.1	1.1	3.1	3.5	3.2	3.2	3.6	3.7
	France	0.5	0.6	0.7	0.8	0.8	0.8	2.2	2.4	2.4	2.4	2.6	2.7
	Italy	0.3	0.3	0.3	0.3	0.3	0.3	1.2	1.2	1.1	1.0	1.1	1.1
	United Kingdom	0.9	1.1	1.2	1.5	1.6	1.5	4.0	4.4	4.4	4.8	5.1	5.0
	Ireland	0.1	0.2	0.2	0.2	0.2	0.2	0.6	0.7	0.6	0.7	0.8	0.7
	Other Europe	0.4	0.5	0.6	0.7	0.6	0.6	1.9	1.8	2.1	2.3	1.9	2.0
	Japan	1.0	1.1	1.2	1.3	1.2	1.1	4.2	4.4	4.5	4.3	3.8	3.5
	Taiwan	0.5	0.6	0.7	0.7	0.7	0.7	2.4	2.6	2.5	2.3	2.3	2.3
	Hong Kong	0.3	0.4	0.5	0.5	0.4	0.3	1.4	1.7	1.8	1.6	1.3	1.0
	Korea	1.0	1.4	1.4	1.2	0.5	0.6	4.4	5.6	5.1	3.7	1.7	2.0
	Singapore	0.5	0.5	0.6	0.7	0.6	0.6	2.2	2.1	2.3	2.2	1.9	2.0
	China	0.5	0.7	0.8	0.8	0.7	0.7	2.3	2.9	2.8	2.4	2.2	2.2
	Other Asia	1.0	1.3	1.5	1.6	1.2	0.8	4.4	5.1	5.3	5.2	3.8	2.8
	South & Central America	0.5	0.6	0.6	0.7	0.8	0.8	2.4	2.3	2.1	2.4	2.7	2.4
	Rest of World	3.9	4.4	4.9	5.5	5.2	4.3	17.5	17.4	17.8	17.3	16.6	14.1
Imports	US from World	21.3	24.1	25.3	26.3	28.8	31.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	3.6	4.0	4.1	4.3	4.9	5.4	16.7	16.6	16.3	16.2	16.8	17.1
	Mexico	1.8	2.0	2.3	2.7	3.2	3.8	8.4	8.2	9.2	10.4	11.0	12.1
	EU15	6.9	8.0	8.7	9.2	10.0	10.3	32.2	33.2	34.4	34.8	34.7	32.6
	Germany	2.8	3.2	3.3	3.4	3.7	3.7	12.9	13.4	13.2	13.0	12.7	11.8
	France	0.5	0.7	0.7	0.7	0.9	0.9	2.5	2.7	2.8	2.7	3.0	2.8
	Italy	0.9	1.1	1.3	1.3	1.5	1.6	4.4	4.4	5.1	5.1	5.1	5.1
	United Kingdom	1.1	1.2	1.4	1.7	1.9	1.8	5.1	5.1	5.7	6.5	6.7	5.6
	Ireland	0.1	0.2	0.1	0.1	0.1	0.2	0.6	0.8	0.6	0.5	0.5	0.5
	Other Europe	0.6	0.6	0.7	0.7	0.8	1.0	2.6	2.6	2.9	2.8	2.8	3.0
	Japan	5.2	5.7	5.2	5.0	5.1	5.4	24.2	23.5	20.7	19.0	17.6	17.1
	Taiwan	1.1	1.1	1.2	1.2	1.3	1.4	5.1	4.5	4.6	4.5	4.4	4.5
	Hong Kong	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
	Korea	0.4	0.4	0.4	0.4	0.6	0.8	1.7	1.6	1.8	1.7	2.0	2.5
	Singapore	0.3	0.2	0.2	0.2	0.2	0.1	1.2	1.0	0.9	0.9	0.6	0.5
	China	0.7	0.8	1.0	1.2	1.5	1.8	3.1	3.4	3.9	4.5	5.0	5.8
	Other Asia	0.4	0.5	0.4	0.5	0.5	0.5	1.7	1.9	1.8	1.7	1.8	1.5
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.6	0.8	0.8	0.8	0.8	0.9	3.0	3.2	3.3	3.2	2.9	2.9
Balance	US with World	1.2	0.9	2.1	5.1	2.2	-0.7						
	Canada	3.3	3.4	3.6	4.6	4.6	4.6						
	Mexico	0.7	-0.1	0.0	0.5	0.6	0.4						
	EU15	-3.3	-3.7	-4.0	-3.6	-4.0	-4.3						
	Germany	-2.1	-2.3	-2.5	-2.4	-2.5	-2.6						
	France	0.0	0.0	-0.1	0.1	-0.1	0.0						
	Italy	-0.7	-0.8	-1.0	-1.0	-1.1	-1.3						
	United Kingdom	-0.2	-0.1	-0.2	-0.2	-0.3	-0.2						
	Ireland	0.0	0.0	0.0	0.1	0.1	0.1						
	Other Europe	-0.1	-0.2	-0.2	0.0	-0.2	-0.3						
	Japan	-4.2	-4.6	-4.0	-3.7	-3.9	-4.3						
	Taiwan	-0.5	-0.5	-0.5	-0.5	-0.6	-0.7						
	Hong Kong	0.3	0.4	0.4	0.4	0.4	0.3						
	Korea	0.6	1.0	1.0	0.7	-0.1	-0.2						
	Singapore	0.2	0.3	0.4	0.5	0.4	0.5						
	China	-0.1	-0.1	-0.2	-0.4	-0.8	-1.2						
	Other Asia	0.6	0.8	1.0	1.2	0.7	0.4						
	South & Central America	0.5	0.6	0.6	0.7	0.8	0.7						
	Rest of World	3.3	3.6	4.0	4.6	4.3	3.4						

Source: US Dept of Commerce

Office Machines, Computers and Telecommunications Equipment

WTO data combine office machines and telecommunications equipment and cold cathode or photo cathode valves and tubes in their assessment of world market shares. The WTO group data is first presented below, followed by individual assessments of office machines and computers (SITC 75) and telecommunications equipment (SITC 76).

Office Machines and Telecommunications Equipment Role in World Trade

Computers and office machines and telecommunications equipment have been fast growing world export product groups for more than two decades. According to WTO data "Office machines and Telecom Equipment" (SITC 75, 76, and 776) exports from 1985 to 1990 grew by 18 percent annually; from 1990 to 1998 by 11 percent annually. Also according to WTO data, these product groups together comprised 12.3 percent of 1998 world merchandise exports and 17.0 percent of manufactures exports, well above the 10.0 and 13.1 percent amounts for road vehicles and automotive products.

WTO data show the United States remains the world's largest exporter of office machines and telecommunications equipment, with a 16.7 percent share of world exports in 1998, down from 20.2 percent in 1980 **(Table 5.75.1)**. It is, however, also the world's largest importer, taking 22.5 percent of 1998 world exports, up from 15.4 percent in 1980.

Japan is the 2nd largest exporter, 12.5 percent in 1998, down markedly from its 22.4 percent share in 1990. Its import share grew from 2.5 percent in 1980 to 5.3 percent in 1998. These changes resulted in an 11.4 percentage point share balance loss for Japan from 1980 to 1998.

Interestingly, however, Western European trade in these products is below the product group's 17.0 percent share of world manufactures trade, making up only 11.0 percent of Western Europe's exports and 14.5 percent of its imports.

The top European exporter is the United Kingdom, 6.3 percent of the total, virtually unchanged from its 1980 share of 6.4 percent, followed by Germany, with a 5.0 percent share, down from 1980's 9.9 percent.

The data show that earlier export dominance by the United States, Japan, and European countries is being overtaken by growing exports by a number of developing countries as well as countries well along the development path. These include: Taipei, 5.6 percent in 1998; Malaysia, 5.1 percent; Korea, 4.7 percent; China, 3.7 percent; Mexico, 3.2 percent; and Ireland, 2.7 percent.

Office Machines and Computers (SITC 75)

Description of the Product Group

SITC 75 consists of these SITC categories:

751 office machines
752 automated data processing machines (computers)
759 parts and accessories

Role in US Trade

US trade performance in office machines and computers (SITC 75) has shifted rapidly over the last 2 decades. A 1981 surplus of $6.2 billion dwindled to $.3 billion in 1987 and by 1990 the balance had moved to a $2.2 billion deficit. Growth in the deficit since then has been rapid, reaching $35.8 billion in 1999, making it the third largest 1999 manufactures deficit product group, behind road vehicles ($89.6 billion) and apparel ($48.4 billion).

Computers are a major and fast-growing component of US manufactures trade. In 1990 SITC 75 products accounted for 8.3 percent of manufactures exports and 6.9 percent of imports. Since then the export share has declined but the import share has increased. At $48.6 billion, office machines and computers provided 7.9 percent of US 1999 manufactures exports. Imports of $84.4 billion were 9.6 percent of manufactures imports**.** From 1994 to 1999 exports expanded by 37.3 percent but import growth was nearly twice as much, 62.0 percent.

Office machines (SITC 751) make up only a small portion of SITC 75 trade and have exhibited little growth since 1994 **(Table 5.75.2)**. As might be expected, computers (automated data processing machines, SITC 752) are the largest component in this product group. Computer imports in 1999 were $49.2 billion, up 63.3 percent from 1994, double the export growth rate. The result, a $22.5 billion deficit.

Major items in the 1999 computers (SITC 752) trade included:

(Billions of Dollars)

	Exports	Imports
Input or output units	22.4	17.6
Storage units for ADP Systems	2.9	16.7
Digital Processing Units	8.2	10.4
Data processing equipment, not elsewhere specified	6.8	4.2

Major 1999 export markets for computers (SITC 752) were in developed countries **(Table 5.75.3)** and included: Canada, 20.9 percent of the total; the EU, 30.5 percent; and Japan, 8.3 percent. Despite the hi-tech nature of the product, imports were mostly from developing countries and included: Mexico, 10.2 percent, up from only 3.1 percent in 1994; Singapore, 17.0 percent; China, 8.4 percent, up from 2.4 percent in 1994; and Korea, 7.5 percent. Japan's share of US imports declined from 35.1 percent in 1994 to 19.2 percent in 1999. The EU supplied only 6.1 percent of US imports.

Parts (SITC 759) imports growth has been rapid, reaching $31.9 billion in 1999 and a deficit of $11.1 billion, $7.0 billion more than the 1994 deficit **(Table 5.75.2)**. Parts exports in 1999 were $20.8 billion. Many exports of US parts, however, will return as imports of larger components or finished assemblies.

About two-fifths of parts exports go to the EU **(Table 5.75.4).** Most of these will not return to the United States in finished products as the EU is not a big exporter of computers But much of the 19.4 percent share that went to Canada and Mexico was probably utilized in items subsequently re-exported to the United States.

The geographic composition of parts imports is shifting rapidly, reflecting the increasing use of contract electronic manufacturers (CEMs), the commoditization of electronics manufacturing, and the competitive pressures for lowest cost production sites. Much of electronics manufacturing has shifted to low manufacturing cost countries. The EU supplied only 9.4 percent of parts imports; Japan, 16.2 percent, just over half its 31.1 percent 1994 share. Other Asian sources provided 55.1 percent of the 1999 total, up from 43.7 percent in 1994. Countries with significant share increases included China and Mexico**.**

Outlook

Like many other industries, the computer manufacturing industry is characterized by a continuing process of globalization. " … *final products involve many multinational assembly and production operations and alliances. The US-based industry was the leader in worldwide manufacturing of computer equipment in 1998 (the most recent year for which data are available), accounting for 29 percent of global production followed by Japan and Taiwan…Computer equipment companies in many principal supplier nations are continuing to increase their offshore production and assembly of key components. For example, in 1998, 89 percent of Taiwan's desktop personal computers (PCs) and 37 percent of its motherboards were produced offshore in China, Malaysia, Thailand, and the Philippines, where production costs are much lower. China has emerged as the sixth largest computer manufacturing country in the world, and some experts expect that nation to account for more than half the PCs manufactured worldwide by 2004****." US Industry and Trade Outlook, p. 27-1.***

Globalization of the industry also encompasses a shift to contract manufacturing, a trend that has major implications for US and world trade patterns and will have major effects on US trade performance. *"Many traditional original equipment manufacturers (OEMs) and start-up companies in the computer equipment industry have been outsourcing some of their production to contract electronics manufacturers (CEM) that already have low-cost manufacturing plants in the United States and overseas at key regional hubs. Outsourcing of production has enabled them to devote more time to developing next-generation products and keep up with cutting-edge high-technology trends…The CEM industry is growing at a rate of almost 25 percent per year …90 percent of the leading and emerging OEMs, with costs of goods sold between $10 billion and $50 billion, plan to increase their alliances with CEMs. Some of the OEMs polled stated that they may outsource as much as 50 percent of their final product."* ***US Industry and Trade Outlook, p. 27-2****.*

It is difficult to overrate the effect of this trend toward major manufactured goods firms divesting themselves of much of the task of actually making the products they sell. It is important because this "commoditization" of manufacturing -- an outsourcing of much of production to allow a greater company focus on management of design, marketing and other functions -- will open the manufacturing process itself to competition among companies who specialize in manufacturing; companies whose survival and prosperity will very much depend on lowest cost production. This inevitably will lead to further global diversification of production operations. Particularly, it will speed a movement to low-cost production areas near major markets.

The move to CEMs has favored Mexico as a production location, particularly areas close to the US border. A Wall Street Journal article detailed the growth of CEMs in Guadalajara, Mexico and the

reasons for that growth: "*Since the North American Free Trade Agreement took effect in 1994, contract manufacturers, their suppliers, and some of their customers have invested about $2 billion [in Guadalajara, Mexico]. Over the same period, Guadalajara's electronics exports have soared five-fold to $10 billion…[Guadalajara] is on its way to supplanting China and other Asian countries as the principal manufacturing center for electronics products sold in the US. [Guadalajara] is the convergence point for several different trends at a time of intense change in the way business is being done in our [electronics] industry …One of these trends is the explosive growth of contract manufacturers themselves, both in real and relative terms. According to BancAmerica Securities, their revenues as a group are projected to grow 20% annually over the next few years, reaching $149.2 billion in 2003, compared with $60 billion in 1998. By then their share of global electronics output, now less than 10%, is expected to double.*

Fueling this structural change is the accelerating life cycle of new electronics products -- often just a few months from conception to obsolescence. That makes it tough for even deep-pocketed companies such as IBM corp. or Phillips Electronics NV to invest the sums needed to produce their new products globally and still provide a decent return on shareholders' investments. Instead they are letting contract manufacturers do it for them.

Globalization was supposed to mean that most of the world's manufacturing jobs would gravitate to low-cost Asia. But nowadays, technology companies can't afford the two weeks it takes to deliver their products from Asia to the US, or vice versa, by ship, and air freight on such long hauls is prohibitively expensive. That means locating factories close to customers and that's why "the old wisdom of locating in the lowest-cost part of the globe just doesn't apply anymore." …Hence the new focus on Guadalajara. Seven of the 10 biggest electronics contract manufacturers have set up shop here… flocking in behind them are suppliers of stamped metal, molded plastic and logistics services.

As darkness falls each day, planes owned by cargo handlers Federal Express and United Parcel Service take off from the airport [in Guadalajara] for a short hop to US cities, their bellies full of modems, routers, and other essential paraphernalia of the Information Age…'Chinese labor is cheaper, but the real issue now is speed,' says Alezandro Gomez, Solectron's general manager here…'The faster you get something through the production chain, the longer it will be on the market,' Mr. Gomez says.

…IBM, Motorola Corp., Eastman Kodak Co. and Hewlett-Packard Co. had all set up plants [in Guadalajara] in the 1970s and 1980s. In general, they imported components from Asia, assembled them into printers, computers, and other products, and then shipped them of the US. Not much value was added in Guadalajara…'We saw the electronics industry changing from a high-end, complicated and specialized manufacturing business into one which was essentially a commodity business with a big emphasis on cost containment', says Mr. Garcia. 'That's why we focused on attracting the contract manufacturers.' …[CEMs] can survive on razor-thin margins. High-technology giants such as Cisco "face the cost of the factory set-up, the learning-curve problem, the potential for big, expensive miscalculations," …On the other hand, [a CEM] can scale up and down at will not only in a single factory, but in several scattered across the globe. 'If one of my customers loses market share,' says Mr. Knight, 'I can make it up with the other guy who has taken that market share away.'

[Cisco Systems] is introducing new products almost daily and replacing them with newer models within a year. To keep up with this manic pace, it has woven a tight knit group of contract manufacturers into its design and production schemes…Cisco's relationship with these contractors has become so intimate that they not only alert it to problems, but also collaborate among themselves to fix potentially costly glitches.

That kind of cooperation led Cisco to bet its future on its contract manufacturers. While today it gets 35% of its revenue from products built entirely by contractors, it expects as much as 65% of its business "will go that way in the long term," …Given that Cisco's biggest market is the US, a lot of that business will end up in Guadalajara." ***How a Need for Speed Turned Guadalajara Into a High-Tech Hub" The Wall Street Journal, March 2, 2000, p. 1.***

The operations of some CEMs are so integrated with those of the original equipment manufacturing firms they are producing for that the CEM may ship directly to the final customer, without the original manufacturer even seeing the product. The advantages of using CEMs and the trend toward their use are, of course, not limited to the electronics industry and plant locations in Mexico. The trend is also evident in other industries and will result in investments in contract manufacturing plants to serve the US market not only in Mexico but in other Latin American and Caribbean Basin Initiative (CBI) countries. The move to contract manufacturing and the emphasis on speed of manufacture and delivery will not preclude CEM arrangements with Asian countries but it seems likely to shift significant portions of production for the US market from Asia to locations closer to the United States.

The continuing move toward outsourcing of production to contract electronic manufacturers is a manifestation of intensifying competition in the manufacturing of computers. It does not augur well for US trade balances over the longer term as it implies much of the manufacturing will be contracted out to CEMs, who will locate their production in lowest-cost areas in order to increase their own competitiveness, putting more pressure on US-based production.

Nor do shorter term prospects seem likely to arrest the recent trade deficits, notwithstanding expected export gains stemming from the recovery of some trading partners. *"Exports are expected to rise 8 percent to $23 billion in the year 2000, benefiting from strong economic growth in major trading partners such as Canada, western Europe, and Asia…imports should increase 6 percent …However, this lower import growth rate will not be sufficient to arrest the worsening computer trade [2000] deficit, which is expected to climb to an estimated $27 billion."* ***US Industry and Trade Outlook, p 27-7.***

First-half 2000 data indicate that the deficit will increase, perhaps by about $2 billion in 2000. Commerce Department analysts also foresee continued expansion of the computer deficit through 2004. *"… exports should grow at a healthy 8 percent rate to reach an estimated $31 billion in 2004 …Canada and western Europe will continue to be the principal markets for US computer equipment exports, but as those markets mature, the US-based industry will depend more on demand from Asian and Latin America for future growth…Imports will continue to play a significant role in the US domestic computer market and should increase 7 percent annually to reach an estimated $66.5 billion in 2004…Most of these imports will originate from Asia, where US suppliers will continue to source large quantities of computer components. Because of NAFTA, imports from Mexico will grow the fastest as US firms and foreign competitors continue to set up production facilities in that country to serve US demand. In addition to setting up facilities in Mexico, foreign suppliers will continue to establish new production sites in the United States to help meet domestic demand. These affiliates will rely heavily on imports from their parent countries, thus contributing to the growing deficit in computer equipment trade. The US computer equipment trade deficit is expected to climb to a projected $35.5 billion in 2004."* ***US Industry and Trade Outlook, p. 27-8.***

Conclusions

- US trade performance in office machines and computers (SITC 75) has shifted rapidly over the last 2 decades. A 1981 surplus of $6.2 billion dwindled to $.3 billion in 1987 and by 1990

the balance had moved to a $2.2 billion deficit. Growth in the deficit since then has been rapid, reaching $35.8 billion in 1999. First-half data indicate the SITC 75 deficit will enlarge in 2000, perhaps by another $2 billion, continuing a long-standing trend.

- Office machines and computers -- dominated by computers -- is a major and fast-growing component of US manufactures trade. At $48.6 billion they represented 7.9 percent of 1999 manufactures exports. Imports of $84.4 billion were 9.8 percent of manufactures imports.
- Global competition will continue to increase in this dynamic, fast-growing industry. Industrializing countries will compete for roles in the manufacturing of the "hi-tech" products in this product group.
- To allow increased management focus on design and marketing, to reduce the time from product design to manufacturing, and to reduce manufacturing costs, there is a growing trend on the part of major manufacturing companies toward subcontracting the production of electronic goods to "contract electronic manufacturers" (CEMs). One major US company now generates 35 percent of its revenues from products built entirely by contractors and expects that 65 percent of its business will go that way over the long term. Some CEMs ship directly to the customers of the firms that employ them. Competition will force emulation of this move to CEMs by many major companies. Thus, "commoditization" of the manufacture of computer parts, computers, and other electronic items can generate efficiencies that will make global competition even tougher.
- Driven by intensifying competition, the increasing use of CEMs is another factor that will encourage the movement of US and other developed country firms' manufacturing operations to low-cost areas that offer fast and economical transportation to major markets. For example, the use of CEMs will facilitate the growth of manufacturing in Mexico and other Latin American and CBI Countries. The trend is evident in the increasing share of US electronic goods imports coming from Mexico at the expense of some Asian country shares.
- Imports of parts to support the assembly of products in the United States are an important factor in this product group's deficits, contributing $11.1 billion to the 1999 deficit, compared to $4.1 billion in 1994. The increased use of CEMs will likely generate further expansion of these parts deficits.
- The longer term outlook for US trade in computers is not favorable. The already large US computer deficits are likely to continue to enlarge, following domestic consumer and business trends in increased spending for computers and the continued expansion of foreign production of computers and parts for US markets. With much of US exports in the form of parts and components that return in the form of finished goods, and an increasing portion of the imports coming from Mexico and other developing countries, modest declines in US economic growth rates relative to foreign growth rates and/or modest dollar exchange rate declines are unlikely to have major effects on US computer trade deficits.
- Computers offer a classic illustration of the fact that technological leadership in a product does not ensure good trade performance, let alone a trade surplus in that product. Manufacturing inevitably involves labor inputs, plant construction and maintenance costs, and other inputs that often may be had at lower costs in other nations. Most computer and electronic parts are small and light weight and can be transported rapidly and economically to the market country. In many hi-tech products, US-invented and US-owned technologies can be utilized in foreign production, with US trade deficits the result. Thus, a strong trade position requires not just competitive US-owned and US-developed technologies, but also competitive US-based manufacturing.

Table 5.75.1 Percent Shares in World Office Machines and Telecommunications Equipment Trade

		Billions of Dollars			$ Change
		1980	1990	1998	1980-98
US	Exports	20.2	17.3	16.7	-3.5
	Imports	15.4	20.7	22.5	7.1
	Share Balance	*4.8*	*-3.4*	*-5.8*	*-10.6*
Japan	Exports	21.1	22.4	12.5	-8.6
	Imports	2.5	3.7	5.3	2.8
	Share Balance	*18.6*	*18.7*	*7.2*	*-11.4*
Singapore	Exports	3.2	6.4	8.5	5.3
	Imports	2.5	4.4	5.4	2.9
	Share Balance	*0.7*	*2*	*3.1*	*2.4*
UK	Exports	6.4	6.4	6.3	0.1
	Imports	6.8	7.8	6.8	0
	Share Balance	*-0.4*	*-1.4*	*-0.5*	*-0.1*
Taipei	Exports	3.2	4.7	5.6	2.4
	Imports	1.4	2.4	3.4	2
	Share Balance	*1.8*	*2.3*	*2.2*	*0.4*
Malaysia	Exports	1.4	2.7	5.1	3.7
	Imports	1.5	1.9	3.1	1.6
	Share Balance	*-0.1*	*0.8*	*2*	*2.1*
Germany	Exports	9.9	7.5	5	-4.9
	Imports	9.4	9.6	6.6	-2.8
	Share Balance	*0.5*	*-1.9*	*-1.6*	*-2.1*
Netherlnds	Exports	4	3.4	4.5	0.5
	Imports	3.7	4	4.6	0.9
	Share Balance	*0.3*	*-0.6*	*-0.1*	*-0.4*
France	Exports	4.7	4.1	4.2	-0.5
	Imports	6.2	5.9	4.5	-1.7
	Share Balance	*-1.5*	*-1.8*	*-0.3*	*1.2*
Mexico	Exports	0.1	1.5	3.2	3.1
	Imports	0.8	1.5	2.4	1.6
	Share Balance	*-0.7*	*0*	*0.8*	*1.5*
Korea	Exports	2	4.8	4.7	2.7
China	Exports			3.7	
Ireland	Exports	0.9	1.7	2.7	1.8

Source: WTO Annual Report, 1999

Table 5.75.2 Office Machines and ADP Equipment (SITC 75) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
75-- Office Machines And ADP equipment								
Exports	35.4	41.9	45.8	51.6	47.8	48.6	13.2	37.3%
Imports	52.1	62.8	66.5	75.0	76.8	84.4	32.3	62.0%
Balance	(16.7)	(20.9)	(20.7)	(23.4)	(29.1)	(35.8)	(19.1)	-
of which								
751-- Office Machines								
Exports	1.0	1.1	1.2	1.2	1.2	1.1	0.1	13.4%
Imports	3.9	4.5	4.4	4.6	4.5	3.4	(0.5)	-13.1%
Balance	(2.9)	(3.4)	(3.2)	(3.4)	(3.3)	(2.3)	0.6	-
752-- Automatic Data Process Machines								
Exports	20.4	23.1	25.2	28.1	25.8	26.7	6.3	30.8%
Imports	30.1	34.8	39.3	45.0	44.1	49.2	19.1	63.3%
Balance	(9.7)	(11.7)	(14.1)	(16.9)	(18.3)	(22.5)	(12.8)	-
759-- Parts For Office Machines & ADP Machines								
Exports	14.0	17.8	19.4	22.3	20.7	20.8	6.8	48.5%
Imports	18.1	23.5	22.7	25.4	28.2	31.9	13.8	75.9%
Balance	(4.1)	(5.8)	(3.4)	(3.1)	(7.5)	(11.1)	(7.0)	-

Source: US Dept of Commerce

Table 5.75.3 Automatic Data Process Machines (SITC 752) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	20.4	23.1	25.2	28.1	25.8	26.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	3.9	4.5	5.1	5.7	5.6	5.6	18.9	19.4	20.1	20.3	21.9	20.9
	Mexico	1.0	0.8	1.2	1.9	1.4	1.8	4.7	3.5	4.9	6.6	5.4	6.9
	EU15	7.0	7.6	7.5	8.1	8.1	8.1	34.3	32.9	29.9	29.0	31.2	30.5
	Germany	1.4	1.6	1.7	1.5	1.6	1.5	6.7	7.0	6.8	5.2	6.1	5.7
	France	0.8	1.0	0.9	0.9	0.8	0.7	4.2	4.2	3.5	3.1	3.1	2.5
	Italy	0.3	0.3	0.3	0.3	0.2	0.3	1.5	1.2	1.1	0.9	0.9	1.0
	United Kingdom	2.1	2.1	1.9	2.3	2.2	1.9	10.1	9.2	7.5	8.2	8.4	7.3
	Ireland	0.4	0.4	0.4	0.5	0.6	0.9	2.0	1.8	1.6	1.8	2.4	3.2
	Other Europe	0.6	0.6	0.6	0.6	0.6	0.6	3.0	2.7	2.6	2.3	2.4	2.2
	Japan	2.2	2.7	3.3	3.3	2.3	2.2	10.8	11.7	13.0	11.6	9.0	8.3
	Taiwan	0.3	0.4	0.4	0.5	0.4	0.4	1.6	1.7	1.7	1.7	1.7	1.7
	Hong Kong	0.5	0.6	0.7	0.9	0.8	0.9	2.4	2.6	2.8	3.1	2.9	3.3
	Korea	0.5	0.7	0.9	0.8	0.4	0.8	2.6	3.2	3.4	3.0	1.6	3.1
	Singapore	1.0	1.2	1.1	1.3	1.2	1.2	5.1	5.2	4.3	4.7	4.5	4.6
	China	0.2	0.2	0.2	0.2	0.6	0.6	0.8	1.1	0.7	0.8	2.2	2.2
	Other Asia	0.4	0.6	0.7	0.8	0.7	0.7	1.7	2.7	2.9	2.8	2.5	2.8
	South & Central America	0.2	0.2	0.2	0.2	0.3	0.4	0.7	0.8	0.8	0.8	1.3	1.4
	Rest of World	2.7	2.9	3.3	3.7	3.4	3.3	13.4	12.5	13.0	13.3	13.3	12.3
Imports	US from World	30.1	34.8	39.3	45.0	44.1	49.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.1	1.2	1.0	1.1	1.1	0.9	3.6	3.4	2.6	2.5	2.5	1.8
	Mexico	0.9	1.1	2.0	3.1	3.6	5.0	3.1	3.2	5.1	7.0	8.2	10.2
	EU15	2.1	2.8	3.2	3.4	3.4	3.0	7.0	8.1	8.1	7.6	7.6	6.1
	Germany	0.4	0.5	0.4	0.4	0.4	0.4	1.3	1.4	0.9	0.8	0.8	0.8
	France	0.2	0.2	0.3	0.2	0.2	0.2	0.6	0.7	0.7	0.4	0.4	0.4
	Italy	0.2	0.1	0.1	0.1	0.1	0.1	0.6	0.4	0.2	0.2	0.2	0.2
	United Kingdom	0.8	1.2	1.4	1.4	0.9	0.9	2.7	3.5	3.5	3.0	2.1	1.8
	Ireland	0.2	0.3	0.5	0.9	1.3	1.0	0.8	0.9	1.4	1.9	2.9	2.0
	Other Europe	0.1	0.1	0.2	0.6	0.9	1.4	0.2	0.2	0.6	1.2	2.0	2.8
	Japan	10.6	10.2	9.3	10.3	9.3	9.5	35.1	29.4	23.7	22.8	21.1	19.2
	Taiwan	3.3	3.6	4.1	5.1	4.7	5.0	11.1	10.2	10.4	11.4	10.6	10.2
	Hong Kong	0.2	0.2	0.1	0.1	0.1	0.1	0.7	0.5	0.3	0.2	0.2	0.2
	Korea	1.3	1.5	1.9	2.2	1.8	3.7	4.3	4.2	4.9	4.9	4.0	7.5
	Singapore	6.0	8.3	10.2	9.9	9.3	8.3	19.9	23.8	26.0	22.0	21.0	17.0
	China	0.7	1.3	1.4	2.1	2.8	4.1	2.4	3.7	3.6	4.6	6.4	8.4
	Other Asia	3.6	4.4	5.5	6.9	7.0	8.0	12.1	12.7	14.1	15.3	15.9	16.3
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.1	0.1	0.2	0.2	0.2	0.2	0.5	0.4	0.5	0.4	0.4	0.4
Balance	US with World	-9.7	-11.7	-14.1	-16.9	-18.3	-22.5						
	Canada	2.8	3.3	4.1	4.6	4.6	4.7						
	Mexico	0.0	-0.3	-0.8	-1.3	-2.2	-3.2						
	EU15	4.9	4.8	4.3	4.7	4.7	5.1						
	Germany	1.0	1.1	1.3	1.1	1.2	1.1						
	France	0.7	0.7	0.6	0.7	0.6	0.5						
	Italy	0.1	0.2	0.2	0.2	0.1	0.2						
	United Kingdom	1.2	0.9	0.5	0.9	1.2	1.0						
	Ireland	0.2	0.1	-0.1	-0.3	-0.7	-0.1						
	Other Europe	0.5	0.5	0.4	0.1	-0.3	-0.8						
	Japan	-8.4	-7.5	-6.1	-7.0	-7.0	-7.2						
	Taiwan	-3.0	-3.2	-3.7	-4.7	-4.2	-4.6						
	Hong Kong	0.3	0.4	0.6	0.8	0.6	0.8						
	Korea	-0.8	-0.7	-1.1	-1.4	-1.4	-2.9						
	Singapore	-5.0	-7.1	-9.1	-8.6	-8.1	-7.1						
	China	-0.5	-1.0	-1.2	-1.8	-2.2	-3.5						
	Other Asia	-3.3	-3.8	-4.8	-6.1	-6.4	-7.3						
	South & Central America	0.1	0.2	0.2	0.2	0.3	0.4						
	Rest of World	2.6	2.7	3.1	3.5	3.3	3.1						

Source: US Dept of Commerce

Table 5.75.4 Parts for Office Machines & ADP Machines (SITC 759) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	14.0	17.8	19.4	22.3	20.7	20.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.9	2.1	2.1	2.1	2.0	2.2	13.3	12.0	10.8	9.6	9.8	10.7
	Mexico	0.9	0.8	1.1	1.3	1.6	1.8	6.7	4.7	5.5	5.9	7.8	8.7
	EU15	5.6	7.2	7.5	8.6	8.1	8.1	39.9	40.4	38.6	38.6	38.9	38.7
	Germany	1.2	1.7	1.8	1.5	1.4	1.7	8.7	9.7	9.5	6.6	6.6	8.2
	France	0.7	1.0	1.1	0.9	0.8	0.7	5.3	5.8	5.4	4.1	3.9	3.2
	Italy	0.2	0.2	0.3	0.3	0.3	0.2	1.5	1.3	1.6	1.6	1.4	1.1
	United Kingdom	1.5	1.8	1.8	2.4	2.1	2.1	10.6	9.9	9.3	10.7	10.4	10.2
	Ireland	0.5	0.8	0.6	0.6	0.8	0.8	3.8	4.5	3.1	2.7	3.7	3.7
	Other Europe	0.3	0.4	0.4	0.4	0.5	0.5	2.1	2.4	2.2	2.0	2.6	2.5
	Japan	1.5	1.9	2.3	2.5	2.0	2.0	11.1	10.9	11.9	11.2	9.8	9.7
	Taiwan	0.2	0.3	0.3	0.5	0.4	0.4	1.5	1.6	1.6	2.4	2.1	2.0
	Hong Kong	0.3	0.5	0.4	0.7	0.6	0.7	2.5	2.8	2.1	3.0	3.0	3.2
	Korea	0.2	0.3	0.4	0.6	0.3	0.4	1.7	1.9	2.3	2.5	1.2	1.8
	Singapore	0.5	1.1	1.4	1.2	0.9	0.9	3.8	5.9	7.2	5.2	4.4	4.4
	China	0.1	0.1	0.1	0.1	0.3	0.3	0.5	0.4	0.4	0.5	1.5	1.2
	Other Asia	0.5	0.7	0.8	1.1	0.8	0.8	3.6	4.1	4.1	4.7	4.0	3.7
	South & Central America	0.1	0.1	0.1	0.2	0.2	0.3	0.6	0.5	0.6	0.7	1.1	1.3
	Rest of World	1.8	2.2	2.4	3.1	2.8	2.5	12.8	12.3	12.6	13.7	13.8	12.2
Imports	US from World	18.1	23.5	22.7	25.4	28.2	31.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.2	3.0	2.5	2.4	2.5	2.3	12.2	12.7	10.9	9.4	8.8	7.2
	Mexico	0.6	0.9	1.0	1.4	1.7	2.0	3.5	3.6	4.3	5.3	6.0	6.4
	EU15	1.5	2.1	1.8	2.2	2.4	3.0	8.3	8.8	8.1	8.6	8.4	9.4
	Germany	0.3	0.4	0.3	0.3	0.3	0.4	1.8	1.5	1.3	1.2	1.0	1.3
	France	0.2	0.2	0.3	0.3	0.2	0.2	0.9	1.0	1.2	1.1	0.7	0.5
	Italy	0.3	0.4	0.3	0.2	0.2	0.3	1.4	1.9	1.3	1.0	0.7	1.0
	United Kingdom	0.4	0.6	0.6	0.8	0.7	0.9	2.3	2.6	2.6	3.2	2.6	3.0
	Ireland	0.1	0.2	0.1	0.3	0.7	0.9	0.6	0.8	0.6	1.1	2.4	2.9
	Other Europe	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
	Japan	5.6	5.8	5.5	5.5	4.7	5.2	31.1	24.6	24.0	21.7	16.8	16.2
	Taiwan	2.5	3.6	3.9	4.5	4.7	4.5	13.6	15.2	17.1	17.7	16.8	14.0
	Hong Kong	0.4	0.4	0.4	0.3	0.2	0.1	2.5	1.6	1.7	1.3	0.7	0.4
	Korea	1.2	2.4	2.0	1.9	1.6	1.7	6.7	10.2	8.6	7.6	5.6	5.4
	Singapore	2.5	2.9	2.8	3.1	2.6	2.9	14.0	12.3	12.3	12.2	9.4	9.0
	China	0.6	1.1	1.4	2.0	2.5	3.2	3.4	4.5	6.3	8.0	8.7	10.1
	Other Asia	0.6	1.3	1.3	1.9	4.7	5.2	3.5	5.5	5.8	7.4	16.6	16.2
	South & Central America	0.0	0.0	0.0	0.0	0.4	1.5	0.1	0.0	0.0	0.0	1.3	4.6
	Rest of World	0.2	0.2	0.2	0.1	0.2	0.2	1.0	0.7	0.8	0.5	0.6	0.6
Balance	US with World	-4.1	-5.8	-3.4	-3.1	-7.5	-11.1						
	Canada	-0.3	-0.9	-0.4	-0.3	-0.5	-0.1						
	Mexico	0.3	0.0	0.1	0.0	-0.1	-0.2						
	EU15	4.1	5.1	5.6	6.4	5.7	5.1						
	Germany	0.9	1.4	1.5	1.2	1.1	1.3						
	France	0.6	0.8	0.8	0.6	0.6	0.5						
	Italy	0.0	-0.2	0.0	0.1	0.1	-0.1						
	United Kingdom	1.1	1.2	1.2	1.6	1.4	1.2						
	Ireland	0.4	0.6	0.5	0.3	0.1	-0.2						
	Other Europe	0.3	0.4	0.4	0.4	0.4	0.4						
	Japan	-4.1	-3.9	-3.2	-3.0	-2.7	-3.1						
	Taiwan	-2.3	-3.3	-3.6	-4.0	-4.3	-4.0						
	Hong Kong	-0.1	0.1	0.0	0.3	0.4	0.5						
	Korea	-1.0	-2.1	-1.5	-1.4	-1.3	-1.4						
	Singapore	-2.0	-1.8	-1.4	-1.9	-1.7	-2.0						
	China	-0.5	-1.0	-1.4	-1.9	-2.2	-2.9						
	Other Asia	-0.1	-0.6	-0.5	-0.8	-3.9	-4.4						
	South & Central America	0.1	0.1	0.1	0.2	-0.1	-1.2						
	Rest of World	1.6	2.0	2.3	2.9	2.7	2.3						

Source: US Dept of Commerce

Telecommunications and Sound Reproducing Equipment (SITC 76)

Description of the Product Group

SITC 76 consists of these three-digit SITC categories:

761 Television Receivers

762 Radio Broadcast Receivers, Including Receivers Incorporating Sound Recorders Or Reproducers

763 Gramophones, Other Sound Recorders And Reproducers, And VCRs

764 Telecommunications Equipment, Not Elsewhere Specified, And Parts And Accessories

For analytical purposes, it is useful to divide this category into consumer electronics (SITC 761, 762 and 763) and telecommunications equipment (SITC 764). SITC 764 includes a mix of consumer electronic items and industrial equipment with different trade characteristics. For example, this subcategory includes not only telephone handsets, camcorders, fax machines, and telephone answering machines -- items with widespread consumer applications -- but also switching equipment used by offices and telephone companies.

Role in US Trade

SITC 76 includes a number of consumer electronic items, imports of which long have resulted in substantial deficits. SITC 76 accounted for 3.1 percent of US manufactures exports in 1990 and 6.0 percent of manufactures imports. In 1999 these products represented 4.5 percent of US manufactures exports and 5.8 percent of imports. Since 1987 annual deficits have been over $12 billion. In 1990 the telecommunications trade deficit was $13.3 billion; in 1993, $13.1 billion and in 1999, $23.2 billion **(Table 5.76.1).**

The demand for a number of consumer electronics products (SITC 761 television receivers, SITC 762 Radio broadcast receivers, and SITC 763 Sound recorders and TV recorders) is supplied primarily by imports. Exports of these items are thus modest **(Table 5.67.1).** Export growth is likely to be minimal and deficit amounts will be determined primarily by the growth rate of consumption of these products and the resulting import growth.

Despite consistently declining unit prices of many consumer electronic items, annual deficits in these items are large and, excepting radio broadcasting receivers, are growing. In 1999 some key deficits were: television receivers,, $5.0 billion; radios, $5.4 billion; and recording devices, $8.2 billion **(Table 5.76.1).**

SITC 764, telecommunications equipment, includes both consumer and industrial items. Strong export performance on industrial items has held down the deficits resulting from imports of consumer items in this group and resulted in modest surpluses in 1996-1998. Sharp import growth in 1999, however, resulted in a deficit of $4.7 billion.

High volume SITC 764 telecommunications equipment trade items included:

(Billions of Dollars)

	Exports	Imports
Transmission apparatus for TV, Radio, etc.	5.19	5.35
Parts of electrical apparatus	4.26	4.65
Parts of TV, Radio Broadcasting and Sound Recorders	4.02	3.57
Apparatus for Carrier-Current or digital lines	2.38	3.42
Transmission Apparatus, TV, Radio, etc.	1.13	3.36
Telephone sets	n.a.	3.15

Table 5.76.2 provides the geographic distribution of US SITC 76 trade and reveals ongoing shifts in production for the US market. Mexico's share of US imports rose from 16.9 percent in 1994 to 23.6 percent in 1999; China's from 11.7 percent to 14.7 percent. Meanwhile, Japan's share declined from 28.3 percent to 19.4 percent. These recent data show continuation of longer term trends. In 1981 Japan furnished 53.5 percent of US imports, Mexico only 12.0 percent.

Looking at subcategories of SITC 76 trade, US exports of television sets (SITC 76) are modest, $1.2 billion in 1999, with over 71 percent of the total to Mexico and Canada **(Table 5.76.3)**. Of the $6.2 billion of 1999 imports 68.9 percent was from Mexico**.** The vast majority of the remainder was from Asian sources, including only 5.4 percent from Japan.

Radiobroadcast receivers come primarily from Asia, 34.8 percent from China alone **(Table 5.76.4).** Mexico is gaining market share, however, up from 15.5 percent in 1993 to 24.8 percent in 1999.

Japan remains the largest source of sound and TV recording equipment (SITC 763), its share of US imports rising from 35.7 percent in 1994 to 47.8 percent in 1999 **(Table 5.76.5)**. Almost all of the rest of the imports are from other Asian sources, with only 5.9 percent from Mexico.

US exports of telecommunications equipment, (SITC 764) are strong, $24.4 billion in 1999, with 28.4 percent of the total to Mexico and Canada and 22 percent to the EU **(Table 5.76.6)**. Imports are larger, however, $29.1 billion in 1999. Much of the equipment in this category is for industrial use and is more sophisticated than consumer electronic items. Canada and Mexico have both increased their shares of US imports. Together, in 1994 they furnished 21.4 percent of US imports; in 1999, 37.1 percent. Japan's share fell from 34.2 percent to 15.6 percent.

Outlook

The telecommunications deficit will increase dramatically in 2000. First-half imports of televisions, VCRs, and other telecommunications items were up 47 percent from 1999 levels; exports by only 13 percent. Looking farther ahead, the manufacture in the United States of higher-valued telecommunications equipment for industrial use may continue to be highly competitive and to supply exports, as well as major portions of US requirements. However, the large increase in imports and the resulting 1999 deficit in this category as well as the first-half 2000 data for the product group as a whole are not encouraging. Stronger economic growth abroad may increase US exports and reduce -- perhaps even eliminate -- US deficits in SITC 764 but the longer term trend is uncertain. A detailed assessment of 2000 final results may provide better insights about the outlook.

The outlook for consumer electronic items, however, is clearly not favorable. Some thought in the early 1990s that declining prices for VCRs and other consumer electronic products and foreign investments in

US production facilities would hold down growth of US deficits. Deficits, however, have grown even as prices have declined. New products have been developed and import volume has risen.

The underlying long term trend for US-based production of electronic devices and their components appears to be one of declining competitiveness. The "commoditization" of the production of items and parts, the continuing globalization of production, and moves toward increased use of CEMs ensure intensifying competition that will keep pressures on labor and other production costs. Increased US competitiveness appears improbable if US economic conditions and exchange rates remain favorable.

US deficits in consumer electronics items are likely to be a function of US economic growth rates and whether or not new electronic "fad" items, such as personal radios and DVDs, continue to be developed. HDTV is one future "fad" possibility for increased imports and other new products are likely, if not certain, to be developed. Strong economic growth and continuing introduction of new products will probably result in continued enlargement of deficits in consumer electronic items.

Conclusions

- In the period since 1987 US telecommunications (SITC 76) deficits have ranged upward from $12 billion to $23.3 billion in 1999, with a further dramatic increase likely in 2000.
- The US demand for consumer electronic items in the telecommunications product group is satisfied primarily by foreign production. US-based production is not internationally competitive in most of these items. More favorable economic conditions abroad are unlikely to result in increased US exports that would eliminate or significantly reduce US deficits in consumer electronic items.
- Strong US economic growth, and/or the introduction of new "fad" electronic consumer goods are likely to result in continued enlargement of deficits in the consumer good items in the SITC 76 trade group.
- The United States has been a strong exporter of industrial telecommunications equipment. Nevertheless, it incurred a $4.7 billion 1999 deficit in this product group subcategory (SITC 764). Improved economic conditions abroad could generate increased exports that could diminish, perhaps even eliminate, this deficit. But the ongoing globalization of electronics production makes it more likely that deficits in this subcategory will continue and, perhaps, expand.
- Overall, large SITC 76 deficits at or above current levels are likely to persist, absent major dollar depreciation and/or unfavorable US economic conditions.

Table 5.76.1 Telecommunications Equipment (SITC 76) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
76-- Telecommunications Equipment								
Exports	17.1	20.3	21.4	26.1	26.0	27.7	10.6	61.8%
Imports	32.5	34.4	34.2	36.7	42.5	51.0	18.5	57.0%
Balance	(15.3)	(14.1)	(12.8)	(10.6)	(16.5)	(23.2)	(7.9)	-
of which								
761-- Television Receivers								
Exports	0.9	0.9	0.9	1.3	1.4	1.2	0.3	38.7%
Imports	3.6	3.8	4.0	4.4	6.2	6.2	2.6	72.4%
Balance	(2.7)	(2.9)	(3.1)	(3.1)	(4.9)	(5.0)	(2.3)	-
762-- Radiobroadcast Receivers								
Exports	0.6	0.8	0.8	0.9	0.8	0.9	0.2	35.3%
Imports	5.9	6.0	5.3	5.8	6.2	6.3	0.4	6.6%
Balance	(5.3)	(5.2)	(4.5)	(4.9)	(5.4)	(5.4)	(0.2)	-
763-- Sound Recorders and TV Recorders								
Exports	0.8	0.9	1.0	1.2	1.1	1.2	0.4	55.7%
Imports	6.2	6.3	7.3	7.5	7.9	9.4	3.1	50.3%
Balance	(5.5)	(5.4)	(6.3)	(6.3)	(6.8)	(8.2)	(2.7)	-
764-- Telecommunications Equipment								
Exports	14.8	17.8	18.7	22.7	22.7	24.4	9.6	64.6%
Imports	16.7	18.3	17.5	19.1	22.1	29.1	12.4	74.0%
Balance	(1.9)	(0.4)	1.2	3.6	0.5	(4.7)	(2.8)	-

Source: US Dept of Commerce

Table 5.76.2 Telecommunications Equipment (SITC76) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	17.1	20.3	21.4	26.1	26.0	27.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.6	3.1	3.8	4.4	4.6	5.2	15.2	15.4	17.7	16.7	17.9	18.6
	Mexico	2.1	1.7	2.1	2.9	3.4	4.0	12.5	8.2	9.8	11.3	12.9	14.5
	EU15	3.0	3.8	3.6	4.2	4.9	5.7	17.6	18.6	16.9	16.1	18.7	20.5
	Germany	0.5	0.6	0.5	0.7	0.7	0.9	2.9	2.9	2.5	2.5	2.8	3.3
	France	0.3	0.3	0.4	0.6	0.5	0.6	1.7	1.6	1.8	2.3	2.1	2.1
	Italy	0.2	0.3	0.2	0.3	0.2	0.3	1.1	1.5	1.0	1.1	0.9	1.2
	United Kingdom	1.0	1.2	1.2	1.4	1.5	1.4	5.9	6.0	5.5	5.2	5.7	5.2
	Ireland	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.5	0.4	0.6	0.9	1.4
	Other Europe	0.7	0.5	0.5	0.6	0.7	0.7	3.9	2.7	2.5	2.4	2.7	2.4
	Japan	1.5	2.1	2.4	2.4	2.7	2.5	8.9	10.1	11.1	9.3	10.4	9.1
	Taiwan	0.6	0.4	0.4	0.6	0.6	0.6	3.3	2.0	2.0	2.2	2.4	2.1
	Hong Kong	0.5	1.0	0.9	1.3	0.8	0.6	3.1	5.1	4.3	4.9	3.2	2.2
	Korea	1.0	1.0	1.1	1.1	0.6	1.0	5.6	4.9	5.3	4.2	2.4	3.6
	Singapore	0.3	0.4	0.5	0.5	0.3	0.4	1.9	2.0	2.2	2.0	1.3	1.3
	China	0.6	0.7	0.7	0.6	0.7	0.6	3.3	3.6	3.1	2.5	2.5	2.1
	Other Asia	0.8	1.2	1.2	1.5	0.7	0.6	4.6	6.1	5.6	5.6	2.8	2.1
	South & Central America	0.4	0.4	0.4	0.5	0.7	0.9	2.2	2.1	1.8	2.1	2.5	3.1
	Rest of World	3.1	3.9	3.8	5.4	5.3	5.1	17.9	19.1	17.6	20.8	20.3	18.5
Imports	US from World	32.5	34.4	34.2	36.7	42.5	51.0	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.6	2.0	2.7	3.1	3.5	5.2	5.0	5.8	8.0	8.4	8.1	10.1
	Mexico	5.5	6.4	7.4	8.2	10.9	12.0	16.9	18.5	21.6	22.3	25.6	23.6
	EU15	1.1	1.4	1.4	1.7	1.8	2.6	3.4	4.1	4.2	4.6	4.3	5.1
	Germany	0.2	0.2	0.2	0.3	0.3	0.4	0.6	0.6	0.6	0.7	0.7	0.8
	France	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.4	0.3	0.4	0.5	0.6
	Italy	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
	United Kingdom	0.4	0.5	0.4	0.5	0.5	0.6	1.1	1.3	1.3	1.4	1.2	1.3
	Ireland	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2
	Other Europe	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.3	0.2	0.3
	Japan	9.2	8.8	7.4	7.4	8.2	9.9	28.3	25.5	21.8	20.0	19.3	19.4
	Taiwan	1.2	1.2	1.4	1.6	1.9	2.2	3.7	3.5	4.1	4.4	4.6	4.4
	Hong Kong	0.3	0.3	0.2	0.2	0.2	0.2	0.9	0.9	0.7	0.6	0.6	0.3
	Korea	2.0	1.8	1.2	1.1	1.6	2.9	6.0	5.3	3.4	3.0	3.8	5.7
	Singapore	1.1	1.0	0.7	0.6	0.5	0.6	3.4	2.9	2.1	1.5	1.1	1.2
	China	3.8	4.3	4.6	5.2	6.5	7.5	11.7	12.5	13.3	14.2	15.4	14.7
	Other Asia	6.1	6.6	6.4	6.5	6.0	6.5	18.8	19.3	18.7	17.7	14.2	12.7
	South & Central America	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.4	0.4	0.1
	Rest of World	0.5	0.5	0.6	1.0	1.0	1.1	1.5	1.6	1.8	2.6	2.3	2.2
Balance	US with World	-15.3	-14.1	-12.8	-10.6	-16.5	-23.2						
	Canada	1.0	1.1	1.0	1.3	1.2	0.0						
	Mexico	-3.3	-4.7	-5.3	-5.2	-7.5	-8.0						
	EU15	1.9	2.4	2.2	2.5	3.0	3.1						
	Germany	0.3	0.4	0.3	0.4	0.4	0.5						
	France	0.2	0.2	0.3	0.4	0.3	0.3						
	Italy	0.2	0.3	0.2	0.2	0.2	0.2						
	United Kingdom	0.6	0.8	0.7	0.8	1.0	0.8						
	Ireland	0.0	0.0	0.0	0.1	0.2	0.3						
	Other Europe	0.6	0.5	0.5	0.5	0.6	0.5						
	Japan	-7.7	-6.7	-5.1	-4.9	-5.5	-7.4						
	Taiwan	-0.7	-0.8	-1.0	-1.0	-1.3	-1.7						
	Hong Kong	0.3	0.7	0.7	1.0	0.6	0.4						
	Korea	-1.0	-0.8	0.0	0.0	-1.0	-1.9						
	Singapore	-0.8	-0.6	-0.2	0.0	-0.1	-0.2						
	China	-3.2	-3.6	-3.9	-4.6	-5.9	-6.9						
	Other Asia	-5.3	-5.4	-5.2	-5.0	-5.3	-5.9						
	South & Central America	0.3	0.4	0.3	0.4	0.5	0.8						
	Rest of World	2.6	3.4	3.2	4.5	4.3	4.0						

Source: US Dept of Commerce

Table 5.76.3 Television Receivers (SITC 761) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.9	0.9	0.9	1.3	1.4	1.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.2	0.3	0.3	0.5	0.6	0.5	27.2	34.5	34.3	37.6	41.0	44.9
	Mexico	0.2	0.1	0.1	0.2	0.2	0.3	18.9	6.2	10.3	13.9	18.3	26.7
	EU15	0.0	0.0	0.1	0.1	0.2	0.1	3.7	3.7	6.3	8.7	13.0	6.0
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.9	1.2	1.3	1.2
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	1.0	1.0	1.6
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.5	0.3	0.2
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.2	2.6	2.4	1.6	1.3
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.1	0.8	0.5	0.3	0.3
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.7	4.0	3.0	1.2	1.3
	Taiwan	0.1	0.1	0.1	0.1	0.0	0.0	16.8	13.5	6.1	4.3	1.5	1.2
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.8	1.0	1.1	1.1	0.6
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.2	3.6	2.7	0.8	1.7
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.7	1.2	0.4	0.3	0.4
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.4	0.3
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.4	0.9	0.6	1.0	0.8
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	10.2	13.0	9.2	8.7	7.6	7.2
	Rest of World	0.1	0.2	0.2	0.2	0.2	0.1	15.4	18.8	22.1	18.1	13.4	8.5
Imports	US from World	3.6	3.8	4.0	4.4	6.2	6.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.0	0.0	0.0	0.0	1.4	1.7	0.7	0.1	0.0	0.1
	Mexico	2.3	2.5	2.7	3.1	4.7	4.3	63.1	65.9	68.8	69.7	75.3	68.9
	EU15	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.6	0.7	0.6	0.6
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.1
	Japan	0.3	0.3	0.3	0.3	0.3	0.3	7.9	8.0	7.4	5.7	4.1	5.4
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.3	0.2	0.4	0.4	0.8
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
	Korea	0.1	0.1	0.1	0.1	0.1	0.2	1.7	1.6	1.6	1.8	1.7	2.6
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.5	0.2	0.1	0.1	0.1
	China	0.1	0.1	0.1	0.1	0.1	0.1	3.2	2.8	1.6	1.2	1.2	2.0
	Other Asia	0.7	0.7	0.7	0.9	1.0	1.2	19.9	18.0	18.5	20.0	16.5	19.1
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
	Rest of World	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1
Balance	US with World	-2.7	-2.9	-3.1	-3.1	-4.9	-5.0						
	Canada	0.2	0.2	0.3	0.5	0.6	0.5						
	Mexico	-2.1	-2.4	-2.7	-2.9	-4.4	-3.9						
	EU15	0.0	0.0	0.0	0.1	0.1	0.0						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0						
	Japan	-0.3	-0.3	-0.3	-0.2	-0.2	-0.3						
	Taiwan	0.1	0.1	0.0	0.0	0.0	0.0						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	-0.1	0.0	0.0	0.0	-0.1	-0.1						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.1	-0.1	-0.1	0.0	-0.1	-0.1						
	Other Asia	-0.7	-0.7	-0.7	-0.9	-1.0	-1.2						
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1						
	Rest of World	0.1	0.2	0.2	0.2	0.2	0.1						

Source: US Dept of Commerce

Table 5.76.4 Radiobroadcast Receivers (SITC 762) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.6	0.8	0.8	0.9	0.8	0.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.3	0.4	0.4	0.4	0.4	0.5	51.5	57.0	50.0	41.8	50.4	56.2
	Mexico	0.1	0.1	0.2	0.3	0.2	0.2	17.9	13.4	21.8	29.9	24.7	24.9
	EU15	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.8	2.2	3.1	3.9	3.6
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.5	0.6	0.7	1.7
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.1	0.3
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.3	0.4
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.7	0.4
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.1
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.8	0.4	0.4	0.3
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	5.6	3.7	5.1	5.3	3.3	2.5
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.2	0.1	0.1
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	2.6	4.0	2.7	1.6	1.8	1.2
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.8	0.4	0.2	0.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	1.0	0.7	0.6	0.7
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	1.6	0.9	0.7	1.0
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.6	0.6	0.7	0.3	0.3
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	3.3	3.2	2.9	2.7	2.8	2.2
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	13.1	13.0	10.2	12.2	10.9	6.8
Imports	US from World	5.9	6.0	5.3	5.8	6.2	6.3	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
	Mexico	0.9	1.1	1.1	1.3	1.3	1.6	15.5	17.8	20.9	22.4	21.8	24.8
	EU15	0.0	0.1	0.0	0.0	0.0	0.0	0.5	0.8	0.7	0.7	0.5	0.8
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.3
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.4	0.0	0.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
	Japan	1.0	0.8	0.4	0.4	0.5	0.5	16.1	13.2	8.1	6.8	8.4	8.6
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	2.4	2.1	1.5	1.2	1.1	0.9
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.9	0.7	0.3	0.4
	Korea	0.4	0.3	0.2	0.1	0.1	0.1	6.8	4.5	2.8	2.5	1.9	1.3
	Singapore	0.4	0.3	0.2	0.2	0.2	0.2	6.9	4.8	4.6	3.2	2.8	2.6
	China	1.4	1.5	1.6	1.9	2.3	2.2	23.2	24.3	29.4	33.8	37.6	34.8
	Other Asia	1.6	1.9	1.6	1.3	1.3	1.4	26.8	30.9	29.2	23.1	21.4	22.1
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1
	Rest of World	0.1	0.0	0.1	0.3	0.2	0.2	0.9	0.7	1.7	5.2	3.9	3.5
Balance	US with World	-5.3	-5.2	-4.5	-4.9	-5.4	-5.4						
	Canada	0.3	0.4	0.4	0.4	0.4	0.5						
	Mexico	-0.8	-1.0	-0.9	-1.0	-1.2	-1.3						
	EU15	0.0	0.0	0.0	0.0	0.0	0.0						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0						
	Japan	-0.9	-0.8	-0.4	-0.3	-0.5	-0.5						
	Taiwan	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	-0.4	-0.3	-0.1	-0.1	-0.1	-0.1						
	Singapore	-0.4	-0.3	-0.2	-0.2	-0.2	-0.2						
	China	-1.4	-1.5	-1.6	-1.9	-2.3	-2.2						
	Other Asia	-1.6	-1.8	-1.6	-1.3	-1.3	-1.4						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	0.0	0.1	0.0	-0.2	-0.2	-0.2						

Source: US Dept of Commerce

Table 5.76.5 Sound Recorders and TV Recorders (SITC 763) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.8	0.9	1.0	1.2	1.1	1.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.2	0.2	0.2	0.2	18.4	15.0	16.2	15.9	14.0	16.4
	Mexico	0.1	0.1	0.2	0.3	0.3	0.5	15.9	10.6	18.6	27.6	27.0	38.2
	EU15	0.1	0.1	0.1	0.1	0.2	0.2	15.5	15.0	15.4	12.3	15.6	16.2
	Germany	0.0	0.0	0.0	0.0	0.0	0.1	2.8	2.7	2.5	3.0	2.9	4.1
	France	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.4	1.6	1.3	1.5	2.0
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.9	0.9	0.4	0.5	0.6
	United Kingdom	0.0	0.0	0.0	0.0	0.1	0.0	4.9	4.3	3.7	3.3	6.2	4.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.4	0.2	0.2	0.6
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.5	1.2	1.1	1.3	0.8
	Japan	0.1	0.1	0.1	0.1	0.1	0.1	6.8	5.8	6.3	6.4	7.8	5.1
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.1	0.9	1.2	0.9	0.8
	Hong Kong	0.0	0.0	0.0	0.1	0.0	0.0	3.2	5.4	4.5	4.9	4.2	3.0
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.9	1.1	1.2	0.7	1.0
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.4	1.6	1.2	0.8	0.9
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	1.2	0.3	1.3	1.0
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.8	2.1	2.6	0.8	0.9
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1	3.9	3.5	2.9	2.9	3.8	4.1
	Rest of World	0.2	0.3	0.3	0.3	0.2	0.1	26.4	36.4	27.9	22.4	21.8	11.6
Imports	US from World	6.2	6.3	7.3	7.5	7.9	9.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.4	0.3	0.3	0.3
	Mexico	0.3	0.2	0.4	0.5	0.6	0.6	4.4	3.5	5.1	7.0	7.8	5.9
	EU15	0.1	0.1	0.1	0.1	0.1	0.1	1.6	1.2	1.1	1.1	1.3	1.4
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3	0.3	0.2
	France	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.4	0.5	0.4	0.6
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.5
	Japan	2.2	2.1	3.4	3.5	3.8	4.5	35.7	32.6	46.7	46.3	48.5	47.8
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.2	1.1	1.3	1.0	1.4	1.2	2.4
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	0.6	0.4	0.6	0.2
	Korea	0.7	0.6	0.4	0.2	0.3	0.5	10.6	10.2	5.4	2.9	3.2	5.2
	Singapore	0.2	0.3	0.2	0.1	0.1	0.1	3.8	4.0	2.7	2.0	1.0	0.8
	China	0.7	0.9	1.0	1.0	1.3	1.8	10.8	14.5	13.2	13.6	16.7	18.7
	Other Asia	1.9	2.0	1.7	1.9	1.5	1.6	30.5	31.4	23.5	24.9	19.2	16.8
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0
Balance	US with World	-5.5	-5.4	-6.3	-6.3	-6.8	-8.2						
	Canada	0.1	0.1	0.1	0.2	0.1	0.2						
	Mexico	-0.2	-0.1	-0.2	-0.2	-0.3	-0.1						
	EU15	0.0	0.1	0.1	0.1	0.1	0.1						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0						
	Japan	-2.2	-2.0	-3.4	-3.4	-3.7	-4.4						
	Taiwan	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	-0.6	-0.6	-0.4	-0.2	-0.2	-0.5						
	Singapore	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1						
	China	-0.7	-0.9	-1.0	-1.0	-1.3	-1.7						
	Other Asia	-1.9	-2.0	-1.7	-1.8	-1.5	-1.6						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	0.2	0.3	0.3	0.3	0.2	0.1						

Source: US Dept of Commerce

Table 5.76.6 Telecommunications Equipment (SITC 764) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	14.8	17.8	18.7	22.7	22.7	24.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.9	2.3	2.9	3.3	3.5	3.9	12.8	12.8	15.6	14.6	15.5	16.1
	Mexico	1.7	1.4	1.6	2.2	2.6	3.0	11.7	8.0	8.8	9.5	11.5	12.3
	EU15	2.8	3.6	3.4	3.9	4.5	5.4	19.1	20.2	18.2	17.2	19.7	22.0
	Germany	0.5	0.6	0.5	0.6	0.7	0.8	3.1	3.2	2.7	2.7	3.0	3.5
	France	0.3	0.3	0.4	0.6	0.5	0.5	1.8	1.7	2.0	2.5	2.2	2.2
	Italy	0.2	0.3	0.2	0.3	0.2	0.3	1.2	1.6	1.1	1.2	1.0	1.3
	United Kingdom	1.0	1.2	1.1	1.3	1.4	1.4	6.4	6.5	6.0	5.7	6.1	5.6
	Ireland	0.1	0.1	0.1	0.1	0.2	0.4	0.4	0.5	0.4	0.6	1.0	1.6
	Other Europe	0.6	0.5	0.5	0.6	0.7	0.6	4.3	2.9	2.8	2.7	2.9	2.6
	Japan	1.4	2.0	2.2	2.3	2.6	2.4	9.6	11.0	11.9	10.0	11.3	9.9
	Taiwan	0.4	0.3	0.4	0.5	0.6	0.6	2.7	1.6	1.9	2.2	2.6	2.3
	Hong Kong	0.5	0.9	0.9	1.2	0.8	0.6	3.2	5.3	4.5	5.2	3.4	2.3
	Korea	0.9	1.0	1.1	1.0	0.6	1.0	6.3	5.3	5.8	4.5	2.7	3.9
	Singapore	0.3	0.4	0.4	0.5	0.3	0.3	1.9	2.1	2.3	2.2	1.4	1.4
	China	0.6	0.7	0.6	0.6	0.6	0.5	3.8	4.0	3.4	2.8	2.8	2.2
	Other Asia	0.8	1.2	1.2	1.4	0.7	0.6	5.2	6.7	6.3	6.2	3.1	2.3
	South & Central America	0.2	0.3	0.3	0.4	0.5	0.7	1.6	1.5	1.3	1.6	2.2	2.9
	Rest of World	2.6	3.3	3.2	4.8	4.7	4.8	17.8	18.6	17.2	21.2	20.9	19.7
Imports	US from World	16.7	18.3	17.5	19.1	22.1	29.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.6	1.9	2.7	3.1	3.4	5.1	9.3	10.5	15.3	16.0	15.5	17.6
	Mexico	2.0	2.6	3.1	3.3	4.2	5.7	12.1	14.1	17.9	17.3	19.1	19.5
	EU15	1.0	1.2	1.3	1.5	1.7	2.4	5.8	6.8	7.3	8.0	7.6	8.1
	Germany	0.2	0.2	0.2	0.2	0.3	0.3	1.1	1.0	1.0	1.2	1.2	1.2
	France	0.1	0.1	0.1	0.1	0.2	0.3	0.5	0.6	0.6	0.7	0.9	1.1
	Italy	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.3
	United Kingdom	0.3	0.4	0.4	0.5	0.5	0.6	2.0	2.1	2.2	2.4	2.2	2.0
	Ireland	0.0	0.1	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.4	0.3
	Other Europe	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.4	0.4
	Japan	5.7	5.6	3.3	3.2	3.6	4.5	34.2	30.7	18.8	17.0	16.1	15.6
	Taiwan	1.0	1.0	1.2	1.4	1.7	1.9	5.8	5.4	7.0	7.4	7.9	6.6
	Hong Kong	0.2	0.2	0.1	0.2	0.2	0.1	1.3	1.2	0.8	0.8	0.8	0.4
	Korea	0.8	0.9	0.5	0.6	1.2	2.2	5.0	4.7	3.1	3.4	5.2	7.5
	Singapore	0.4	0.4	0.3	0.2	0.2	0.4	2.5	2.3	1.5	1.1	0.9	1.2
	China	1.6	1.8	2.0	2.2	2.8	3.4	9.8	10.0	11.1	11.6	12.8	11.8
	Other Asia	1.9	2.1	2.4	2.4	2.2	2.3	11.5	11.5	13.5	12.7	9.8	7.9
	South & Central America	0.0	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.3	0.8	0.7	0.1
	Rest of World	0.4	0.5	0.5	0.6	0.7	0.9	2.6	2.6	2.9	3.4	3.2	3.1
Balance	US with World	-1.9	-0.4	1.2	3.6	0.5	-4.7						
	Canada	0.3	0.4	0.2	0.3	0.1	-1.2						
	Mexico	-0.3	-1.2	-1.5	-1.1	-1.6	-2.7						
	EU15	1.9	2.4	2.1	2.4	2.8	3.0						
	Germany	0.3	0.4	0.3	0.4	0.4	0.5						
	France	0.2	0.2	0.3	0.4	0.3	0.2						
	Italy	0.2	0.3	0.2	0.2	0.2	0.2						
	United Kingdom	0.6	0.8	0.7	0.8	0.9	0.8						
	Ireland	0.0	0.0	0.0	0.1	0.2	0.3						
	Other Europe	0.6	0.5	0.4	0.5	0.6	0.5						
	Japan	-4.3	-3.6	-1.1	-1.0	-1.0	-2.1						
	Taiwan	-0.6	-0.7	-0.9	-0.9	-1.2	-1.3						
	Hong Kong	0.3	0.7	0.7	1.0	0.6	0.4						
	Korea	0.1	0.1	0.5	0.4	-0.6	-1.2						
	Singapore	-0.1	0.0	0.2	0.3	0.1	0.0						
	China	-1.1	-1.1	-1.3	-1.6	-2.2	-2.9						
	Other Asia	-1.1	-0.9	-1.2	-1.0	-1.5	-1.7						
	South & Central America	0.2	0.3	0.2	0.2	0.3	0.7						
	Rest of World	2.2	2.8	2.7	4.2	4.0	3.9						

Source: US Dept of Commerce

Electrical Machinery and Parts (SITC 77)

This category contains a mix of heavy electrical equipment, electromedical equipment, home appliances, electronic parts, and electrical goods not elsewhere specified. It is one of the larger dollar volume 2-digit categories, accounting for 14.5 percent of 1999 US manufactured goods exports, 10.0 percent of imports.

The US trade balance in this category since 1987 has ranged from an $8.1 billion deficit in 1988 to a $0.1 billion surplus in 1999, with the improvement primarily the result of gains in one subcategory of the product group, SITC 776, which includes semiconductors and microcircuits.

Description of the Product Group

Electrical machinery and parts (SITC 77) consists of these three-digit SITC categories:

771 Electric Power Machinery (Other Than The Rotating Electric Plant Of Heading 716) And Parts Thereof, Not Elsewhere Specified

772 Electrical Apparatus For Making And Breaking Electrical Circuits, For The Protection Of Electrical Circuits, Or For Making Connections To Or In Electrical Circuits, Resistors, Printed Circuits, Switchboards Other Than Telephone Switchboards, And Control Panels, Not Elsewhere Specified

773 Equipment For Distributing Electricity

774 Electrical Apparatus For Medical Purposes And Radiological Apparatus

775 Household Types Of Electrical And Nonelectrical Equipment, Not Elsewhere Specified

776 Thermionic, Cold Cathode And Photocathode Valves And Tubes, Including TV Picture Tubes, Diodes, Transistors, And Similar Semiconductor Devices, And Electronic Microcircuits

778 Electrical Machinery And Apparatus, Not Elsewhere Specified, Including Batteries, Lamps, Hand Tools With Electric Motors And Capacitors

Many electrical machinery products are not classified within this product group. Electric power generating equipment and electric motors are recorded under SITC 716; office machines and computers in SITC 75, and telecommunications and sound reproducing equipment in SITC 76. Moreover, SITC 776, reviewed in this section, does not include all electronic parts; for instance some computer parts are classified under SITC 759.

Role in US Trade

Electrical machinery and parts is a major factor in US trade -- one-seventh of 1999 US manufactures exports, one-tenth of imports. It was one of the few 2-digit product groups registering an improvement over the 1994-99 period, moving from a $4.8 billion 1994 deficit to a $0.1 billion surplus in 1999 **(Table 5.77.1).** This movement to a surplus for the electrical machinery category, however, was due to an $11.7 billion gain in the “thermionic, cold cathode and photocathode valves” (SITC 776) balance, which more than offset declines in four of the other six 3-digit electrical machinery subcategories. In fact, rapid growth in SITC 776 trade has moved it to dominance in this product group, comprising in 1999 some 55.7 percent of US electrical machinery (SITC 77) exports, 43.6 percent of imports. SITC 776 exports in 1999 were $49.4 billion, up from only $25.5 billion in 1994, a 93.7 percent increase. Imports increased from $27.3 billion to 38.6 billion, only a 41.4 percent increase.

Unfortunately for the overall US trade balance, much of the increases in exports in the SITC 776 category are parts -- including large quantities of semi-conductors -- that subsequently return to the United States in larger components or in completed electronic and other consumer goods. A look at the key products in 1999 electrical machinery trade -- those included in the top 100 exports and imports at the 5-digit SITC level -- illustrates the variety of products in this group but also shows the major role of semi-conductors (digital and non-digital monolithic integrated units). These data may provide some insights about the potential contributions of this product group to improved US trade balances.

(Billions of Dollars)

	Exports	Imports
SITC 771 electric power machinery, apparatus and appliances		
static converters (rectifiers)	n.a.	4.16
SITC 772 electrical apparatus for switching or protecting		
Printed circuits	2.39	2.24
Boards, panels	0.99	2.05
Electrical plugs and sockets	1.20	1.56
Parts of electrical apparatus	1.71	n.a.
Electrical apparatus for switches	1.67	n.a.
SITC 773 Equipment for distributing electricity		
Ignition wiring automobile sets	n.a.	4.87
Electrical conductors	1.02	1.61
SITC 774 Electro diagnostic apparatus		
Electro diagnostic equipment not elsewhere specified	2.43	n.a.
SITC 775 Household type electric & nonelectric equipment		
Electric ovens	n.a.	1.50
SITC 776 Thermionic, cold cathode and photocathode valves		
Digital, monolithic integrated units	25.48	26.58
Non-digital, monolithic, integrated units	5.26	5.50
TV picture tubes	1.55	n.a.
Parts of electrical integrated circuits	1.35	n.a.
SITC 778 Electrical machinery and apparatus		
Electric accumulators (storage batteries)	n.a.	1.80
Electric sound or visual signaling apparatus	n.a.	1.67
Electrical Machines & Apparatus having individual functions	n.a.	1.61

SITC 776 exports include $1.55 billion of color TV picture tubes. Particularly striking, however, are the large amounts and the rapid growth in semi-conductor trade. Just two items, digital and non-digital monolithic integrated units (SITC 77641 and 77643) together totaled $30.74 billion; 34.7 percent of 1999 electric machinery and parts (SITC 77) exports. Imports of these two items totaled $32.08 billion, 36.2 percent of the SITC 77 total. Even more striking, these two items alone made up 62.2 percent of SITC 776 exports, 83.1 percent of imports.

Digital monolithic integrated unit (SITC 77641) exports grew from $12.5 billion in 1994 to $25.5 billion in 1999. Over the same period imports grew from $20.0 billion to $26.6 billion. Even though the US was in deficit in this particular product in 1999 by some $1.1 billion, this represented a marked improvement over the $5.4 billion deficit of 1994, an improvement that reflects the strengthened position of US semiconductor production compared to earlier years, particularly the 1980s.

Other subcategories of SITC 77 trade are generally much smaller and less dynamic than SITC 776. Exports and imports of electric power machinery and parts (SITC 771) are quite small -- $3.3 billion and $7.0 billion in 1999 -- but have resulted in consistent deficits that have gradually increased to $3.7 billion in 1999.

Trade in apparatus for switching or protecting (SIC 772) is somewhat larger, with both exports and imports topping $12 billion in 1999. Imbalances, however, have been small, ranging from a $1.1 billion deficit in 1994 to an $0.3 billion surplus in 1999.

Equipment for distributing electricity (SITC 773) is also a relatively small trade subcategory but stagnant export growth has resulted in an expansion of the deficit from $1.1 billion in 1994 to $2.9 billion in 1999.

Electro-diagnosis apparatus (SITC 774) trade is still smaller, with US exports reaching $4.3 billion in 1999. US producers are very competitive in medical instrumentation and this category has produced consistent small surpluses, $1.5 billion in 1999.

Imports of household type electric and nonelectric equipment, including micro-wave ovens, reached $5.5 billion in 1999, leaving a $2.9 billion deficit.

Electrical machinery and apparatus trade, which includes power driven hand tools, also has produced consistent deficits, rising to $2.9 billion in 1999.

The geographic composition of SITC 77 trade is summarized in **Table 5.77.2.** As in many other product groups, exports to Mexico have been rapidly rising in dollar value and share of total, reflecting the fact that many of the exports are parts and components that will return to the United States in finished goods. Mexico's share of SITC 77 US exports increased from 14.1 percent in 1994 to 19.0 percent in 1999. In dollar value terms exports to Mexico more than doubled, rising from $7.5 billion to $16.9 billion in the five years. Canada is also an important export destination, 17.3 percent of the 1999 total. Japan and other Asian countries together took 41.8 percent of 1999 exports and provided 61.3 percent of US imports. Noteworthy is the decline of Japan's share from 26.9 percent of 1994 imports to 16.9 percent in 1999.

More important, however, for understanding the effects of trade in this product group on overall US trade balances is the geographic composition of the most dynamic portion of the trade -- SITC 776, which includes semiconductors -- shown in **Table 5.77.3.** Almost one-fourth -- 24.6 percent -- of 1999 US exports went to Canada and Mexico, with Mexico's share going from 7.2 percent in 1993 to 13.0 percent in 1999. But the majority of these exports, 60.5 percent, went to Japan and other Asian countries that export large quantities of electronic goods to the United States. Asian suppliers were even more dominant in US imports, providing 83.2 percent on the 1999 total.

According to **US Industry and Trade Outlook 2000 (p. 16-11)** the top 5 markets and suppliers in 1998 for semiconductors, the dominant item in SITC 776 trade, were:

	$ Bn	Percent Share
US Exports		
Malaysia	3.61	12
Philippines	3.28	11
South Korea	3.20	11
Canada	2.64	9
Singapore	2.46	8

	$ Bn	Percent Share
US Imports		
Japan	5.89	18
South Korea	5.22	16
Malaysia	4.29	13
Philippines	3.88	12
Taiwan	3.00	8

Growing exports of US semiconductors and other microelectronic items in SITC 776 and the resulting surplus are encouraging and signal the recent strengthened competitive position of US production. This is obviously preferable to the weaker US competitive position and the deficits of earlier years in this product category. Nevertheless, the overall effects of growing surpluses in this product group on the US trade balance are uncertain because many of these items are further processed and returned to the United States in imports of higher valued products. For example, *"The majority of US semiconductor exports to Malaysia and the Philippines consist of unfinished parts that receive further processing (mostly assembly and packaging) and are re-exported to the United States and other countries."* ***US Industry and Trade Outlook, 2000, p. 16-11.*** Thus, increased surpluses in this product group may be concurrent with -- and offset by -- even larger imports of the items in which they are utilized.

Outlook

Performance in the electrical machinery product group will be very much dependent on outcomes in the SITC 776 "thermionic, cold cathode and photocathode valves" subcategory, which perhaps might better be termed "electronic parts," since it contains computer memory chips as well as TV picture tubes and a variety of other electronic components. The trade balance outcome in this category, however, will likely be increasingly dominated by semi-conductors.

There is little doubt that the role of semi-conductors in manufactured products and world trade will continue to grow. *"Semiconductors are used in most electronic products and systems, including computers and other data processing equipment, consumer electronics, industrial machinery; tele-communications equipment, automobiles, aircraft, and other transportation systems; medical equipment and analytical instruments, and military electronic systems. According to the World Semiconductor Trade Statistics (WSTS) organization, the computer industry was the largest end user of semiconductors in 1998, when it accounted for 50.4 percent of worldwide sales. Communications products represented 18.8 percent of global semiconductor demand in 1998. The consumer electronic product sector was the third-ranking end use in 1998, taking 14.9 percent of semiconductor sales worldwide. The industrial equipment sector accounted for roughly 89.9 percent of sales in 1998, followed by the automobile industry, with almost 3.8 percent of the market. Semiconductor sales to the military market, which declined during the 1990s, represented only 1.1 percent of worldwide demand in 1998, according to WSTS."* ***US Industry and Trade Outlook 2000, p.16-9.***

Given its growing importance the competition for semiconductor production sites and export markets will continue to intensify. "*Semiconductor manufacturing is a capital and research intensive endeavor. The increasing cost of semiconductor manufacturing plants -- a state-of-the-art semiconductor wafer fabrication facility cost an average of about $1.5 billion in 1999 -- has led to growing numbers of mergers, coproduction agreements and contract manufacturing in the US industry and worldwide."* ***US Industry and Trade Outlook 2000, p. 16-10.*** This competition will heighten the importance of lowest cost production -- including costs of transporting the product to users -- in selecting plant sites and will likely lead to further global diversification of production locations.

The variety of products in the SITC 77 category and the growing role of semiconductors in US and world trade makes any group forecast tenuous. Projected increases in foreign growth rates relative to US rates and/or a limited decline in the dollar exchange rate would clearly have some effects on the US trade balance but they would likely be modest for several reasons. First, some of the world markets in which US producers are strong (e.g., SITC 774, electro-diagnostic equipment) are quite small and the potential for export expansion is, accordingly, modest.

Second, strong US exports of some products (e.g., SITC 776, including semiconductors) will likely be increasingly challenged by foreign production as these items become more and more important in world trade and even more important in the production of manufactured goods. Similar intensification of competition and global dispersion of production sites in other SITC product groups can be anticipated.

Third, absent dramatic declines in US growth rates and/or dollar exchange rates the strong foreign position in the US market for household type electrical and non-electric equipment and the modest US exports of these items are unlikely to change significantly.

Fourth, a large portion of US exports in this SITC 77 product group are items destined to be included in products made for the US market. These exports are thus more a function of US economic growth than foreign growth rates or the dollar exchange rate.

Finally, the majority of both export and import trade is with Canada, Mexico, and Asian countries with whom very large exchange rate movements would be required to motivate production location changes that would favor US-based production.

Conclusions

- Electrical machinery and parts (SITC 77) is a major component of US trade, one-seventh of 1999 US manufactures exports, one-tenth of imports.
- Modest trade deficits have been the norm but balances have improved in recent years from an $8.5 billion deficit in 1987 to $5.4 billion in 1990, $4.8 billion in 1994, and a $0.1 billion surplus in 1999.
- The gains, however, have been largely due to a rapid increase in exports of electronic parts, SITC 776, particularly semiconductors, and improved competitiveness of US semiconductor manufacturing, leading to a $10.8 billion 1999 surplus in the SITC 776 group.
- These gains in SITC 776 balances are encouraging but may be at the expense of enlarged deficits in other product groups because much of the exports are parts to be included in products made for, and exported to, the United States.
- The use of US-made semiconductors in foreign produced goods destined for US markets clearly benefits the US trade balance compared to the use of foreign-made semiconductors in production for the US market. However, alone they may not contribute to overall declines in the US trade deficits. Moreover, the fast growing importance of semiconductors in manufactured goods and in world trade signals intensifying competition among countries for production sites and world market shares. The US competitive position in SITC 776 is therefore tenuous, subject to rapid change, and unlikely to be a long-term source of large surpluses.
- US trade competitiveness and trade performance in electro-diagnosis equipment has been strong, yielding small surpluses ($1.5 billion in 1999) but the world market for these items is relatively small, precluding large gains in this product group.

- The trade in SITC 77 products is largely -- 78.1 percent of exports, 85.2 percent of imports -- with Mexico, Canada and Asian countries that re-export to the United States. Modest changes in relative economic growth rates and exchange rates vis-à-vis other developed countries are thus unlikely to have a significant effect on the SITC 77 balance.
- Trade performance in this product group is increasingly dominated by SITC 776, which accounted for 5.7 percent SITC 77 exports in 1999, 43.6 percent of imports. This means the trade balance outcome depends very much on semiconductor trade results.
- Although outcomes are highly uncertain, assuming a continued strong competitive position in US-based semiconductor production, modest US gains in SITC 77 may continue in the near term but are unlikely to be substantial.
- Moreover, gains based on increased exports of semiconductors and other electrical parts destined for inclusion in other manufactured products made for the US market would likely be more than offset by increases in the US trade deficit in those products.
- In short, absent a dramatic decline in US economic growth rates relative to foreign growth rates and/or a similarly dramatic fall in the dollar exchange rate, electrical machinery and parts is unlikely to be a significant source of improvement in the US manufactures trade balance in the foreseeable future.

Table 5.77.1 Electrical Machinery, Apparatus & Appliances (SITC 77) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
77-- Electrical Machry, Apparatus & Appliances								
Exports	52.9	65.6	70.3	78.3	76.9	88.7	35.7	67.5%
Imports	57.7	75.2	75.5	80.3	79.4	88.6	30.9	53.6%
Balance	(4.8)	(9.5)	(5.2)	(2.0)	(2.5)	0.1	4.8	-
of which								
771-- Electric Power Machinery, And Parts								
Exports	1.9	2.2	2.5	3.3	3.1	3.3	1.5	78.0%
Imports	2.7	3.6	4.9	6.0	6.3	7.0	4.3	155.0%
Balance	(0.9)	(1.4)	(2.4)	(2.7)	(3.2)	(3.7)	(2.8)	-
772-- Electrical Apparatus For Switching Or Protecting								
Exports	7.2	8.3	9.2	10.5	10.9	12.4	5.2	71.5%
Imports	8.3	9.4	9.6	10.8	11.1	12.2	3.9	47.0%
Balance	(1.0)	(1.1)	(0.5)	(0.3)	(0.2)	0.3	1.3	-
773-- Equipment For Distributing Electricity								
Exports	3.8	4.3	4.9	5.6	5.3	5.3	1.5	38.5%
Imports	4.9	5.5	6.0	7.0	7.4	8.2	3.3	66.9%
Balance	(1.1)	(1.2)	(1.2)	(1.4)	(2.1)	(2.9)	(1.8)	-
774-- Electro-Diagnostic Apparatus								
Exports	3.0	3.3	3.8	3.9	4.1	4.3	1.4	46.9%
Imports	1.9	2.0	2.1	2.3	2.6	2.9	1.0	53.1%
Balance	1.1	1.3	1.7	1.6	1.4	1.5	0.4	-
775-- Household Type Electric & Nonelectric Equipment								
Exports	2.3	2.4	2.6	2.8	2.7	2.6	0.3	10.7%
Imports	3.5	3.7	4.0	4.4	5.0	5.5	2.1	58.6%
Balance	(1.1)	(1.3)	(1.4)	(1.7)	(2.3)	(2.9)	(1.8)	-
776-- Thermionic, Cold Cathode and Photocathode Valves								
Exports	26.5	35.7	37.5	41.2	40.2	49.4	22.9	86.6%
Imports	27.3	40.6	38.1	38.0	34.4	38.6	11.2	41.0%
Balance	(0.9)	(4.9)	(0.6)	3.2	5.7	10.8	11.7	-
778-- Electrical Machinery And Apparatus								
Exports	8.2	9.4	9.9	11.1	10.7	11.3	3.1	37.5%
Imports	9.0	10.3	10.7	11.8	12.6	14.3	5.2	57.9%
Balance	(0.8)	(0.9)	(0.8)	(0.7)	(1.9)	(2.9)	(2.1)	-

Source: US Dept of Commerce

Table 5.77.2 Electrical Machinery, Apparatus & Appliances (SITC 77) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	52.9	65.6	70.3	78.3	76.9	88.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	10.7	12.8	12.9	13.5	13.7	15.3	20.3	19.5	18.3	17.3	17.9	17.3
	Mexico	7.5	8.6	10.6	13.5	14.3	16.9	14.1	13.2	15.1	17.2	18.7	19.0
	EU15	9.4	11.4	11.3	12.6	12.4	13.0	17.7	17.4	16.0	16.0	16.1	14.7
	Germany	1.9	2.4	2.4	2.3	2.5	2.7	3.6	3.6	3.4	3.0	3.2	3.0
	France	1.1	1.3	1.2	1.4	1.6	1.6	2.0	2.0	1.7	1.8	2.1	1.9
	Italy	0.6	0.7	0.8	1.0	0.9	1.0	1.1	1.1	1.2	1.3	1.2	1.1
	United Kingdom	3.3	4.0	3.4	3.6	3.3	3.6	6.3	6.0	4.8	4.6	4.4	4.0
	Ireland	0.5	0.6	0.5	0.6	0.7	0.8	0.9	0.9	0.7	0.7	0.9	0.9
	Other Europe	0.6	0.7	0.8	0.8	0.9	0.9	1.2	1.1	1.2	1.1	1.1	1.0
	Japan	4.0	5.7	6.6	6.3	5.3	5.8	7.5	8.7	9.3	8.0	6.9	6.5
	Taiwan	2.8	3.4	3.8	4.1	3.8	4.4	5.3	5.2	5.4	5.3	5.0	4.9
	Hong Kong	2.0	2.5	2.7	2.8	2.6	3.3	3.8	3.8	3.8	3.6	3.3	3.7
	Korea	2.3	3.1	3.7	4.2	4.0	6.8	4.4	4.8	5.2	5.4	5.2	7.7
	Singapore	3.4	4.1	4.4	4.4	4.0	4.0	6.4	6.3	6.3	5.6	5.2	4.6
	China	0.3	0.4	0.6	0.7	1.0	1.4	0.6	0.7	0.8	0.9	1.3	1.6
	Other Asia	6.0	8.2	8.0	9.9	9.5	11.3	11.3	12.5	11.4	12.7	12.4	12.8
	South & Central America	0.6	0.7	0.7	0.8	1.0	1.2	1.2	1.0	1.0	1.1	1.3	1.4
	Rest of World	3.3	3.9	4.3	4.6	4.4	4.3	6.2	6.0	6.1	5.8	5.7	4.9
Imports	US from World	57.7	75.2	75.5	80.3	79.4	88.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	3.7	4.4	5.1	5.5	5.8	5.8	6.3	5.8	6.7	6.9	7.3	6.6
	Mexico	8.1	9.2	10.3	12.5	13.5	15.3	14.1	12.3	13.6	15.6	17.1	17.3
	EU15	6.9	9.4	9.3	9.3	9.8	10.3	12.0	12.5	12.3	11.6	12.3	11.6
	Germany	2.4	3.0	3.1	3.2	3.2	3.6	4.2	4.0	4.1	3.9	4.0	4.1
	France	1.0	1.5	1.6	1.4	1.7	1.4	1.7	2.0	2.1	1.8	2.1	1.6
	Italy	0.5	0.7	0.7	0.7	0.6	0.7	0.8	1.0	1.0	0.9	0.8	0.8
	United Kingdom	1.4	1.7	1.7	1.8	1.8	1.9	2.4	2.2	2.2	2.2	2.3	2.1
	Ireland	0.3	1.0	0.5	0.3	0.4	0.4	0.6	1.3	0.6	0.4	0.5	0.5
	Other Europe	0.5	0.7	0.9	0.9	1.1	1.3	0.9	0.9	1.1	1.1	1.4	1.4
	Japan	15.5	19.2	16.5	15.8	13.7	14.9	26.9	25.5	21.8	19.6	17.3	16.9
	Taiwan	3.9	5.2	5.4	5.8	5.5	6.5	6.8	6.9	7.1	7.3	7.0	7.3
	Hong Kong	1.1	1.7	1.7	1.9	1.8	1.8	2.0	2.2	2.3	2.4	2.2	2.0
	Korea	4.9	8.2	7.3	7.1	6.4	8.1	8.5	10.9	9.7	8.8	8.1	9.1
	Singapore	2.5	3.2	3.4	2.9	2.5	2.5	4.3	4.2	4.5	3.6	3.1	2.8
	China	2.3	3.1	3.9	4.9	5.8	7.1	3.9	4.1	5.2	6.1	7.3	8.0
	Other Asia	7.2	10.0	10.8	12.2	12.0	13.5	12.5	13.3	14.3	15.2	15.1	15.2
	South & Central America	0.4	0.4	0.4	0.6	0.6	0.7	0.7	0.5	0.6	0.7	0.8	0.8
	Rest of World	0.6	0.6	0.6	0.8	0.9	0.9	1.0	0.8	0.9	1.0	1.1	1.0
Balance	US with World	-4.8	-9.5	-5.2	-2.0	-2.5	0.1						
	Canada	7.1	8.4	7.8	8.0	8.0	9.5						
	Mexico	-0.6	-0.6	0.3	1.0	0.8	1.5						
	EU15	2.5	2.0	2.0	3.2	2.6	2.8						
	Germany	-0.5	-0.6	-0.7	-0.8	-0.7	-1.0						
	France	0.1	-0.2	-0.4	0.0	-0.1	0.2						
	Italy	0.1	0.0	0.1	0.3	0.3	0.3						
	United Kingdom	1.9	2.3	1.8	1.9	1.5	1.7						
	Ireland	0.2	-0.4	0.0	0.2	0.4	0.4						
	Other Europe	0.1	0.1	0.0	-0.1	-0.2	-0.4						
	Japan	-11.6	-13.5	-9.9	-9.5	-8.4	-9.2						
	Taiwan	-1.1	-1.8	-1.6	-1.7	-1.7	-2.1						
	Hong Kong	0.9	0.8	0.9	0.9	0.8	1.5						
	Korea	-2.6	-5.0	-3.6	-2.9	-2.4	-1.3						
	Singapore	0.9	0.9	1.0	1.5	1.5	1.6						
	China	-2.0	-2.7	-3.3	-4.2	-4.8	-5.7						
	Other Asia	-1.2	-1.8	-2.8	-2.3	-2.5	-2.1						
	South & Central America	0.3	0.3	0.3	0.3	0.4	0.5						
	Rest of World	2.7	3.3	3.6	3.8	3.5	3.4						

Source: US Dept of Commerce

Table 5.77.3 Thermionic, Cold Cathode and Photocathode Valves (SITC 776) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	26.5	35.7	37.5	41.2	40.2	49.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	4.0	5.6	5.3	5.2	5.3	5.7	15.3	15.6	14.1	12.7	13.1	11.6
	Mexico	1.9	2.6	3.3	4.4	4.9	6.4	7.2	7.3	8.8	10.6	12.2	13.0
	EU15	4.2	5.4	5.0	5.5	4.9	5.5	15.9	15.0	13.4	13.3	12.2	11.2
	Germany	0.7	0.9	0.8	0.8	0.9	1.0	2.5	2.4	2.2	1.8	2.1	2.0
	France	0.4	0.5	0.4	0.6	0.7	0.7	1.4	1.5	1.2	1.4	1.8	1.5
	Italy	0.2	0.3	0.4	0.5	0.4	0.5	0.9	1.0	1.1	1.2	1.1	1.0
	United Kingdom	2.0	2.5	1.9	1.8	1.5	1.7	7.6	6.9	5.0	4.4	3.7	3.5
	Ireland	0.3	0.4	0.3	0.2	0.3	0.4	1.1	1.1	0.7	0.6	0.8	0.8
	Other Europe	0.2	0.2	0.2	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.8	0.6
	Japan	2.4	3.7	4.3	4.0	3.3	3.7	9.2	10.5	11.6	9.8	8.1	7.4
	Taiwan	2.1	2.6	2.9	3.2	3.0	3.6	8.0	7.3	7.8	7.8	7.6	7.3
	Hong Kong	1.4	1.8	1.9	1.9	1.7	2.4	5.4	5.1	5.1	4.6	4.3	4.8
	Korea	1.7	2.3	2.7	3.3	3.6	6.1	6.3	6.5	7.3	8.0	8.8	12.3
	Singapore	2.6	3.3	3.5	3.4	3.1	3.1	10.0	9.1	9.5	8.3	7.8	6.3
	China	0.0	0.1	0.2	0.3	0.5	0.8	0.2	0.3	0.6	0.6	1.3	1.6
	Other Asia	5.2	7.2	6.9	8.7	8.5	10.3	19.5	20.0	18.5	21.0	21.2	20.8
	South & Central America	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.4
	Rest of World	0.6	0.9	1.1	1.0	1.0	1.3	2.4	2.6	2.9	2.4	2.4	2.6
Imports	US from World	27.3	40.6	38.1	38.0	34.4	38.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.4	1.8	2.2	2.3	2.3	2.0	5.0	4.3	5.7	6.0	6.6	5.1
	Mexico	0.8	1.0	1.0	1.2	1.2	1.4	2.9	2.4	2.7	3.2	3.4	3.5
	EU15	2.1	3.7	3.0	2.7	2.6	2.5	7.5	9.1	7.8	7.0	7.7	6.4
	Germany	0.5	0.7	0.6	0.7	0.6	0.7	1.7	1.7	1.7	1.8	1.8	1.8
	France	0.5	0.8	0.9	0.7	0.9	0.6	1.7	2.1	2.3	1.9	2.7	1.6
	Italy	0.2	0.4	0.3	0.2	0.1	0.2	0.8	1.0	0.8	0.6	0.3	0.5
	United Kingdom	0.5	0.7	0.5	0.5	0.5	0.5	1.8	1.6	1.4	1.3	1.4	1.3
	Ireland	0.2	0.9	0.3	0.2	0.2	0.2	0.8	2.1	0.8	0.5	0.5	0.5
	Other Europe	0.1	0.1	0.2	0.2	0.4	0.4	0.3	0.3	0.6	0.6	1.1	1.0
	Japan	8.4	11.4	9.3	8.3	6.3	7.0	30.7	28.1	24.4	21.8	18.4	18.2
	Taiwan	2.0	3.1	3.0	3.2	3.1	3.8	7.4	7.6	8.0	8.5	9.0	9.7
	Hong Kong	0.7	1.1	1.1	1.3	1.1	1.2	2.4	2.8	2.9	3.5	3.2	3.0
	Korea	4.0	7.1	6.2	6.0	5.3	6.7	14.6	17.5	16.4	15.8	15.3	17.3
	Singapore	2.1	2.8	2.9	2.5	2.1	2.0	7.5	6.8	7.7	6.6	6.0	5.2
	China	0.1	0.2	0.2	0.3	0.5	0.7	0.2	0.5	0.6	0.9	1.5	1.8
	Other Asia	5.7	8.2	8.8	9.8	9.4	10.8	20.8	20.2	23.0	25.8	27.4	28.0
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2
	Rest of World	0.2	0.2	0.1	0.2	0.2	0.2	0.7	0.4	0.3	0.4	0.5	0.5
Balance	US with World	-0.9	-4.9	-0.6	3.2	5.7	10.8						
	Canada	2.7	3.8	3.1	3.0	3.0	3.8						
	Mexico	1.1	1.6	2.3	3.2	3.8	5.0						
	EU15	2.1	1.7	2.0	2.8	2.3	3.0						
	Germany	0.2	0.2	0.2	0.1	0.2	0.3						
	France	-0.1	-0.3	-0.4	-0.2	-0.2	0.1						
	Italy	0.0	0.0	0.1	0.3	0.3	0.3						
	United Kingdom	1.5	1.8	1.4	1.3	1.0	1.3						
	Ireland	0.1	-0.5	0.0	0.1	0.2	0.2						
	Other Europe	0.1	0.1	0.0	0.0	-0.1	-0.1						
	Japan	-6.0	-7.7	-5.0	-4.2	-3.1	-3.3						
	Taiwan	0.1	-0.5	-0.1	0.0	-0.1	-0.2						
	Hong Kong	0.8	0.7	0.8	0.6	0.6	1.2						
	Korea	-2.3	-4.8	-3.5	-2.7	-1.7	-0.6						
	Singapore	0.6	0.5	0.6	0.9	1.1	1.1						
	China	0.0	-0.1	0.0	-0.1	0.0	0.1						
	Other Asia	-0.5	-1.0	-1.8	-1.1	-0.9	-0.5						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.1						
	Rest of World	0.4	0.8	1.0	0.8	0.8	1.1						

Source: US Dept of Commerce

Road Vehicles (SITC 78) and Internal Combustion Engines (SITC 713)

The importance of road vehicles (primarily automobiles and parts) in US trade performance is difficult to overemphasize. Road vehicles is the single largest product group in world trade and has long been the most important in US trade performance. The road vehicle deficit in 1987 was $51.4 billion, over 1.1 percent of GDP that year. A narrowing of that deficit in 1990 was a major factor in improving overall US trade performance but by 1994 the deficit had resumed growth, reaching $48.8 billion. It has continued to enlarge, reaching $89.6 billion in 1999, equivalent to about 1 percent of GDP. A further large expansion is in prospect for 2000.

Road vehicle trade performance will continue to be critical to overall US manufactures and total trade performance. In 1999 imports in this category were one-sixth (16.6 percent) of total manufactures imports and 14.3 percent of total US goods imports. Significantly reduced US trade deficits are unlikely without major reductions in road vehicles deficits. Unfortunately, however, the US road vehicle trade deficit is structural, the result of strongly imbedded consumer demand for foreign products and the location of much of US Big 3 production in Canada and Mexico. Improved performance in the foreseeable future is thus likely to be primarily a function of US domestic demand for vehicles; that is, increased total domestic auto and light truck sales will increase the US road vehicle trade deficit and only decreased total domestic sales will reduce it.

Description of the Product Group

Road vehicles as identified in SITC 78 include these three-digit SITC categories:

781 Passenger Cars
782 Motor Vehicles For The Transport Of Goods (Trucks) And Other Special Purpose Vehicles
783 Road Motor Vehicles Not Elsewhere Specified
784 Parts And Accessories Of Motor Vehicles
785 Motorcycles
786 Trailers And Semitrailers

Trade in internal combustion engines and engine parts (SITC 713) has also become more important as car and truck production continue to become more globalized. Given this growth and the linkage with road vehicle trade, engines are included in this section of the report as well as in the power generating machinery (SITC 71) section.

Role in World Trade

Global Competition Patterns

Road vehicle trade is a very important component of world trade. According to the WTO, “automotive products” (defined by the WTO as SITC 781, 782, 783, 784, and subgroups 7132 and 7783) was 13.0 percent of world manufactures trade in 1994 and 13.1 percent in 1998. For the same years it was 9.6 percent and 10.1 percent, respectively, of total world goods trade.

For many years the United States led the world in production and exports of motor vehicles. Indeed, in 1950, the United States accounted for 75.7 percent of world motor vehicle production **(Table 5.78.1).** The US share on a production unit basis then declined rapidly, to 47.9 percent in 1960 and 28.2 percent in 1970. The low point in the US production share was 1990, at 20.1 percent, but a strong US domestic

market raised the US share to 23.1 percent by 1998 and it seems likely that the US portion of total world production will remain at about that level for the foreseeable future.

By 1980 Japan had achieved 28.6 percent of world production but its share declined to 19.3 percent by 1998. European production was 40.2 percent of the world vehicle total in 1980, falling to 34.8 percent in 1998.

Production units and world production shares, however, do not necessarily correlate with trade performance. US production is not now, and has never been, geared to exporting beyond Mexico and Canada. According to Wards Motor Vehicle Facts and Figures, 1999, in 1997 the US exported 13.1 percent of its production, mostly to Canada and Mexico. This contrasts with 86.4 percent for Canada and 41.5 percent for Japan. **Table 5.78.2** provides world export totals and export shares on a unit basis. In terms of units Japan's biggest year was 1985, with exports of 6.73 million units, 37.8 percent of world exports and 54.8 percent of its total production that year. In 1997 Japan's share of world vehicle exports was 19.3 percent, representing 41.5 percent of its production units.

Canada's export market share is larger than that of the United States, 9.4 percent of world exports in 1997. It exported 86.4 percent of its total output, the great majority of it to the United States.

Germany and France still maintain important portions of world exports, although their shares have declined modestly from earlier levels.

The US share of world vehicle exports has never been large. Indeed, the 6.7 percent 1997 share is larger than in most earlier years. The most significant factor in the change of US road vehicle international competitiveness is the increase in imports of passenger cars, which have grown from 2.01 million units in 1970, to 4.50 million units in 1998, equivalent to about 37 percent of 1998 US vehicle production. Truck imports are relatively modest, at 624,000 units in 1998, equivalent to about 6.4 percent of US motor vehicle production.

WTO dollar value data for "automotive products" -- which, in addition to vehicles, include parts and accessories and engines -- provide another basis for assessing US competitiveness. Trends in US export and import shares, presented in **Table 5.78.3**, show a continuation of the US competitiveness decline. According to these data from 1980 to 1998 the US export share declined modestly from 11.9 percent to 11.6 percent. In fact, however, well over half of 1998 exports in the WTO automotive products grouping were exports of parts, mostly to Mexico and Canada, which subsequently returned to the United States, included in finished vehicles. Again, the real story of the demise of US-based production's competitiveness is told by the US import share, which increased from 19.7 percent to 24.3 percent. Together, these export and import share changes produced a 4.9 percentage point decline in the US share balance.

Today, the United States has regained its position as the world's largest road vehicle producer but is also clearly the largest importer of automotive products and only a minor exporter of assembled road vehicles. It has experienced declining competitiveness in world markets in these items. This decline is evidenced both by the negative 12.7 percent 1998 share balance and the very large automotive products trade deficits.

The data also show Germany to be the largest dollar value exporter in this product group, with a 19.0 percent 1998 share, including intra-EU exports, compared to 2nd ranking Japan's 14.8 percent share. Germany's export share also declined, from 21.0 percent to 19.0 percent, while its import share also increased over the period, from 6.0 percent to 9.0 percent. The result was a 5.0 percentage point share balance loss, indicating a relative decline in Germany's auto trade international competitiveness even

though it continues to have a positive share balance, 10.0 percentage points in 1998, and accrues major trade surpluses from its auto trade. Germany's 1998 surplus on auto trade was $51.3 billion, $12.1 billion on trade with the United States

Japan's export share has declined significantly, from 19.8 percent in 1980 to 14.8 percent in 1998, with its import share increasing only modestly, from 0.5 percent to 1.5 percent. At $69.8 billion, Japan's 1998 surplus on automotive products trade was considerably larger than Germany's. Trade with the United States provided $32 billion of Japan's auto surplus, about half of its world automotive total.

Canada's share of world automotive exports grew from 6.9 percent in 1980 to 9.5 percent in 1998, almost entirely on the basis of increased exports to the United States. Its share of world imports is also significant, 7.5 percent in 1998, reflecting in large measure imports of parts and components from the United States for Canadian-based assembly operations, with the vast majority of those vehicles exported to the United States. Canada generated a $10 billion automotive products surplus in 1998 on exports of $49.9 billion, $48.9 billion (97.9 percent) of which went to the United States. At $15.1 billion, its surplus on this trade with the United States was larger than its $13 billion 1998 global surplus on its merchandise trade.

Other noteworthy events highlighted by **Table 5.78.3** data include the rapid growth of Mexico's export share from 0.3 percent in 1990 to 4.1 percent in 1998 and Korea's export share increase over the same period from 0.1 percent to 2.2 percent.

Automotive trade is very important to several countries, comprising the following percentages of total manufactures exports: Canada, 35.4; Germany, 21.3; Japan, 21.2. **(Table 4.6).** Mexico's growth as an auto products exporter is particularly striking, rising from $4.7 billion in 1990 to $21.8 billion in 1998, 18.5 percent of its total merchandise exports in the latter year. About 88 percent of these automotive products exports go to the United States.

Globalization of World Automobile Production

As the foregoing data clearly indicate, a diversification of world motor vehicle production sites has been ongoing for several decades. World production and exports of automobiles and auto parts and assemblies have increased rapidly as increased affluence has resulted in increased auto sales around the world. To meet this expanding demand the locations of both assembly and production of components became more diversified. In addition, exports of road vehicles provided a major means of export-led growth for some developing countries. Open US markets provided the outlet for much of this production, resulting in large US auto trade deficits.

Major changes in world auto production and trade patterns will continue as the auto industry becomes increasingly globalized and more and more developing counties build their production capabilities. Globalization and increased trade have made automobile manufacturing increasingly competitive. Individual firms must now sell and produce in markets around the world to survive and prosper. *"Competition, which once came primarily from local sources, can now come from or go to virtually anywhere on the planet."* ***US Trade and Industrial Outlook 2000, p. 36-1.*** The interests and competitive needs of individual US firms and their foreign competitors transcend national boundaries.

Globalization of the automotive industry now involves much more than diversification of sales and production, however. A massive ongoing restructuring with a series of consolidations, acquisitions, divestitures and joint ventures designed to improve the competitiveness and survivability of individual firms is now in progress. According to a US Commerce Department report "*Driven by an excess of existing and expensive worldwide capacity for the production of motor vehicles (as much as 20 million*

units by some estimates -- the equivalent of 80 assembly plants overall -- nearly 50 percent of which are located in the Asia/Pacific region), and by slowing growth in the developed markets, the global auto industry has entered a period of swift and far-reaching consolidation. Left standing probably will be no more than ten producers, from a field that now numbers more than 200 major and minor firms" ***The Road Ahead for the U.S. Auto Industry, Office of Automotive Affairs, International Trade Administration, US Dept of Commerce, March 2000, p. 8****.*

Partly because of the size of the US auto market and import penetration rates that are already high, these consolidations are unlikely to have a major effect on the US trade position. *" -- the industry's restructuring is still not over. -- When the consolidation is finally done, it is unlikely that there will have been any measurable negative impact upon the U.S. economy, or upon the existing operations of U.S. vehicle producers, or upon their U.S. employees. For others, the prospects are not so sanguine. In particular, local vehicle assemblers in the emerging markets are not likely to remain economically viable, except with the protection of their host countries, and that portends clashes with other governments seeking to further expand international trade."* ***The Road Ahead, p. 9.***

One of the motivations for globalization and the movement toward consolidation into a few large companies is the goal of individual companies to produce vehicle platforms that have many interchangeable parts and components and can be marketed, with minimal modifications, in many country markets around the globe. This kind of standardization it is anticipated can reduce design and many other costs, decrease the lead time in introducing new models, and enhance global competitiveness.

Also, as part of the struggle to become more competitive, major auto producers are divesting themselves of much of the manufacturing process, pushing the design and manufacture of many parts and components to supplier companies. These supplier companies then are subject to strong pressures to reduce prices and improve quality for fear of losing the high volume requirements of the major producers who, more and more, become assemblers of vehicles as opposed to manufacturers.

These factors seem to foretell increasing competition for global road vehicle markets and sustained growth of international trade in road vehicles, parts and components. None of this, however, seems likely to contribute significantly to improved US road vehicle trade performance.

Recent US Trade Performance

Road vehicles has been the most important single product group in US manufactures trade performance for over three decades. In 1987 this trade resulted in a deficit of $51.7 billion. By 1990 the deficit had declined to $42.9 billion but then began to grow again, reaching $64.8 billion in 1998 and then increasing by $25 billion in 1999 to a deficit total of $89.6 billion **(Table 5.78.4).** First-half year data indicate that the deficit will further increase in 2000, perhaps to $100 billion or more.

The road vehicle product group includes 6 subcategories but US performance is dominated by assembled motor vehicles, mostly passenger cars (SITC 781), which accounts for two-thirds of this product group's imports and $79.8 billion of the $89.6 billion road vehicle 1999 deficit **(Table 5.78.4).** The largest portion of the overall motor vehicles (SITC 78) deficit was with Japan, $35.5 billion. The deficit with Canada and Mexico was slightly smaller, $33.5 billion. The deficit with the EU-15 was $18.3 billion **(Table 5.78.5).**

The United States imports almost one-third of its domestic consumption of road vehicles (cars, trucks, and buses). In 1998, total US production was just over 12 million units. Exports were 1.25 million units, leaving 10.76 million US-produced units for the domestic market. Imports, however, totaled 5.15

million units. On a unit basis therefore, imports supplied almost one-third (32.4 percent) of 1998 US road vehicle sales.

Parts and accessories (SITC 784) is also an important group, making up over half (51.9 percent) of US exports and 17.8 percent of 1999 imports in the SITC 78 category. The result was a $3.4 billion 1999 parts and accessories surplus **(Table 5.78.6)**. The strong export performance and the modest surplus in this sub-group, however, are not positive indicators for overall performance of the product group. The majority of parts and accessories exports, 51.6 percent, are to Mexico and Canada **(Table 5.78.6)**, for inclusion in assembled vehicles, most of which will be re-exported to the United States. For the foreseeable future, rising exports of parts to NAFTA countries are likely to be a corollary of increased finished vehicle imports and, probably, increasing deficits in the road vehicles category.

Largely reflecting the imports of parts for its US-based vehicle production, trade with Japan in parts and accessories produced a deficit of $5.1 billion, while the deficit with the EU-15 was only $.68 billion.

There is also a substantial and growing trade in internal combustion engines that has left the United States with annual engine trade deficits of around $2 billion over the 1994-99 period. The great majority -- 71.8 percent in 1999 -- of US engine exports are to Canada and Mexico and are incorporated in assembled vehicles, most of which are exported to the United States **(Table 5.78.7)**. Imports of engines, however, have been larger. More than two-fifths, 42.7 percent, of engine imports are from Mexico and Canada, but in lesser amounts than exports to them. Imports from Japan, mostly to support Japanese vehicle assembly in the United States, produced a 1999 deficit with Japan of $4.7 billion. Engine trade with the EU-15 resulted in a $1.1 billion deficit.

The Trade Outlook

In simple terms, the data indicate that the very large US road vehicle trade deficits will continue and that size of the deficits for the foreseeable future will be primarily a function of total US road vehicle unit sales and the portion of the US market captured by imports. Changes in the volume of US exports are unlikely to be an important factor in road vehicle trade performance.

Global competition for road vehicle markets is intensifying. The United States is the world's largest market with 205 million 1997 vehicle registrations, slightly more than the total for Western Europe, and just over 30 percent of the world total. The openness and huge size of the US market ensures that it will be an export target for every country's producers.

In 1999, record sales of light vehicles (passenger cars, station wagons, vans, sport utilities, pick-up trucks and "cross-over vehicles") rose by nearly 9 percent to an historical high of 16.9 million units. The results included record dollar value levels of road vehicle imports and a new high in the road vehicle trade deficit. Forecasts for 2000 vary, with some calling for sales reaching as high as 17.7 million units but with others seeing declines, perhaps to as low as 16 million units. For the long term, however, unit sales volume growth of only around one percent annually seems likely, a factor that will contribute to intensified competition by foreign producers for a larger portion of the nonetheless huge, if not fast-growing, US market.

First-half 2000 data indicate the road vehicle deficit will likely increase by about $11 billion or more to around $100 billion, an increase larger than seems attributable simply to the growth in GDP over 1999. In fact, within the US market, changes have been occurring that have important trade performance consequences. *"At the last peak in total U.S. light vehicle sales -- 1986, 16 million units -- light trucks (vans, pickups and sport utilities) supplied just 29 percent of the market. Their share has risen every year since, and in the opinion of many analysts will exceed 50 percent this year."* ***The Road Ahead, p3.***

In fact, Bureau of Economic Analysis data indicate that light trucks in 1999 actually accounted for 54 percent of total expenditures by US consumers and businesses, compared with 47 percent in 1995. In earlier years the growth of the light truck market favored US producers. This was because foreign producers were late in adjusting their designs and production to this trend in US markets. Now, however, they are racing to get into the US light truck market. The fact that this shift has now been recognized by foreign producers has trade consequences. For many years, US producers "*had been able to take comfort (and most of their profits) from their dominance of the light truck market, where they have more than held their own against Japanese and European producers for years. The Big 3 increased their share of this segment from 78.1 percent in '86 to a high of 86.2 percent in 1996. In 1998, their competitors revamped their products and began offering more attractive products. Big 3 shares stated to slip.*" ***The Road Ahead , p10.*** If this trend continues, increased invasion of the light truck market by foreign-based production could further increase the road vehicle deficit.

Another important trend is the significant increase in the sale of cars and light trucks categorized as luxury vehicles, increasing from 10 percent of total sales in 1986 to nearly 18 percent in 1999. Within the highly profitable luxury category, traditional American brands have slipped from a 65 percent share in 1996 to 52 percent in 1999 (**The Road Ahead, p.5).** Again, continuation of this move toward more upscale vehicles and an enlarged share of luxury vehicles sales to foreign-based production could tend to increase the deficit in motor vehicles.

These trends do not seem to bode well for the road vehicles trade balance. *"It appears likely that sales of imports will not trend downward again during the next several years. In part this is because many of the imports are directed to newly emerging [US] niche market segments that are too small to sustain local production; partially because many imports are greatly improved and are being offered at very competitive prices; and because there will always be significant demand in the United States for something new from somewhere else, especially in times of prosperity. Indeed, …BEA data [indicate] that what American consumers are willing to pay for imported vehicles greatly exceeds that of vehicles produced in the United States. Moreover, the gap has been widening rapidly. The average transaction for new imported cars rose steadily from $19,600 (current dollars) in 1992 to almost $30,400 in 1999. Expenditures for locally assembled cars averaged $16,400 in 1992 and reached $18,700 in 1999. Thus a gap of 20 percent in 1992 more than tripled by 1999, rising to 63 percent."* ***The Road Ahead, p. 14.***

As a result of these and other factors, the dollar value of imports will likely continue to grow, barring a significant US economic downturn. Japanese firms remain committed to localizing production and will likely continue to add to their US capacity, a factor that might be expected to reduce the auto deficit with Japan. In 1991 an improving auto trade balance with Japan based on increased Japanese nameplate production in the United States was anticipated: *"Economic and political factors will probably combine to substantially reduce the US road vehicles deficit with Japan some time by the end of the decade. This will occur primarily through the movement to the United States of production of Japanese cars and trucks for the US market and will be accompanied by an increase in the combined market share of Japan's US-based production and imports from Japan."* ***Narrowing the US Current Account Deficit, p.383.***

In fact, Japanese production in the United States and the Japanese nameplate share of the market have both grown. The auto trade deficit with Japan, however, has not declined. Instead it has risen from its $28.4 billion 1990 level to $35.5 billion in 1999. Japanese production in the United States grew steadily, from 617 thousand units in 1986 to 1.49 million in 1990 and 2.43 million in 1999. And passenger car imports from Japan have declined from the 2.5 million units peak of 1985 to only 1.3 million in 1999. But with the average price of the imported units rising, 1999 motor vehicle imports from Japan totaled $29.3 billion. Concurrent with the rising deficit from vehicle imports, Japanese production in the United

States also increased and the US Big 3 shares of the US market declined. Over the 1986 to 1999 period the US Big 3 percent share of US-based production declined from 93.5 to 79.3. In 1986, Big 3 nameplates, including units produced in Canada and Mexico, captured 73.6 of the US light vehicle market, 70.4 percent in 1991, and 68.2 percent in 1999. Japanese shares, including both imports and US-produced vehicles were: 1986, 20.6 percent, 1991, 25.8 percent; 1999, 24.0 percent. The German share increased from 3.1 percent in 1986 to 4.3 percent in 1999.

Commerce Department analysts speculate that Japanese production capacity in the United States may increase by 500,000 to 750,000 units over the next five years. But low volume, high value sport utilities and luxury passenger cars probably will be shifted to the United States only in limited instances. In addition, Japanese producers may in the next couple of years add 100,000 to 150,000 units add to existing capacity in Canada, which now is about 510,000 units.

Despite the large resulting deficits with Japan, US-Japan auto trade is not now the high profile trade issue it was during much of the 1990s. In part, this may be because there is now a great deal of Japanese production in the United States. It also may be because the US Big 3 firms have recently been enjoying profitable years and because they are increasing their own reliance on foreign markets, production, and foreign suppliers. Moreover, the Big 3 US firms have purchased interests in foreign auto firms and Chrysler has been acquired by Daimler, a German firm.

Imports from Germany, the UK, and Sweden will also likely continue to rise. If the perception of Korean quality improves, imports from Korea may also continue to rise from the 376,000 level of 1999. Indeed, early 2000 imports were running about two-thirds above those of 1999. German firms may build some capacity in the United States but Mexico is a more likely location to supply the US market. Mexico has gained a good reputation as a road vehicle production base and not only its NAFTA access to US markets but its recent free trade agreements with the EU and other trade agreements with Latin American countries afford it good access to large non-US markets and add to its lure.

The large road vehicle trade deficits with Canada and Mexico are structural, a factor unlikely to change. Large portions of the vehicle and parts production of the US Big 3 for the US market are located in Canada and Mexico. Both countries previously maintained local investment schemes that required local production as the price of admission for imports. These investment regulations were gradually eliminated by a series of trade agreements, culminating in the North American Free Trade Agreement. One result of this approach was to create a stronger auto industry to the benefit of all three countries. A second result was that the United States effectively codified motor vehicle trade deficits with both countries, making the overall US motor vehicle trade imbalances even more “structural” than they otherwise might be.

Imports from Canada and Mexico, mostly the products of the Big 3, will continue to supply a large, and perhaps growing, portion of the US sales of the Big 3. *“Over time, the former Big Three may have greater production percentage increases in Canada and Mexico than they do in the United States…The import nameplates also are expected to continue to increase production elsewhere in North America, in particular, Honda and Toyota in Canada and Nissan and Volkswagen In Mexico.”* ***US Trade and Industrial Outlook 2000, p. 36-7.*** Canadian and Mexican production for the US market are long-standing practices and imbedded in the US auto industry’s structure. Moreover, low Mexican production costs and Mexico’s own growing market potential probably point to increased US and foreign investments in Mexico to serve both the Mexican and US markets By their terminology, the Big 3 producers do not count vehicles produced in Canada and Mexico for the US market as imports. Nonetheless, they are imports and they do contribute to the US trade balance and to US deficits.

The effects of dollar exchange rate movements on auto imports are difficult to project. Huge, lasting declines in the US dollar relative to the peso and the Canadian dollar would be required to shift production from Mexico and Canada. Moreover, substantial increases in the deutschmark and yen relative to the dollar would likely be required to put a major crimp in US imports of these high unit value vehicles. These vehicles typically have high profit margins and their prices could readily be adjusted downward to absorb small or moderate declines in the dollar exchange rate.

Although imports are likely to continue their growth, export growth prospects -- excepting exports of parts and components to Mexico and Canada for assembly into vehicles that are mostly exported to the United States -- are modest. Over the past 10 years exports have accounted for around 11 percent of total US light vehicle production each year. More than a million units of 1999's 1.3 million units exported went to Mexico and Canada. Growth in these markets should occur but will likely be gradual and modest.

Outside of Canada and Mexico, top US vehicle potential export destinations include nine emerging markets that currently have modest growth prospects. *"Consequently, even though economic recovery is now building in many of the world's emerging markets, the potential for significant US motor vehicle export growth in the near term is probably no more than "modest." …Three factors contribute to this prognosis. First, most of the growth in the global vehicle market will occur in the emerging markets of Asia and Latin America. US manufacturing capacity, however, is dedicated to vehicles designed first and foremost to appeal to the uniquely American market. Only Canadian, Mexican, and Saudi Arabian buyers share a similar taste in motor vehicles. In most other markets, US-designed cars and light trucks generally are perceived as unsuitable, unappealing, or unaffordable…Secondly, virtually all vehicle manufacturers have reached the conclusion that to be competitive in the emerging markets, they must invest directly in them, rather than relying upon shipments from their existing factories. Finally, there is the reality that most governments in most of the emerging markets are intent upon fostering local vehicle assembly."* ***The Road Ahead, p. 19.***

Conclusions

- The US remains the world's largest road vehicle producer, the largest market, and the largest importer, but its auto industry has never been export oriented. US consumers, however, have become very import oriented. In 1998 the US share of world imports of "automotive products" (vehicles, parts, and engines) was 24.3 percent.
- Automotive products are a very important part of world trade, accounting for 13.1 percent of world manufactures exports in 1998. There is significant global production over-capacity. World auto production is restructuring and production is diversifying geographically. Competition is tough but likely to get tougher. The huge, open US market will always be a primary target of exporters.
- On a unit basis in 1998 the United States produced just over 12 million cars and trucks in 1998; it exported 1.25 million units and imported 5.15 million, almost one-third of total domestic sales.
- The importance of road vehicles (primarily automobiles and light trucks) in US trade performance is difficult to overemphasize. Road Vehicles (SITC 78) is the single largest product group in world trade and the most important in US trade performance. In 1999 imports in this category were one-sixth of total US manufactures imports, one-seventh of total goods imports. The 1999 road vehicle deficit was $89.6 billion, about 1 percent of GDP. First-half data indicate a large further increase to around $100 billion in 2000.

- Expanded exports are unlikely to be a source of improved trade performance in this product group. Excepting exports to Canada and Mexico, the United States is a minor player in world auto export markets. A large portion of its SITC 78 exports is parts and components bound for Mexico and Canada that will return to the United States in finished vehicles.
- Rather, the road vehicle trade balance is likely to be primarily a function of US domestic demand for vehicles; that is, increased domestic auto and light truck sales will increase the US road vehicle trade deficit; only decreased total domestic sales or a marked increase in the share of the US market captured by US-based production -- a shift auto analysts do not expect -- will reduce it.
- Expectations that increased production of Japanese nameplate vehicles in the United States would decrease the deficit with Japan have proven wrong. Japanese production in the United States has increased significantly over the last decade to a 1999 level of about 2.43 million units. Measured in units, imports are well down from the 1986 peak of 3.6 million units but the deficit with Japan has not decreased, reaching $35.4 billion in 1999, accounting for almost two-fifths of the total vehicle trade deficit.
- Japanese production in the United States has lowered US deficits with Japan from what they would have been had the US market been supplied only by Japanese-based production. But the deficit has not declined because, although the number of vehicles imported from Japan has declined, the average unit price has increased.
- The 1999 road vehicle deficit with Canada and Mexico was $34.3 billion, slightly less than the deficit with Japan. Auto trade with EU countries accounted for an $18.3 billion deficit.
- The United States has a structural auto trade deficit with Canada and Mexico that is more likely to increase than decrease. Much -- if not most -- of new US and foreign investments to build new facilities to serve the US auto market is likely to be in Mexico and Canada. Huge, lasting declines in the dollar vis-à-vis the Mexican and Canadian currencies would be required to shift new investment and long established production for the US market from Mexico and Canada.
- Modest exchange rate movements against the yen and European currencies are also unlikely to have a major effect because imports from those areas are mostly high unit value vehicles with high profit margins that give the exporters an ability to cut their prices to maintain market share.
- Given the large size of road vehicle deficits, any major improvement in US current account balances almost certainly will require improvement in the road vehicle trade balance. Export expansion is not a likely source of improved balances. Unless US road vehicle sales decline, improvements in the trade balance will have to come from recapture of a larger portion of the US market by US-produced production. How and why this would occur is, however, unclear.

Table 5.78.1 World Motor Vehicle Production

	Thousands of Units						Percent of Total	
Year	US	Canada	Europe	Japan	Other	World	US	US-Canada
1998	12,006	2,173	18,137	10,050	9,732	52,098	23.1	27.2
1995	11,985	2,408	17,045	10.196	8,349	49,983	23.0	28.8
1990	9,783	1,928	18,866	13,487	4,496	48,554	20.1	24.1
1985	11,653	1,933	16,113	12,271	2,939	44,909	25.9	30.3
1980	8,010	1,324	15,496	11,043	2,692	38,565	20.8	24.2
1970	8,284	1,160	13,049	5,289	1,637	29,419	28.2	32.1
1960	7,905	398	6,837	482	866	16,488	47.9	50.4
1950	8,006	388	1,991	32	160	10,577	75.7	79.4

Source: Ward's Motor Vehicle Facts & Figures, 1999

Table 5.78.2 World Motor Vehicle Exports

Millions of Units

Year	World Total	Belgium	Canada	France	Germany	Italy	Japan	Swede	UK	US
1997	23.621	1.051	2.221	2,823	3.036	0.739	4.553	0.417	1.065	1.591
1995	20.143	1.219	1.909	2.261	2.64	0.807	3.791	0.206	0.837	1.244
1990	18.316	1.226	1.699	2.316	2.766	0.901	5.831	0.205	0.51	0.953
1985	17.811	0.98	1.612	1.893	2.746	0.566	6.731	0.26	0.292	0.891
1980	15.162	0.884	0.939	2.219	2.084	0.592	5.967	0.193	0.481	0.807
1975	10.807	0.792	1.006	1.938	1.654	0.711	2.678	0.195	0.696	0.864
1970	8.661	0.734	0.929	1.525	2.104	0.671	1.087	0.21	0.863	0.379

Percent of World Total Units

Year	World Total	Belgium	Canada	France	Germany	Italy	Japan	Swede	UK	US
1997	100	4.4	9.4	11.9	12.9	3.1	19.3	1.8	4.5	6.7
1995	100	6.1	9.5	11.2	13.1	4.0	18.8	1.0	4.2	6.2
1990	100	6.7	9.3	12.6	15.1	4.9	31.8	1.1	2.8	5.2
1985	100	5.5	9.1	10.6	15.4	3.2	37.8	1.5	1.6	5.0
1980	100	5.8	6.2	14.6	13.7	3.9	39.4	1.3	3.2	5.3
1975	100	7.3	9.3	17.9	15.3	6.6	24.8	1.8	6.4	7.0
1970	100	8.5	10.7	17.6	24.3	7.7	12.5	2.4	9.0	4.4

Source: Ward's Motor Vehicle Facts & Figures, 1999

Table 5.78.3 Export Shares of World Road Vehicle Trade by Dollar Value

		Percent of World Total			$ Change
		1980	1990	1998	1980-98
US	Exports	11.9	10.2	11.6	-0.3
	Imports	19.7	24.3	24.3	4.6
	Share Balance	*-7.8*	*-14.1*	*-12.7*	*-4.9*
Germany	Exports	21	21.9	19	-2
	Imports	6	9.4	9	3
	Share Balance	*15*	*12.5*	*10*	*-5*
France	Exports	9.9	8.2	7.4	-2.5
	Imports	5.3	6.6	5.3	0
	Share Balance	*4.6*	*1.6*	*2.1*	*-2.5*
U.K.	Exports	5.8	4.4	5	-0.8
	Imports	5.5	7	7.2	1.7
	Share Balance	*0.3*	*-3.6*	*-2.2*	*-2.5*
Belg/Lux.	Exports	5.7	4.8	-0.1	
	Imports	5.2	5.7	4.4	-0.8
	Share Balance	*-0.3*	*0*	*0.4*	*0.7*
Japan	Exports	19.8	20.8	14.8	-5
	Imports	0.5	2.2	1.5	1
	Share Balance	*19.3*	*18.6*	*13.3*	*-6*
Mexico	Exports	0.3	1.5	4.1	3.8
	Imports	1.7	1.6	2.2	0.5
	Share Balance	*-1.4*	*-0.1*	*1.9*	*2.3*
Italy	Exports	4.5	4.1	3.6	-0.9
	Imports	5.4	5.5	4.7	-0.7
	Share Balance	*-0.9*	*-1.4*	*-1.1*	*-0.2*
Spain	Exports	1.8	3.7	5.2	3.4
	Imports	0.8	3.1	4.2	3.4
	Share Balance	*1*	*0.6*	*1*	*0*
Canada	Exports	6.9	8.9	9.5	2.6
	Imports	8.4	7.5	7.5	-0.9
	Share Balance	*-1.5*	*1.4*	*2*	*3.5*
Sweden	Exports	2.8	2.4	2	-0.8
	Imports	1.5	1.4	1.2	-0.3
	Share Balance	*1.3*	*1*	*0.8*	*-0.5*
Korea	Exports	0.1	0.7	2.2	2.1

Source: WTO Annual Report, 1999

Table 5.78.4 Motor Vehicles (SITC 78) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
78-- Motor Vehicles								
Exports	46.3	49.2	51.7	57.4	56.5	56.6	10.3	22.3%
Imports	95.1	100.3	103.7	112.8	121.3	146.2	51.1	53.7%
Balance	(48.8)	(51.0)	(52.0)	(55.3)	(64.8)	(89.6)	(40.7)	-
of which								
781-- All Motor Vehicles								
Exports	16.9	17.1	17.5	17.4	16.7	17.1	0.2	1.1%
Imports	61.7	64.9	67.4	73.4	81.2	96.9	35.2	57.0%
Balance	(44.8)	(47.8)	(49.9)	(55.9)	(64.5)	(79.8)	(35.0)	-
782-- Special Purpose Motor Vehicles								
Exports	4.4	5.0	6.5	8.0	7.4	6.0	1.6	37.6%
Imports	9.3	9.8	10.5	12.1	10.7	14.7	5.4	58.5%
Balance	(4.9)	(4.7)	(4.0)	(4.2)	(3.4)	(8.7)	(3.8)	-
783-- Road Motor Vehicles								
Exports	1.4	1.4	1.3	1.6	1.8	1.9	0.5	40.5%
Imports	1.8	2.2	2.3	2.7	3.2	4.5	2.7	154.8%
Balance	(0.4)	(0.8)	(1.0)	(1.2)	(1.5)	(2.6)	(2.2)	-
784-- Parts And Accessories Of Motor Vehicles								
Exports	22.1	23.8	24.6	28.4	28.3	29.4	7.3	33.0%
Imports	20.0	20.5	20.9	21.7	22.9	26.0	6.0	30.0%
Balance	2.1	3.3	3.8	6.7	5.4	3.4	1.3	-
785-- Motorcycles And Cycles, Motorized & Not Motorized								
Exports	0.8	1.0	1.0	1.1	1.0	1.0	0.2	21.8%
Imports	1.9	2.3	2.1	2.2	2.6	3.1	1.3	67.5%
Balance	(1.1)	(1.3)	(1.1)	(1.2)	(1.5)	(2.1)	(1.1)	-
786-- Trailers & Semi-Trailers								
Exports	0.8	0.9	0.8	1.0	1.3	1.3	0.5	64.0%
Imports	0.5	0.6	0.5	0.6	0.7	0.9	0.5	100.2%
Balance	0.3	0.3	0.3	0.4	0.6	0.3	0.0	-

Source: US Dept of Commerce

Table 5.78.5 Motor Vehicles (SITC 78) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	46.3	49.2	51.7	57.4	56.5	56.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	24.6	25.8	26.7	30.7	30.6	33.6	53.1	52.4	51.6	53.5	54.2	59.4
	Mexico	5.5	4.5	5.5	7.6	7.9	8.2	11.9	9.1	10.6	13.3	13.9	14.5
	EU15	4.8	5.5	6.0	6.3	7.0	6.7	10.3	11.2	11.5	11.0	12.3	11.9
	Germany	1.6	1.7	2.2	2.1	2.2	1.9	3.5	3.5	4.2	3.6	3.9	3.3
	France	0.3	0.3	0.3	0.3	0.4	0.3	0.5	0.5	0.5	0.5	0.6	0.5
	Italy	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.3	0.4	0.3
	United Kingdom	0.8	0.7	0.7	0.8	1.1	1.3	1.7	1.4	1.3	1.4	2.0	2.4
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.5	0.6	0.6	0.6	0.6	0.4	1.0	1.2	1.2	1.1	1.0	0.7
	Japan	2.9	4.1	4.0	3.2	2.7	2.1	6.2	8.4	7.7	5.6	4.7	3.6
	Taiwan	1.3	1.1	0.7	0.6	0.3	0.2	2.8	2.2	1.4	1.0	0.5	0.4
	Hong Kong	0.5	0.4	0.2	0.3	0.2	0.1	1.0	0.9	0.4	0.5	0.3	0.1
	Korea	0.4	0.5	0.6	0.6	0.3	0.4	0.9	1.1	1.2	1.1	0.5	0.7
	Singapore	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.2	0.2	0.1
	China	0.3	0.1	0.1	0.3	0.1	0.2	0.6	0.3	0.3	0.6	0.2	0.3
	Other Asia	0.2	0.3	0.4	0.3	0.2	0.3	0.4	0.6	0.8	0.5	0.3	0.5
	South & Central America	0.7	0.7	0.7	0.7	1.0	0.8	1.5	1.5	1.4	1.3	1.7	1.3
	Rest of World	4.7	5.4	6.0	6.0	5.6	3.5	10.1	10.9	11.6	10.4	10.0	6.3
Imports	US from World	95.1	100.3	103.7	112.8	121.3	146.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	37.8	40.2	41.0	43.9	45.8	56.3	39.8	40.1	39.6	38.9	37.8	38.5
	Mexico	7.2	10.3	14.1	15.4	16.8	20.0	7.5	10.3	13.6	13.7	13.8	13.7
	EU15	12.3	14.0	15.4	17.6	21.0	25.1	12.9	14.0	14.8	15.6	17.3	17.2
	Germany	6.7	7.6	8.6	10.2	12.5	15.1	7.0	7.6	8.3	9.1	10.3	10.3
	France	0.8	0.8	0.8	0.8	0.9	1.1	0.9	0.8	0.8	0.7	0.8	0.7
	Italy	0.5	0.5	0.6	0.6	0.7	0.7	0.6	0.5	0.6	0.6	0.6	0.5
	United Kingdom	1.5	2.0	2.1	2.3	2.5	3.1	1.6	2.0	2.0	2.0	2.1	2.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.2	0.2	0.3	0.3	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.3
	Japan	33.9	31.3	28.5	30.6	32.4	37.5	35.7	31.3	27.5	27.1	26.7	25.7
	Taiwan	0.9	1.0	1.0	1.0	1.1	1.2	1.0	1.0	1.0	0.9	0.9	0.8
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Korea	1.7	1.8	2.0	2.1	1.9	3.3	1.7	1.8	1.9	1.9	1.6	2.3
	Singapore	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	China	0.3	0.4	0.4	0.6	0.7	0.9	0.3	0.4	0.4	0.5	0.6	0.6
	Other Asia	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.2
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.6	0.6	0.8	1.0	1.0	1.2	0.7	0.6	0.8	0.9	0.8	0.8
Balance	US with World	-48.8	-51.0	-52.0	-55.3	-64.8	-89.6						
	Canada	-13.2	-14.4	-14.3	-13.1	-15.2	-22.6						
	Mexico	-1.7	-5.8	-8.6	-7.8	-8.9	-11.8						
	EU15	-7.5	-8.5	-9.4	-11.3	-14.0	-18.3						
	Germany	-5.0	-5.9	-6.4	-8.1	-10.3	-13.2						
	France	-0.6	-0.6	-0.5	-0.5	-0.6	-0.8						
	Italy	-0.4	-0.3	-0.4	-0.5	-0.5	-0.5						
	United Kingdom	-0.7	-1.3	-1.4	-1.5	-1.4	-1.8						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.3	0.4	0.4	0.4	0.2	0.0						
	Japan	-31.1	-27.2	-24.5	-27.4	-29.7	-35.5						
	Taiwan	0.4	0.0	-0.3	-0.4	-0.8	-0.9						
	Hong Kong	0.4	0.4	0.2	0.3	0.2	0.1						
	Korea	-1.2	-1.3	-1.4	-1.5	-1.6	-2.9						
	Singapore	0.1	0.1	0.1	0.1	0.1	0.0						
	China	0.0	-0.3	-0.3	-0.2	-0.6	-0.7						
	Other Asia	0.1	0.2	0.2	0.1	-0.1	0.0						
	South & Central America	0.7	0.7	0.7	0.7	1.0	0.8						
	Rest of World	4.0	4.7	5.2	4.9	4.6	2.3						

Source: US Dept of Commerce

Table 5.78.6 Selected Sub-Groups of US Road Vehicle Trade, 1999 Geographic Distribution

Billions of Dollars

	World	NAFTA	Japan	EU-15	Other Americas	Asian 10	Rest of World
781-- Motor Vehicles							
Exports	17.06	11.68	0.77	2.71	0.50	0.05	1.30
Imports	96.89	44.35	29.26	20.19	0.00	0.00	3.10
Balance	-79.83	-32.66	-28.50	-17.46	0.50	0.05	-1.76
784-- Parts & Accessories							
Exports	29.40	22.82	1.05	3.15	0.88	0.13	1.37
Imports	26.04	13.44	6.16	3.77	0.70	0.20	1.79
Balance	3.35	9.38	-5.10	-0.68	0.19	-0.08	-0.46
713-- Engines							
Exports	12.39	8.90	0.53	1.56	0.44	0.17	0.78
Imports	14.79	6.31	5.20	2.65	0.39	0.00	0.20
Balance	-2.40	2.59	-4.69	-1.09	0.05	0.16	0.57

Source: US Dept of Commerce

Table 5.78.7 Internal Combustion Piston Engines (SITC 713) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	8.3	8.8	9.0	10.5	10.8	12.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	4.3	4.6	4.8	5.4	6.5	7.5	51.6	51.9	53.2	51.4	59.6	60.3
	Mexico	1.1	1.2	1.0	1.5	1.3	1.4	13.3	13.1	11.0	13.9	11.7	11.5
	EU15	0.9	1.2	1.3	1.5	1.3	1.6	11.0	13.3	14.1	13.8	12.3	12.6
	Germany	0.1	0.1	0.1	0.2	0.2	0.2	1.3	1.5	1.5	1.8	2.0	1.9
	France	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.1	1.1	1.3	1.0	1.1
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.8	1.0	1.1	0.9	0.9	1.1
	United Kingdom	0.3	0.4	0.4	0.5	0.4	0.5	3.8	4.3	4.2	4.3	3.4	4.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.9	0.8	0.7	0.7	0.5
	Japan	0.3	0.3	0.4	0.4	0.3	0.5	3.0	3.4	4.3	3.4	2.8	4.3
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.3
	Hong Kong	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.5	0.5	0.6	0.4	0.3
	Korea	0.1	0.2	0.1	0.2	0.1	0.1	1.6	1.8	1.6	1.7	0.5	0.6
	Singapore	0.2	0.2	0.2	0.2	0.1	0.1	2.6	1.9	1.8	1.9	0.8	0.9
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.3	0.4	0.4
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	1.2	1.5	1.6	1.3	0.7	0.8
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	1.0	1.1	1.0	0.9	0.9	0.7
	Rest of World	1.1	0.9	0.9	1.0	1.0	0.8	12.9	9.9	9.5	9.8	9.0	6.7
Imports	US from World	10.1	11.2	12.0	11.8	12.9	14.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.8	1.7	2.4	2.6	3.1	3.8	17.5	15.1	20.0	22.1	24.4	26.0
	Mexico	1.6	1.9	2.0	2.0	2.2	2.5	15.5	16.8	16.2	17.2	17.4	16.7
	EU15	1.7	2.0	2.0	2.2	2.6	2.7	17.1	17.7	16.9	18.8	19.9	17.9
	Germany	1.0	1.2	1.1	1.2	1.5	1.6	10.2	10.6	9.0	9.7	11.6	11.0
	France	0.1	0.1	0.2	0.1	0.1	0.1	0.9	1.1	1.3	1.2	0.8	0.6
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	0.9	1.2	1.0	1.0	0.9	0.6
	United Kingdom	0.3	0.3	0.4	0.4	0.4	0.5	3.3	2.9	3.0	3.5	3.4	3.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.2
	Japan	4.6	5.2	5.2	4.4	4.3	5.2	45.4	46.5	43.0	37.4	33.6	35.2
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.3	0.3
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	China	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.4
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.2
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Rest of World	0.4	0.3	0.3	0.4	0.4	0.4	3.5	2.9	2.9	3.5	3.4	2.9
Balance	US with World	-1.9	-2.3	-3.0	-1.3	-2.0	-2.4						
	Canada	2.5	2.9	2.4	2.8	3.3	3.6						
	Mexico	-0.5	-0.7	-1.0	-0.6	-1.0	-1.0						
	EU15	-0.8	-0.8	-0.8	-0.8	-1.2	-1.1						
	Germany	-0.9	-1.1	-0.9	-1.0	-1.3	-1.4						
	France	0.0	0.0	-0.1	0.0	0.0	0.0						
	Italy	0.0	0.0	0.0	0.0	0.0	0.0						
	United Kingdom	0.0	0.1	0.0	0.0	-0.1	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.1	0.1	0.1	0.1	0.0	0.0						
	Japan	-4.3	-4.9	-4.8	-4.1	-4.0	-4.7						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.0	0.0	0.0	0.1	0.0	0.0						
	Korea	0.1	0.1	0.1	0.2	0.0	0.1						
	Singapore	0.2	0.2	0.1	0.2	0.1	0.1						
	China	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1						
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1						
	Rest of World	0.7	0.6	0.5	0.6	0.5	0.4						

Source: US Dept of Commerce

Other Transportation Equipment (SITC 79) & Aircraft Engines (SITC 714)

By far the most important product included in other transportation equipment (SITC 79) is aircraft. Throughout the 1990s this category, because of US aircraft exports, provided the largest US trade surplus of any 2-digit product groups, $39.6 billion in 1998. It is one of only three 2-digit product groups outside the chemicals group that had improved performance over the 1994-99 period, with an increase of the surplus by $9.0 billion to $34.5 billion. Aircraft (SITC 792) will continue to play a very important role in US trade performance, generating large surpluses.

The United States is probably more dominant in this product category than any other. But the market share is not as high as in some previous years and is under pressure from growing foreign competition. The aircraft trade surplus will be determined not only by foreign competition but will be critically affected by global economic growth rates, particularly by the economic progress of developing countries in Asia. World aircraft exports are large and growing but remain small compared to some other product groups. World aircraft and engine exports in 1998 were only about one-fourth of automotive products exports and only about 4 percent of total world manufactures exports. Stellar US trade performance in this product category alone cannot offset large US trade deficits in automobiles, electronics, clothing and other product groups.

Description of the Product Group

Aircraft is by far the most important component of a larger category, other transportation equipment (SITC 79), which consists of these three-digit SITC categories:

791 railway vehicles and associated equipment

792 aircraft, associated equipment, and parts

793 ships, boats and floating structures

US trade in SITCs 791 and 793 is small. Together the two categories produced 1999 exports of $3.2 billion, imports of $3.3 billion and a deficit of $0.2 billion **(Table 79.1).** This analysis deals only with aircraft (SITC 792) and aircraft engines (SITC 714, engines not based on internal combustion). The aircraft subcategory includes large commercial transports, military aircraft, commuter planes, helicopters, and small planes. The analysis in this section also includes jet engines, which make up most but not all of trade in SITC 714. Aircraft engines are also included in the SITC 71 section of this report.

Role in World Trade

Aircraft and aircraft engines are the dominant part of an aerospace industry that includes guided missiles and space vehicles, propulsion units, and parts and auxiliary equipment. WTO data on world aircraft exports were not available for this report but exports totaled $53.0 billion in 1989 and were probably about $125 billion in 1999.

World aircraft exports of large aircraft are dominated by the United States and the EU-15. Estimates of market shares are difficult but generally indicate a US share of world markets above 40 percent, with a slightly smaller share to the EU. Commerce department estimates show a US share of world exports of about 42 percent in 1997 and the 1999 share is likely not significantly different. Exporters of smaller aircraft include Brazil and Canada

As in other industries, consolidations and restructurings have been occurring around the world. With its acquisition of McDonnell Douglas the Boeing company became the only US manufacturer of the large

aircraft which make up the major portion of international aircraft trade. In dollar value terms aircraft trade patterns are determined largely by the sales of the US Boeing company and the EU's Airbus Industrie, the only other manufacturer of the larger aircraft. Similarly, exports by General Electric Co. and Pratt & Whitney in the United States and by Rolls Royce Ltd in the United Kingdom and SNECMA in France account for a major portion of world aircraft engine exports. Production of military aircraft for export is also concentrated in the United States and the EU.

The United States is estimated to capture about one-third of world military aircraft exports. Military aircraft, however, comprise a relatively small portion of US and world aircraft exports. *"In 1998, deliveries of new military aircraft to foreign customers rose to $3.6 billion, an increase of 57 percent compared with 1997…"* ***US Industry and Trade Outlook, 2000, p. 21-3.***

The export market for civilian aircraft includes large transports, general aviation aircraft, rotorcraft and unmanned aerial vehicles. Over 90 percent of the dollar value of US aircraft exports, however, is in large transport aircraft (over 15,000 kg, unladen). US aircraft imports in 1998 were about one-fourth the value of US aircraft exports but over half of those imports were in smaller aircraft (less than 15,000 kg, unladen). Canada and Brazil were among the important sources for these smaller aircraft.

Role in US Trade

Other transportation equipment (SITC 79), dominated by aircraft and associated equipment, has long provided the largest US trade surpluses of any two-digit product group. In 1999 it comprised 8.6 percent of US manufactures exports and 2.1 percent of imports. In 1987 aircraft (SITC 792) exports were $16.9 billion and the surplus was $12.3 billion. In 1990 exports had grown to $30.1 billion and the surplus was $23.7 billion. By 1999, exports of $49.6 billion and imports of $15.0 billion yielded a surplus of $34.6 billion **(Table 5.79.1),** by far the largest manufactures product group surplus. The next-largest product group surplus was "low value shipments," (SITC 99) a composite of many different kinds of products, with an indicated surplus of $15.9 billion, followed by professional and scientific instruments (SITC 87), $9.3 billion.

The 1999 aircraft results, however, fell below the peak year of 1998, which registered a surplus of $39.4 billion. The decline in the surplus was caused by a $2.8 billion fall in exports, a fallout of cancelled and delayed deliveries resulting from the Asian economic crisis that began in 1997.

Exports of SITC 792 aircraft to Asia, including Japan, were 28.2 percent of the 1999 total, off from the 39.6 percent 1997 share, and reflecting the effects of the Asian economic crisis **(Table 5.79.2)**. The EU took 39.6 percent of 1999 US exports. Over half -- 51.2 percent -- of US imports came from the EU. Canada provided 25.4 percent; Japan, 9.1 percent.

Aircraft engine trade (SITC 714) also provides large exports and consistent surpluses. Exports rose from $8.4 billion in 1994 to $15.0 billion in 1999 and the surplus from $2.7 billion to $4.5 billion. Much of the engine trade -- just over half of the exports and three-fourths of the imports -- is with the EU. Aircraft engine trade data is provided in the Power Generating Machinery (SITC 71) section of this report.

Outlook

US trade balances in aircraft will be determined primarily by performance in the large commercial transport market. In turn, trade performance in that market will be determined primarily by growth of the world market for air transportation and by division of that market between Boeing and the EU's Airbus

Industrie. Growing sales by the Airbus consortium have increased US imports of large commercial transports and heightened competition in export markets.

Competition for world markets between Boeing and Airbus will continue to be stiff, with prices a key factor. Airbus continues to price its products in dollars, a technique intended to eliminate the effects of movements in the dollar exchange rate. A huge fall in the dollar could make it difficult for the Airbus consortium to continue this strategy. For the foreseeable future, however, Airbus promises to provide strong competition. *"With a fivefold increase in the number of its aircraft orders since 1995, Airbus has increased its production dramatically. From 1988 to 1998, the number of Airbus orders increased 46 percent and deliveries of large civil aircraft grew 29 percent…Despite product line expansion in the period 1992-99 …Airbus still lacks an entry in the very large aircraft (more than 400 seats) market, which currently is dominated by the Boeing 747. In response, in 1997, the Airbus consortium launched a new family of A340 derivatives…Airbus's development of those derivatives will help complete its aircraft product line and help it compete with Boeing 777 and 747 product lines."* ***US Industry and Trade Outlook 2000, p. 21-2.***

Airbus's recent decision to build a new aircraft much larger than Boeing's 747 also injects a new factor in the long term competitive outlook. Should the proposed aircraft be built and be successful, and should Boeing not develop a comparable aircraft, the US market share could suffer. On the other hand, an Airbus investment of enormous resources in this huge new aircraft -- the development cost is estimated at $10 to $15 billion -- is considered highly risky by many analysts and a commercially unsuccessful product could impair Airbus's long term competitiveness.

Global economic growth rates are the key factor in determining aircraft and aircraft engine export markets. The recent Asian economic problems resulted in a decline in airline traffic in that region and a decreased Asian demand for aircraft. It also may have shifted some demand away from the very large aircraft, such as the 747, and to somewhat smaller aircraft in which the United States is less dominant. However, improving economic conditions in Asia should contribute to rising demand over next five years. Populous countries, such as China and India, offer important export potential as their living standards rise and their transportation needs grow.

The near term outlook, however, is not all rosy. *"The economic crisis in Asia has caused the postponement or cancellation of commercial and military aircraft orders throughout that region.*

…While the 10 and 20 year forecasts look good for the world aircraft market, the next 5 years do not hold similar promise. The value of US aircraft shipments was expected to increase 8.8 percent in 1999 over 1998 and then decrease 20 percent in 2000…Shipments are expected to decline about 2 percent a year from 2000 through 2004. In part, this is due to a lack of growth in economies in northeastern Asia, which is a major market for twin-aisle (wide body) aircraft. Regional [single aisle] jets (those with fewer than 100 seats) are in strong demand for new routes and are replacing single--aisle commercial and turbo-prop aircraft on existing routes. Since US manufacturers represent only a small share of the regional jet market, they could be affected adversely by Asian airlines' decisions to reduce aircraft size as they purchase new aircraft." ***US Industry and Trade Outlook, 2000, p. 21-18.*** Current data confirm this pessimistic forecast. Aircraft and parts exports for first-half 2000 were well below first-half 1999 levels; imports were up. A diminished 2000 surplus is in prospect.

The outlook for engine trade appears solid, but with little prospect of strong growth in the short term. "Shipments [of aircraft engines and parts] are expected to remain level through 2004 as the market for regional jets replaces that for twin-aisle commercial aircraft**. US Industry and Trade Outlook, 2000, p.21-9.**

Over the longer term, US trade performance may also be affected by the apparent trend among US airframe producers to source more components offshore, a trend influenced both by the need to stay competitive by using lowest-cost producers and by the demands of foreign countries who want to build their own aircraft industries.

Conclusions

- The world aircraft export market is relatively small, probably about $125 billion in 1999. Growth in the world market is dependent on the growth of air transportation, with Asia considered the area with the largest growth potential.
- The aircraft export market is dominated by the United States and the EU, with each capturing over two-fifths of the world export market.
- US aircraft trade performance has been strong, with SITC 79 one of only three 2-digit product groups outside the chemical area providing improved performance over the 1994-99 period. The 1999 surplus of $34.5 billion, was, however, well below the $39.6 billion 1998 level and the 2000 surplus will likely lose further ground.
- For the next 3 to 5 years aircraft and aircraft engine exports should remain strong, resulting in continuing major US trade surpluses in this product group. With Asian markets still in recovery it will be difficult, however, to match or top the $39.6 billion 1998 aircraft surplus in the immediate future.
- Projections of the longer-term future are more uncertain, highly dependent on Asian and world economic growth rates, and on the outcome of competition between Boeing and Airbus for US and global markets for large transport aircraft.
- Modest dollar depreciation is unlikely to have a major effect on the aircraft trade balance. There are long lags in the effects of exchange rate changes on aircraft deliveries because of long lags between orders, production and deliveries. Also, Airbus's attempts to maintain dollar prices can eliminate or mitigate the effects of exchange rate changes. Trade flows of engines and parts are somewhat more responsive to exchange rates.
- Even with favorable global market growth rates and a continued strong competitive position, the prospects for expansions in US aircraft and engine surpluses are limited by a number of factors. These include: the size of the world aircraft market, aircraft production capacity, and the likelihood of continuing expansions of outsourcing of major components to foreign producers.
- Even under favorable assumptions, increases in aircraft trade surpluses to the middle of the decade and beyond will likely be modest and inadequate to offset continuing large US deficits in other product groups.

Table 5.79.1 Transport Equipment (SITC 79) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
79-- Transport Equipment								
Exports	32.4	27.7	34.4	43.2	55.7	52.7	20.4	62.9%
Imports	8.6	8.3	9.8	11.9	16.1	18.3	9.7	112.5%
Balance	23.8	19.4	24.5	31.4	39.6	34.5	10.7	-
of which								
791-- Railway Vehicles & Associated Equipment								
Exports	0.7	0.9	0.8	1.2	1.6	1.5	0.8	107.0%
Imports	1.0	1.2	1.2	1.2	2.0	2.2	1.1	111.0%
Balance	(0.3)	(0.3)	(0.3)	(0.0)	(0.4)	(0.7)	(0.4)	-
792-- Aircraft & Associated Equipment								
Exports	30.4	25.6	32.5	40.6	52.4	49.6	19.2	63.0%
Imports	6.8	6.3	7.6	9.8	13.0	15.0	8.2	121.4%
Balance	23.7	19.3	24.8	30.8	39.4	34.6	11.0	-
793-- Ships, Boats And Floatng Structures								
Exports	1.2	1.2	1.1	1.4	1.8	1.7	0.4	34.7%
Imports	0.8	0.8	1.0	0.9	1.1	1.1	0.3	39.9%
Balance	0.4	0.4	0.0	0.5	0.6	0.5	0.1	-

Source: US Dept of Commerce

Table 5.79.2 Aircraft & Associated Equipment (SITC 792) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	30.4	25.6	32.5	40.6	52.4	49.6	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.1	1.4	1.6	1.6	1.9	2.2	3.5	5.4	4.9	4.1	3.6	4.5
	Mexico	0.6	0.1	0.1	0.2	0.6	0.4	1.8	0.4	0.4	0.6	1.1	0.8
	EU15	9.1	8.4	9.3	12.1	16.0	19.7	29.8	32.7	28.8	29.8	30.6	39.6
	Germany	1.0	1.0	1.2	1.8	3.3	3.3	3.3	4.0	3.8	4.5	6.3	6.6
	France	1.2	0.8	1.0	1.0	1.9	2.8	3.9	3.1	2.9	2.4	3.6	5.6
	Italy	0.9	0.8	0.7	0.4	0.4	1.1	2.9	3.2	2.3	1.0	0.8	2.2
	United Kingdom	3.0	1.9	2.5	5.3	6.0	6.1	9.9	7.5	7.8	13.0	11.5	12.3
	Ireland	0.1	0.1	0.1	0.1	0.2	0.5	0.3	0.5	0.2	0.3	0.3	1.0
	Other Europe	1.8	0.9	2.4	2.3	3.0	2.4	6.0	3.7	7.4	5.8	5.8	4.8
	Japan	3.4	2.9	3.0	4.3	5.3	4.6	11.3	11.2	9.2	10.5	10.1	9.3
	Taiwan	1.5	1.7	1.2	2.1	2.7	2.1	5.0	6.7	3.7	5.2	5.1	4.2
	Hong Kong	0.4	0.4	0.7	0.2	0.5	0.3	1.2	1.6	2.1	0.4	1.0	0.6
	Korea	1.7	2.2	2.1	2.2	1.6	1.6	5.5	8.6	6.5	5.4	3.0	3.2
	Singapore	1.5	1.3	1.3	1.6	1.8	1.5	5.0	5.0	4.0	4.0	3.5	3.1
	China	1.9	1.2	1.7	2.1	3.6	2.3	6.3	4.6	5.3	5.2	6.8	4.7
	Other Asia	2.3	1.3	3.1	3.6	3.0	1.6	7.6	4.9	9.4	8.9	5.8	3.1
	South & Central America	0.4	0.1	0.1	0.1	0.3	0.4	1.4	0.4	0.2	0.3	0.6	0.8
	Rest of World	4.7	3.8	5.9	8.0	12.1	10.5	15.5	14.8	18.1	19.7	23.0	21.2
Imports	US from World	6.8	6.3	7.6	9.8	13.0	15.0	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.6	1.6	2.2	2.7	3.5	3.8	23.9	25.6	28.7	28.0	26.7	25.4
	Mexico	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.3	0.3	0.4	0.4	0.5
	EU15	4.2	3.6	3.8	4.7	6.4	7.7	62.4	57.3	50.3	47.9	49.1	51.2
	Germany	0.3	0.4	0.2	0.3	1.0	1.7	4.1	5.9	2.9	2.6	7.5	11.4
	France	2.1	1.7	1.9	2.1	3.0	3.6	31.6	27.4	24.9	21.7	23.3	24.3
	Italy	0.2	0.2	0.3	0.4	0.5	0.6	3.0	3.4	3.8	3.8	3.5	4.2
	United Kingdom	1.0	0.9	0.9	1.4	1.3	1.4	14.7	13.6	12.3	14.3	10.2	9.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.2	0.1
	Other Europe	0.0	0.1	0.1	0.1	0.1	0.2	0.5	1.1	1.4	1.5	1.1	1.4
	Japan	0.4	0.5	0.8	1.3	1.5	1.4	6.5	7.6	10.0	12.9	11.2	9.1
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Korea	0.1	0.0	0.1	0.1	0.1	0.1	0.8	0.6	0.8	0.9	1.1	0.8
	Singapore	0.0	0.0	0.1	0.1	0.1	0.1	0.6	0.6	0.7	0.7	0.5	0.4
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.3	0.2
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.4	0.1	0.1
	South & Central America	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.4	0.1	0.0	0.0
	Rest of World	0.3	0.4	0.5	0.7	1.2	1.6	4.3	6.5	6.0	6.7	9.4	10.9
Balance	US with World	23.7	19.3	24.8	30.8	39.4	34.6						
	Canada	-0.5	-0.2	-0.6	-1.1	-1.6	-1.6						
	Mexico	0.5	0.1	0.1	0.2	0.5	0.3						
	EU15	4.8	4.7	5.5	7.4	9.7	12.0						
	Germany	0.7	0.7	1.0	1.6	2.3	1.6						
	France	-0.9	-0.9	-0.9	-1.2	-1.1	-0.9						
	Italy	0.7	0.6	0.4	0.0	-0.1	0.4						
	United Kingdom	2.0	1.1	1.6	3.9	4.7	4.8						
	Ireland	0.1	0.1	0.1	0.1	0.1	0.5						
	Other Europe	1.8	0.9	2.3	2.2	2.9	2.2						
	Japan	3.0	2.4	2.2	3.0	3.8	3.3						
	Taiwan	1.5	1.7	1.2	2.1	2.6	2.1						
	Hong Kong	0.4	0.4	0.7	0.2	0.5	0.3						
	Korea	1.6	2.2	2.1	2.1	1.4	1.4						
	Singapore	1.5	1.2	1.2	1.6	1.8	1.5						
	China	1.9	1.2	1.7	2.1	3.5	2.3						
	Other Asia	2.3	1.3	3.0	3.6	3.0	1.5						
	South & Central America	0.4	0.1	0.0	0.1	0.3	0.4						
	Rest of World	4.4	3.4	5.4	7.3	10.8	8.9						

Source: US Dept of Commerce

Furniture (SITC 82)

US furniture imports increased rapidly during the 1980s and the 1990s as the techniques for packaging and transporting furniture improved and costs fell, as developing countries entered this labor-intensive industry, and as the quality of foreign product increased. US imports rose to $5 billion in 1990 and topped $16 billion in 1999, resulting in a $11.5 billion deficit.

Description of the Product Group

This product group is not subdivided into three-digit subcategories. The group includes home furniture, office furniture, and special-purpose furniture such as hospital beds, dental chairs, and automobile seats.

Role in US Trade

Furniture and bedding (mattresses) is a small portion of US manufactures trade, 0.8 percent of 1999 exports, 1.8 percent of imports, but it is a source of increasing deficits and deterioration of the overall US trade balance. From 1994 to 1999 the deficit rose from $4.3 billion to $11.5 billion **(Table 5.82.1)**. First-half data indicate the deficit may top $13 billion in 2000.

The US furniture industry has, for the most part, never been export-oriented. High volume household furniture is labor-intensive, generally disadvantaging US producers, and holding exports to mostly higher end items and office furniture. US furniture and bedding exports in 1999 thus were only $4.7 billion, with just over half going to Canada **(Table 5.82.1)**.

Canada is also an important source of imports, 26.8 percent of the 1999 total. Abundant lumber supplies allow it to produce wooden shelving and other high wood content products as well a variety of other products. *"Canadian producers of household furniture are particularly efficient in the manufacture of a modified European contemporary furniture that they offer to the US market at a lower price than EU competitors because of lower transportation costs."* ***Shifts In US merchandise Trade in 1998, ITC, p. 14.7.***

Mexico's share of US imports has been growing, reaching 17.8percent in 1999. "*US imports of household furniture from Mexico are principally of rustic style, with slightly uneven surfaces and a transparent finish that shows the wood grain. By focusing on this market niche, Mexican exporters avoid the highly finished and polished segment of the US wood furniture market where US producers dominate. Rustic furniture is usually large and heavy, with high transportation costs, giving Mexican exporters an advantage over potential Asian competitors."* ***Shifts in US Merchandise Trade in 1998, ITC, p. 14-6.***

The EU, source of many higher fashion items, provided 13.7 percent of the 1999 total. Italy is the primary EU source of US furniture imports. *"US imports of household furniture from Italy rose by $105 million…during 1997-98 to $736 million based on the competitive strength of its high-quality leather upholstered furniture and stylish wood furniture."* ***Shifts in US Merchandise Trade in 1998, p. 14-6***.

Much of the lower-cost items comes from Asia, which supplied 37.6 percent of US imports in 1999. Noteworthy, however, is the fact that most of the growth in Asia's exports to the United States is being captured by China. From 1994 to 1999 China's furniture exports rose from $0.8 billion to $3.3 billion and its share of US imports rose from 9.9 percent to 20.2 percent. Over the same period Taiwan's furniture exports to the United States remained quite constant in dollar terms and its share of the US market declined from 15.6 percent to 6.2 percent, suggesting that Taiwanese companies may be shifting

their production from Taiwan to China. *"…Malaysia, Indonesia, the Philippines, and Thailand were additional East Asian sources of US imports of household furniture…A significant portion of the increase in US imports of household furniture from China and other East Asian countries is accounted for by bedroom furniture. Producers in East Asia either ship fully assembled bedroom suites to the United States or establish US assembly operations in order to reduce shipping costs. Access to an abundant, low-cost labor force allows East Asian producers to manufacture furniture components at a lower cost than US-based manufacturers. In recent years East Asian producers of bedroom furniture have gained an increasing share of the US market by significantly improving their woodworking and finishing techniques. In response to China's and other East Asian producers entrance into the US bedroom furniture market, US manufacturers are beginning to use components made in Asia in their assembly of furniture as well as import finished articles of bedroom furniture to supplement their US-made lines."* ***Shifts in US merchandise Trade in 1998, ITC, p. 14-6.***

Outlook

The strong US economy, rising affluence, high new housing construction rates and other factors that have raised US consumer spending for household furniture have been important in the increased US deficits in this product group. However, other factors with unfavorable long-term implications for the trade balance in this product group are also at work.

There is an ongoing revolution in the production, distribution, and marketing of furniture; one that does not bode well for the US trade position. *"In the past, high transportation and inventory costs, due to furniture's bulk and fragility, insulated the production of developed countries from low-wage competition. However, this protection has slowly diminished as transportation costs have fallen, as packing methods have been perfected for shipping knocked-down (unassembled) furniture in containers, as inventory management techniques have improved, and as developing countries have become more competitive. As a result, production has been shifting to lower-wage countries, such as Taiwan and Mexico, and furniture trade has been expanding rapidly…Developed countries, however, remain strong producers in markets where styling and quality is important. For instance, Italy has been very successful in upholstered home furniture. The Danish style is particularly well suited to automated production and knocked-down shipments in containers. Manufacturers in developed countries often obtain their parts from developing countries, according to industry officials. Improved techniques for packing and shipping the parts of knocked-down furniture have increased trade in parts."* ***Narrowing the US Current Account Deficit, p. 417.***

"A portion of [the recent increases in furniture imports] can be attributed to the labor-intensive furniture parts imported by US manufacturers to enhance product lines, but the increase also signifies the growing importance of the US furniture market to foreign firms…the success of the new breed of furniture retailers such as IKEA and Pier One indicates that there is potential for the sourcing and marketing of furniture on a global scale. The Swedish franchise IKEA sources products from around the world for sale in 29 different countries and was ranked 1999's eleventh top US furniture store by the industry trade publication "Furniture Today." …

The [US] industry is following the trend toward foreign production by sourcing labor-intensive hand-carved and painted furniture pieces from low-wage economies around the globe. In addition, many manufacturers are buying furniture abroad and offering it in specialized import collections." ***US Industry and Trade Outlook 2000, p. 38-5.***

Other events may also lead to increased US furniture imports. *"US furniture tariffs were reduced beginning in 1995 and eliminated completely by 1999 as part of the General Agreement on Tariffs and*

Trade (GATT) Uruguay Round "zero-for-zero" agreements…Trade in most furniture products between Canada, Mexico, and the United States is duty-free under NAFTA…Over the next 5 years, US imports are expected to continue to grow as firms increasingly employ foreign production for labor intensive furniture pieces and continue to buy foreign-produced furniture for specialized import lines. It is possible that the furniture industry will follow the trend toward foreign production of goods that can be produced at a lower cost in foreign markets, leading to a further increase in US household furniture imports." **US Industry and Trade Outlook 2000, p 38-9.**

On balance the outlook is for continuing, probably enlarging, US deficits in furniture trade, with the size and growth of the deficits determined largely by the trends in US consumer spending for furniture. US exports of furniture, modest and mostly to Canada and Mexico, are unlikely to benefit significantly from faster foreign growth, other than in Canada and Mexico. Similarly, modest declines in the dollar exchange rate are unlikely to reverse the trend of growing imports from Asia and Mexico, although a significant decline in the US dollar vis-à-vis the Canadian dollar should have some impact.

Absent a marked and sustained US economic slowdown and/or a major decline in the US dollar, furniture trade is most unlikely to provide an important means of improving the US manufactures trade balance in the foreseeable future.

Conclusions

- Furniture trade is a minor portion of US manufactures trade, 0.8 percent of exports, 1.8 percent of imports, but it is an increasing contributor to US trade deficits, $11.5 billion in 1999. First-half data indicate the 2000 deficit will likely expand to $13 billion or more.
- The furniture industry is "globalizing" its production and distribution and international trade in furniture is expanding rapidly, changes made possible by a variety of factors, including low-cost transportation and communication, new methods of packaging and shipping, and the growth of furniture industries in developing countries that have become capable of producing products of acceptable quality.
- As with many other products, the large, open US market for furniture -- US furniture tariffs have recently been reduced to zero -- will be a prime target for foreign furniture producers and, as globalization and diversification of production sites increases, competition for US and foreign markets will grow.
- Canada and Mexico together provided 44.6 percent of 1999 US furniture imports, China, 20.2 percent, and other Asian sources, 17.4 percent. Large declines in the dollar exchange rate against these currencies and/or a marked slowdown in consumer spending would be required to significantly reduce their exports to the United States.
- US exports of furniture are modest -- $47 billion in 1999, compared to imports of $16.2 billion -- and likely to remain so. Export expansion by this labor-intensive industry is unlikely to be a source of improved trade performance. Rather, the size and growth of the furniture deficit will likely be determined by the levels and rate of growth of US consumer spending for furniture.

Table 5.82.1 Furniture & Bedding (SITC 82) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	3.3	3.3	3.5	4.2	4.7	4.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	1.5	1.6	1.6	1.9	2.1	2.4	45.4	48.5	45.1	44.5	44.1	50.7
	Mexico	0.7	0.6	0.6	0.8	1.0	0.8	21.6	16.9	16.6	17.8	21.1	17.0
	EU15	0.3	0.3	0.3	0.4	0.4	0.6	7.9	8.3	9.2	9.3	9.5	12.3
	Germany	0.0	0.0	0.1	0.1	0.1	0.1	1.5	1.5	1.5	1.7	1.8	1.8
	France	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9	1.0	1.0	0.9	0.9
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.4	0.7	0.4	0.5
	United Kingdom	0.1	0.1	0.1	0.1	0.2	0.3	2.9	2.9	3.4	3.3	3.7	5.8
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3
	Other Europe	0.0	0.0	0.1	0.1	0.1	0.1	1.4	1.4	2.0	1.9	1.5	1.1
	Japan	0.2	0.2	0.3	0.3	0.3	0.2	7.0	6.7	8.2	7.5	7.3	4.7
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.7	0.5	0.6	0.5	0.4
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.8	0.9	0.7	0.5
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	1.2	0.9	0.3	0.4
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.0	1.1	0.9	0.6	0.5
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.4	0.6	0.4	0.6	1.0
	Other Asia	0.0	0.0	0.0	0.1	0.0	0.0	0.8	1.1	1.3	1.5	0.7	0.7
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.2	3.1	3.7	3.7	3.5	3.6	3.7
	Rest of World	0.3	0.3	0.3	0.4	0.4	0.3	9.0	9.2	9.6	10.3	9.5	7.0
Imports	US from World	7.6	8.3	9.4	11.1	13.3	16.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.0	2.4	2.9	3.4	4.0	4.3	26.7	29.2	30.7	31.0	30.1	26.8
	Mexico	1.1	1.2	1.5	1.9	2.3	2.9	14.6	14.3	16.1	17.2	17.4	17.8
	EU15	1.1	1.2	1.3	1.5	1.8	2.2	14.4	14.8	13.8	13.4	13.5	13.7
	Germany	0.1	0.1	0.1	0.2	0.2	0.3	1.7	1.8	1.4	1.4	1.2	1.6
	France	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.8	0.7	0.8	0.8	0.8
	Italy	0.6	0.6	0.7	0.8	0.9	1.1	7.3	7.6	7.2	6.9	6.8	6.6
	United Kingdom	0.1	0.1	0.2	0.2	0.3	0.3	1.5	1.6	1.7	1.7	2.0	2.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3
	Other Europe	0.1	0.1	0.1	0.2	0.2	0.2	1.6	1.4	1.4	1.4	1.4	1.3
	Japan	0.2	0.2	0.1	0.1	0.1	0.1	2.3	1.8	1.3	0.9	1.0	0.9
	Taiwan	1.2	1.0	1.0	0.9	1.0	1.0	15.6	12.5	10.3	8.3	7.2	6.2
	Hong Kong	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.4	0.5	0.5	0.5
	Korea	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.5	0.5	0.4	0.5	0.5
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.3	0.1	0.0
	China	0.8	0.9	1.1	1.5	2.2	3.3	9.9	10.6	11.8	13.9	16.4	20.2
	Other Asia	0.8	0.9	1.0	1.1	1.3	1.5	10.9	11.0	10.7	9.9	9.4	9.3
	South & Central America	0.0	0.0	0.1	0.1	0.1	0.1	0.6	0.6	0.5	0.5	0.5	0.4
	Rest of World	0.1	0.2	0.2	0.3	0.3	0.4	2.0	2.3	2.2	2.4	2.1	2.4
Balance	US with World	-4.3	-5.0	-5.9	-6.9	-8.7	-11.5						
	Canada	-0.5	-0.8	-1.3	-1.6	-2.0	-2.0						
	Mexico	-0.4	-0.6	-0.9	-1.2	-1.3	-2.1						
	EU15	-0.8	-1.0	-1.0	-1.1	-1.4	-1.6						
	Germany	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2						
	France	0.0	0.0	0.0	0.0	-0.1	-0.1						
	Italy	-0.5	-0.6	-0.7	-0.7	-0.9	-1.0						
	United Kingdom	0.0	0.0	0.0	-0.1	-0.1	0.0						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2						
	Japan	0.1	0.1	0.2	0.2	0.2	0.1						
	Taiwan	-1.2	-1.0	-1.0	-0.9	-0.9	-1.0						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	-0.1						
	Korea	0.0	0.0	0.0	0.0	-0.1	-0.1						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.7	-0.9	-1.1	-1.5	-2.2	-3.2						
	Other Asia	-0.8	-0.9	-1.0	-1.0	-1.2	-1.5						
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1						
	Rest of World	0.1	0.1	0.1	0.2	0.2	-0.1						

Source: US Dept of Commerce

Apparel (SITC 84)

US international trade performance in apparel has long been a matter of concern and, together with textiles (SITC 65), the subject of trade agreements. Apparel has also long been an important factor in world trade and often a key export of countries at the beginning of their industrialization process. Apparel trade accounted for 3.4 percent of world merchandise exports in 1998; 4.5 percent of world manufactures exports. Apparel trade has long generated large US trade deficits, enlarging to $48.1 billion in 1999, with prospects of continued growth.

Description of the Product Group

The apparel product group is made up of seven 3-digit SITC subcategories:

841 Men's Or Boys Coats, Jackets, Suits, Blazers, Trousers, Shorts, Shirts, Underwear, Knitwear, And Similar Articles Of Textile Fabrics, Not Knitted Or Crocheted

842 Women's And Girls' Coats, Capes, Jackets, Suits, Blazers, Trousers, Shorts, Shirts, Underwear, Nightwear, And Similar Articles Of Textile Fabrics, Not Knitted Or Crocheted

843 Men's Or Boys' Coats, Capes, Jackets, Suits, Blazer, Trousers, Shorts, Shirts, Underwear, Nightwear, And Similar Articles Of Textile Fabrics, Knitted Or Crocheted

844 Women's Or Girls' Coats, Capes, Jackets, Suits, Blazers, Trousers, Shorts, Shirts, Underwear, Nightwear, And Similar Articles Of Textile Fabrics, Knitted Or Crocheted

845 Articles Of Apparel Or Textile Fabrics, Whether Or Not Knitted Or Crocheted, Not Elsewhere Specified

846 Clothing Accessories, Of Textile Fabrics, Whether Or Not Knitted Or Crocheted (Other Than Those For Babies)

847 Articles Of Apparel And Clothing Accessories Of Other Than Textile Fabrics, Headgear Of All Types

Role in World Trade

According to WTO data, world exports of apparel totaled $180 billion in 1998, about 4.5 percent of world manufactures exports. In regional terms, Asia was the source of 42.8 percent of world exports, down modestly from 43.6 percent in 1990. Western Europe was still the origin of a major portion, 33.7 percent, of world exports, but down sharply from its 43.6 percent 1990 share. Over three-fourths of these West European exports, however, were to other European countries. Increasing shares of world apparel exports were from Central and Eastern Europe, 6.6 percent in 1998, and Latin America, 7.1 percent.

World export and import shares for individual countries are shown in **Table 5.84.1.** The United States is the largest single country importer of apparel, absorbing 29.9 percent of world exports in 1998, up from 15.9 percent in 1980 and 23.6 percent in 1990. Over the same period, US exports increased from 3.1 percent of the world total to 4.9 percent, largely reflecting the export of clothing cut pieces and parts for assembly and re-export to the United States. The result was a 13.2 percentage point decline in the US clothing share balance over the 1980-98 period.

The United States is by far the most important market for the clothing exports of developing countries. In 1998 the EU-15 imported $84.2 billion of clothing, but only $48.8 billion came from non-EU-15 sources and about $40 billion of that from developing countries. Total US imports, of $55.7 billion were smaller, but over $50 billion of the total came from developing countries

Germany is the 2nd largest importer of clothing, 12.0 percent of the world total in 1998, down from 19.1 percent of the world total in 1980. Its share of world exports has also declined, from 7.0 percent in 1980 to 4.3 percent in 1998. Italy remains a significant exporter, with an 8.2 percent export share in 1998, but down from 11.2 percent in 1980.

Japan accounted for 7.9 percent of 1998 world apparel imports, up from 3.5 percent in 1980.

The often important but changing role of clothing exports in the industrialization of developing countries is illustrated by the data in **Table 5.84.1**. Because the manufacture of clothing is a labor intensive, low skill industry with relatively low capital requirements, it has often been one of the initial major exports of developing countries. For example, paralleling its drive to industrialize and to enter world markets, China's share of the world export market grew from 4.0 percent in 1980 to 8.9 percent in 1990 and 16.7 percent in 1998. Over the same period Mexico's share of the world clothing market grew from zero percent to 3.7 percent and India's from 1.4 to 2.4 percent.

However, as their industrialization has succeeded and wage levels have risen in developing countries, they have turned to products requiring higher skills and wages and clothing manufacturing and exports have become less important to them. These trends are illustrated by the decline of Korea's export share from 7.2 percent in 1980 to 2.6 percent in 1998 and by Taipei's export share move from 5.9 percent in 1980 to 1.8 percent in 1998.

It seems likely that these trends will continue, with developed countries increasingly dependent on imports for their apparel needs and with clothing manufacturing, in the search for low production costs, continuing to shift to countries with lower labor costs.

Role in US Trade

US exports of apparel in 1999 were $8.3 billion, only 1.4 percent of total manufactures exports. Imports were $56.4 billion, 6.4 percent of the import total, yielding the 2nd largest product group deficit, $48.1 billion, double the $24.1 billion level of 1989 **(Table 5.84.2)**. Growth in the deficits has been consistent in each of the five apparel subcategories (SITC 841 through SITC 845). First-half data indicate further expansion of apparel deficit in 2000, perhaps to as much as $52 billion.

Exports are now about one-seventh of imports, compared to about one-fourteenth ten years earlier in 1989. The faster rate of growth in exports, however, simply reflects an expansion of exports of parts and cut pieces of clothing for foreign finishing and re-export to the United States. Under section 807 of the US tariff schedule US manufacturers are permitted to ship cut fabric pieces overseas to be assembled and re-exported to the United States. Duty is assessed only on the value added during assembly. Exports of cut parts to foreign assemblers add to US exports but when the finished products return to the United States they include the value added by foreign workers and thus increase imports by more than the original export value. In 1999, 20.9 percent of US apparel exports went to Mexico, and 44.1 percent to other destinations in Latin America, including Caribbean Basin Initiative (CBI) countries **(Table 5.84.2)**. As recently as 1994 Mexico took only 20.9 percent of US apparel exports; the other Latin American countries, 37.3 percent. The vast majority of these exports were parts and pieces destined to be included in US apparel imports **(Table 5.84.3)**.

Although Mexican and other Latin American sources are gaining shares in the US import market, Asia is still the largest source of US imports. Apparel imports from Mexico were 5.1 percent of the 1994 total; 13.9 percent in 1999. Other Latin American countries took 12.3 percent of the US import market in 1994; 15.7 percent in 1999. Asian suppliers still had the largest 1999 share, however, 54.6 percent. Within Asia, however, the sources of US imports have been changing. Korea and Taiwan were once

major suppliers but as their wage levels have risen China and other countries have increased their shares of US imports. China supplied 13.0 percent of 1999 US apparel imports, down from 17.2 percent in 1994; 4.0 percent came from Korea; and 3.7 percent from Taiwan **(Table 5.84.3)**.

Further shifts in the sourcing of US apparel imports are likely. *"Under production sharing arrangements in the CBI [Caribbean Basin Initiative] countries and Mexico, US firms export apparel components to these countries for assembly and return to the United States so that they can qualify for quota preferences and, in the case of Mexico, tariff preferences…Much of the growth in US apparel imports can be attributed to Mexico, as US firms continue to seek an advantage from the duty and quota provisions offered by NAFTA. More than two-thirds of US imports from Mexico are made up of US components, in contrast to Asian imports, which use virtually no US components. Mexico caught up with China as the largest supplier of US apparel in 1998, with a 13 percent share of the total, up from 11 percent a year earlier. China's share of total apparel imports declined from 15 percent in 1997 to 13 percent in 1998. Imports from the CBI countries, which had been posting significant increases during the previous few years, increased 8 percent in 1998. …Imports from the traditional big four suppliers China, Hong Kong, Taiwan, and South Korea, continued to lose share of the US market to imports from Mexico and the CBI countries. However, other Asian countries, particularly those which experienced serous economic crisis, aided by inexpensive inputs and devalued currencies, increased their share of total imports to the United States."* ***US Industry and Trade Outlook 2000, p33-2.***

"As global competition intensifies, in the coming years, imports probably will continue to increase. Mexico probably will continue to expand its share of US imports as US apparel producers and suppliers of apparel fabric relocate their operations to that country. CBI countries, in the absence of NAFTA equivalent duty and quota treatment will continue to lose share to Mexico. Various proposals for "Caribbean Basin Trade Enhancement" have been introduced by the administration and Congress in recent years. Those proposals differ in specifics, but in general they would provide CBI beneficiary countries with access to the US apparel market similar to that accorded to Mexico under the terms of NAFTA, particularly for products made from US components." ***US Industry and Trade Outlook 2000, p. 33-4.***

In fact, the Trade and Development Act of 2000, signed May 18, 2000, granted duty-free entry of apparel to US markets to Sub-Saharan African and CBI countries who use US-made and domestic-made fabrics (cutting into parts and pieces is not required) and meet GDP and other specified conditions. This will further aid the competitive position of these countries and intensify competition for the US market.

Also, *"Of particular relevance to US manufacturers is the elimination of apparel quotas on imports as mandated by the World Trade organization (WTO) Agreement on Textiles and Clothing. On December 31, 2004, the phaseout of quotas will be complete for current members of WTO. This undoubtedly will intensify competition from low-cost suppliers in Asia and heighten the importance of preferential arrangements that offer benefits for products made from US components."* ***US Industry and Trade Outlook 2000, p. 33-4.***

Outlook

The strength of the US economy and the growing affluence of US consumers, together with the lower prices resulting from foreign competition have greatly increased the total and per capita consumption of apparel in the United States. "*Between 1997 and midyear 1999, overall consumer expenditures rose an average of 5.4 percent per year while expenditures for clothing rose 6.3 percent per year…Apparel demand is influenced by a variety of factors, including demographic trends. Growth in the number of households headed by baby boomers …who are in their prime earning years, accounts for a large*

portion of apparel sales…Teens have more available income than ever before and have an impact on apparel spending as they prefer to buy trendy and brand name clothes…Significant growth in the population of older Americans also bodes well for apparel spending. Those consumers are less concerned about fashion and concentrate more on comfort and function, spurring demand for casual clothing…A trend that is accelerating spending on casual clothing is the movement toward dressing down in the workplace…As with other consumer items, the focus in apparel spending is on value. Consumers are demanding higher-quality apparel at lower prices. This demand is being met largely through low-priced imports that exert downward pressure on the prices of domestically produced apparel. As a result of these import and pricing pressures, US apparel producers are not benefiting significantly from greater personal consumption expenditures on apparel." ***US Industry and Trade Outlook 2000, p. 33-2.***

Clothing manufacturers have taken note of demographic and taste trends and worked to increase per capita consumption of clothing. This increase is evidenced in many ways, including big increases in the sizes of closets in newly constructed homes compared to those of earlier decades. Today, as one observer commented, rising affluence, advertising, changing life styles, and lower clothing costs have induced the typical American to change clothes two or three times a day as different clothing for work, athletics, and casual wear have become the norm. The limits of growth in US per capita clothing consumption are uncertain but probably not yet reached if incomes continue to grow and prices continue to decline.

In response to these trends and foreign competition, many US firms with internationally-known brand names have globalized, trying to tap foreign markets. Production for those markets and for much of the US market has moved to foreign sources with research, design, and marketing functions continuing to be headquartered in the United States. For remaining US production, New York is no longer the largest source. Southern California is now the largest US apparel manufacturing center, employing largely immigrants.

Conclusions

- In response to rising affluence and lower prices made possible by foreign competition, US per capita consumption of clothing has increased dramatically over recent decades, generating ever enlarging apparel trade deficits.
- Apparel trade produced the 2nd largest 1999 manufactures product group deficit, $48.1 billion. First-half data indicate the deficit will increase in 2000, perhaps to as much as $52 billion.
- The United States is highly dependent on imports for its apparel needs. US imports were equivalent to 15 percent of the value of the domestic market in 1981, more than 30 percent in 1987 and almost 40 percent of apparent consumption in 1996. The import penetration percentage is almost certainly higher today and likely to continue to rise. As with many other industries, intense competition has driven US and foreign companies to compete in global markets to allow amortization of research, product design, advertising, distribution, and other costs over higher sales levels. US industry is trying to restructure and become more competitive but these moves often lead to the movement of manufacturing operations abroad to serve both US and foreign markets, with research, design, management and marketing functions remaining in the United States.
- Clothing manufacture is a mature, labor intensive industry in which US-based production faces growing competition from imports and is likely to diminish in competitiveness. US manufacturers have attempted, with some success, to increase labor productivity by

computer--aided design (CAD) and computer aided manufacturing (CAM). This technology has been useful in design, pattern making and cutting but has been less successful in sewing operations.

- With sewing operations difficult to automate, US manufacturers have attempted to survive by increasing their exports of cut pieces for assembly abroad and reexport to the United States. This lowers their costs and increases their competitiveness because, under Section 807 of the US tariff schedule, duties are assessed on only the value added by foreign assembly operations. While the net result of these section 807 transactions on US trade balances is less than from imports where all operations are performed outside the US, the continuing shift of major portions of the manufacturing process to foreign sources in these section 807 transactions will, nonetheless, further add to the US trade deficit.
- Increased US exports -- mostly cut parts -- are unlikely to narrow the US apparel trade deficit. The increased US exports of cut parts and other clothing components is shifting US import sources from Asia to Mexico and Sub-Saharan and CBI countries. But the preferences granted to these countries will also likely act to speed the movement of US production to them and thus the growth of net apparel imports.
- Unlike much of US manufacturing, the apparel industry long enjoyed some protection from foreign imports in the form of import quotas. The demise of import quotas, to be phased out by 2004, will further add to imports. It thus seems likely that even greater portions of the consumption of US apparel will be supplied by imports.
- Given the labor-intensive nature of apparel manufacturing, the availability of rapid communications and transportation, the abundant global sources of low cost labor, and the appeal of the large, open US market to foreign producers, apparel manufacturing is among the US industries least likely to improve significantly its trade performance. Modest declines in the US dollar are unlikely to have important effects on the apparel trade balance. Given US clothing consumption growth, significant declines in the apparel deficit are unlikely absent unfavorable US economic conditions. The growth and size of the US apparel deficit will be largely determined by US economic growth rates and whether US consumers continue to spend the same portions of growing incomes on apparel. Continued economic growth and continuation of current consumption patterns will mean continuing expansion of the apparel deficit.

Table 5.84.1 Percent Shares in World Clothing Trade

		1980	1990	1998	Change 1980-98
US	Exports	3.1	2.4	4.9	1.8
	Imports	15.9	23.6	29.9	14
	Share Balance	*-12.8*	*-21.2*	*-25*	*-13.2*
Italy	Exports	11.2	11	8.2	-3
	Imports	1.8	2.3	3.1	1.3
	Share Balance	*9.4*	*8.7*	*5.1*	*-4.3*
Germany	Exports	7	7.3	4.3	-2.7
	Imports	19.1	17.9	12	-7.1
	Share Balance	*-12.1*	*-10.6*	*-7.7*	*4.4*
UK	Exports	4.6	2.8	2.7	-1.9
	Imports	6.6	6.1	6.4	-0.2
	Share Balance	*-2*	*-3.3*	*-3.7*	*-1.7*
France	Exports	5.6	4.3	3.2	-2.4
	Imports	6	7.3	6.3	0.3
	Share Balance	*-0.4*	*-3*	*-3.1*	*-2.7*
Belg./Lux.	Exports	2.4	1.9	2.3	-0.1
	Imports	4.2	3.1	2.8	-1.4
	Share Balance	*-1.8*	*-1.2*	*-0.5*	*1.3*
Mexico	Exports	0	0.5	3.7	3.7
	Imports	0.3	0.5	2	1.7
	Share Balance	*-0.3*	*0*	*1.7*	*2*
China	Exports	4	8.9	16.7	12.7
India	Exports	1.4	2.3	2.4	1
Korea	Exports	7.2	7.3	2.6	-4.6
Turkey	Exports	0.3	3.1	3.9	3.6
Thailand	Exports	0.7	2.6	2.1	1.4
Taipei	Exports	5.9	3.7	1.8	-4.1
Japan	Exports	3.5	7.7	7.9	4.4

Source: WTO Annual Report, 1999

Table 5.84.2 Articles of Apparel and Clothing (SITC 84) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
84-- Articles Of Apparel and Clothing								
Exports	5.6	6.7	7.5	8.7	8.8	8.3	2.7	47.2%
Imports	36.7	39.5	41.6	48.4	53.7	56.4	19.7	53.5%
Balance	(31.1)	(32.9)	(34.0)	(39.7)	(44.9)	(48.1)	(17.0)	-
of which								
841-- Men's Or Boy's Coats, Jackets Etc, Not Knit								
Exports	1.4	1.4	1.6	1.8	1.6	1.4	0.0	0.6%
Imports	8.3	9.1	9.2	10.6	11.7	11.9	3.6	44.1%
Balance	(6.9)	(7.7)	(7.6)	(8.9)	(10.1)	(10.5)	(3.6)	-
842-- Women/Girls Coats, Not Knit								
Exports	0.8	0.8	0.9	1.0	1.0	0.8	0.0	4.6%
Imports	9.6	9.7	10.3	11.7	12.7	12.7	3.1	32.3%
Balance	(8.8)	(8.8)	(9.4)	(10.8)	(11.7)	(11.9)	(3.1)	-
843-- Men's Or Boys' Coats, Jackets, Knitted								
Exports	0.4	0.4	0.5	0.5	0.5	0.5	0.1	35.2%
Imports	1.5	2.1	2.5	3.0	3.3	3.3	1.8	119.0%
Balance	(1.1)	(1.7)	(2.0)	(2.4)	(2.8)	(2.7)	(1.6)	-
844-- Women's Or Girls' Coats, Capes, Knit								
Exports	0.4	0.5	0.5	0.6	0.6	0.6	0.2	53.9%
Imports	2.8	3.2	3.3	4.0	4.4	4.7	1.9	69.4%
Balance	(2.4)	(2.8)	(2.8)	(3.3)	(3.8)	(4.2)	(1.7)	-
845-- Articles Of Apparel Of Textile Fabrics								
Exports	1.6	2.1	2.3	2.7	2.6	3.0	1.4	92.4%
Imports	10.0	10.8	11.4	13.8	16.0	18.0	7.9	79.4%
Balance	(8.4)	(8.8)	(9.1)	(11.1)	(13.4)	(15.0)	(6.5)	-
846-- Clothing Accessories								
Exports	0.7	1.0	1.3	1.5	1.9	1.5	0.8	126.8%
Imports	1.1	1.2	1.3	1.6	1.7	1.8	0.8	69.7%
Balance	(0.4)	(0.2)	0.0	(0.0)	0.2	(0.3)	0.1	-
848-- Apparel & Accessories Except Textile; Headgear								
Exports	0.5	0.5	0.5	0.6	0.5	0.5	(0.0)	-3.5%
Imports	3.5	3.4	3.6	3.8	3.9	4.0	0.5	14.8%
Balance	(3.0)	(2.9)	(3.1)	(3.2)	(3.5)	(3.5)	(0.5)	-

Source: US Dept of Commerce

Table 5.84.3 Articles of Apparel and Clothing (SITC 84) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	5.6	6.7	7.5	8.7	8.8	8.3	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.5	0.6	0.6	0.7	0.8	0.7	8.6	8.5	7.8	8.5	8.8	9.0
	Mexico	1.2	1.4	1.7	2.2	2.6	2.6	20.9	20.7	22.7	25.7	30.1	30.9
	EU15	0.5	0.6	0.6	0.6	0.5	0.4	8.9	8.3	8.0	6.7	5.4	4.5
	Germany	0.1	0.1	0.1	0.1	0.1	0.1	1.6	1.5	1.4	0.9	0.8	0.7
	France	0.1	0.1	0.1	0.1	0.1	0.0	1.1	0.9	0.7	1.0	0.7	0.4
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.5	0.3	0.3	0.4
	United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	1.5	1.3	1.6	1.7	1.4	1.2
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.0	1.2	1.0	1.1	1.1	0.7	0.5
	Japan	0.8	1.0	1.0	0.7	0.5	0.4	14.0	14.4	13.0	8.3	5.5	5.4
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.2	0.1
	Hong Kong	0.0	0.1	0.1	0.1	0.1	0.0	0.8	0.8	0.7	0.7	0.6	0.5
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.7	0.5	0.1	0.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.5	0.4	0.2	0.2
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5	0.4	0.4	0.3	0.4
	South & Central America	2.1	2.5	3.0	3.6	3.8	3.6	37.3	38.3	39.5	41.8	43.0	44.1
	Rest of World	0.4	0.4	0.4	0.5	0.4	0.3	6.3	5.9	5.1	5.5	4.9	3.9
Imports	US from World	36.7	39.5	41.6	48.4	53.7	56.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.7	0.9	1.1	1.3	1.6	1.7	1.9	2.2	2.6	2.8	2.9	3.1
	Mexico	1.9	2.9	3.8	5.3	6.8	7.8	5.1	7.3	9.3	11.1	12.7	13.9
	EU15	1.7	1.9	2.2	2.3	2.5	2.4	4.7	4.9	5.2	4.7	4.6	4.3
	Germany	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.1
	France	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.4	0.5	0.4
	Italy	1.0	1.2	1.4	1.5	1.6	1.6	2.7	3.0	3.4	3.1	3.1	2.9
	United Kingdom	0.2	0.2	0.2	0.2	0.3	0.2	0.5	0.5	0.5	0.5	0.5	0.4
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.9	1.1	1.1	1.3	1.6	1.5	2.5	2.9	2.8	2.7	2.9	2.7
	Japan	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2	0.2	0.2
	Taiwan	2.3	2.2	2.1	2.2	2.2	2.1	6.2	5.4	5.0	4.5	4.1	3.7
	Hong Kong	4.4	4.3	4.0	4.0	4.5	4.3	12.0	11.0	9.6	8.3	8.4	7.7
	Korea	2.2	1.8	1.5	1.7	2.0	2.3	6.0	4.6	3.7	3.4	3.8	4.0
	Singapore	0.5	0.4	0.3	0.3	0.3	0.3	1.3	1.1	0.8	0.6	0.6	0.6
	China	6.3	5.9	6.3	7.4	7.1	7.4	17.2	14.8	15.2	15.4	13.3	13.0
	Other Asia	9.0	10.1	10.7	12.3	13.8	14.3	24.4	25.7	25.7	25.4	25.7	25.4
	South & Central America	4.5	5.5	6.1	7.7	8.3	8.9	12.3	13.9	14.6	15.8	15.5	15.7
	Rest of World	2.2	2.4	2.3	2.5	2.9	3.2	6.0	5.9	5.5	5.2	5.4	5.7
Balance	US with World	-31.1	-32.9	-34.0	-39.7	-44.9	-48.1						
	Canada	-0.2	-0.3	-0.5	-0.6	-0.8	-1.0						
	Mexico	-0.7	-1.5	-2.1	-3.1	-4.2	-5.3						
	EU15	-1.2	-1.4	-1.6	-1.7	-2.0	-2.0						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	-0.1	-0.2	-0.2	-0.1	-0.2	-0.2						
	Italy	-1.0	-1.1	-1.4	-1.5	-1.6	-1.6						
	United Kingdom	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.9	-1.1	-1.1	-1.2	-1.5	-1.5						
	Japan	0.7	0.9	0.9	0.6	0.4	0.4						
	Taiwan	-2.3	-2.1	-2.0	-2.2	-2.2	-2.1						
	Hong Kong	-4.4	-4.3	-3.9	-4.0	-4.5	-4.3						
	Korea	-2.2	-1.8	-1.5	-1.6	-2.0	-2.2						
	Singapore	-0.4	-0.4	-0.3	-0.3	-0.3	-0.3						
	China	-6.3	-5.8	-6.3	-7.4	-7.1	-7.3						
	Other Asia	-8.9	-10.1	-10.6	-12.2	-13.8	-14.3						
	South & Central America	-2.4	-2.9	-3.1	-4.0	-4.6	-5.2						
	Rest of World	-1.8	-2.0	-1.9	-2.0	-2.5	-2.9						

Source: US Dept of Commerce

Footwear (SITC 85)

The US footwear industry has faced intense competition for at least 30 years. Its share of the US market has steadily shrunk and the market is now dominated by imports. Footwear has long contributed substantially to US trade deficits, a situation that will persist.

Description of the Product Group

Footwear is given only one 3-digit SITC subcategory (SITC 851), all footwear. In other statistical classifications, however, the industry is frequently divided into two major subcategories, nonrubber footwear and rubber or rubber-soled fabric footwear. The nonrubber segment of the footwear industry is by far the larger of the two, accounting for about 87 percent of total 1997 imports on a unit basis. Because most nonrubber footwear items are priced higher than rubber footwear, they account for an even larger percentage of the value of consumption.

Role In World Trade

The WTO does not publish export and import share trade data on footwear. However, the manufacture and export of footwear, a labor-intensive industry, has clearly been important in world trade and in the industrialization of several developing countries. According to a recent assessment, *"Asia, including China, has become the largest shoe manufacturing area, and according to the industry publication World Footwear markets, 1999, that area produced almost 71 percent of all footwear manufactured in the world in 1997. The publication also estimated world production of all types of footwear at 11 billion pairs…After Asia, the largest production areas were western Europe with 9.9 percent of total world footwear output and South America with 6.9 percent. In Asia, production has moved away from Taiwan and South Korea, the leading producers and exporters in the 1970s and 1980s, to low labor cost countries such as China, Indonesia, Thailand, India, and more recently, Vietnam. In 1997, China's footwear production totaled 5.2 billion pairs, 47.5 percent of the world total of 13 billion pairs…In 1997, the United States was by far the world's largest footwear importer, receiving 1.5 billion pairs or 22 percent of the world total. European Union imports totaled about 4.2 billion pairs in 1997."* ***Industrial and Trade Outlook, 2000, p. 34-5.***

Role in US Trade

In 1999, at $0.8 billion, footwear was only 0.1 percent of US manufactures exports but the $14.1 billion of imports was 1.6 percent of manufactures imports **(Tables 5.4 and 5.5)**. The result was a deficit of $13.2 billion, the eighth largest of the manufactures product groups. Footwear deficits have increased with the growth of the affluence of American consumers, from $3.0 billion in 1981 to $7.3 billion in 1987, $9.1 billion in 1990, $11.0 billion in 1994 and $13.2 billion in 1999 **(Table 5.85.1)**. First half-year data indicate a further increase of about $1 billion is likely in 2000. These increases are primarily the result in growth of the volume of shoe imports as, according to the US Bureau of Labor Statistics' international price index for imported footwear, there as been no increase in the average import price since 1990. US per capita consumption of shoes was 6.2 pairs for 1997, compared with world per capita consumption of 1.91 pairs.

The United States is not competitive in the production of footwear and is dependent on imports for most of its needs. *"About 93.5 percent of apparent consumption [of non-rubber footwear] in 1999 was supplied by imports…In 1997, per capita consumption of non-rubber footwear was about 4.7*

pairs…Before 1980 annual per capita consumption of nonrubber footwear seldom reached 4.0 pairs." ***US Industry and Trade Outlook, 2000, p. 34-6****.*

Reflecting changes in the world economy, the source of US imports has shifted over recent decades. *"In 1999, the five largest suppliers by quantity of nonrubber footwear to the United States were China (73 percent of the total, Brazil (11 percent), Indonesia (5 percent), Italy (4 percent), and Spain (1.5 percent). Those five countries accounted for over 91 percent of all US nonrubber footwear imports in that year…In 1999 imports of nonrubber footwear from China increased 9.5 percent and reached a record high of 980 million pairs valued at an estimated $6.78 billion. Taiwan and South Korea, which had been the two major US suppliers until the mid-1980s, are no longer major producers or exporters because of their higher labor costs. Furthermore, Taiwan in particular is now supplying China's expanding footwear manufacturing operations with a large measure of technological and financial support."* ***US Industrial and Trade Outlook, 2000, p.34-7.***

US footwear exports, $0.8 billion in 1999, are primarily quantities of cut footwear parts and other component materials sent to many developing countries, where they are processed and reexported to the United States as partly finished or finished footwear. Imports of such footwear from Caribbean Basin countries are, by statute, accorded duty free treatment if they are produced in those countries with 100 percent US components.

The changing country composition of US exports and imports is shown in **Table 5.85.1**. These data, which include both rubber and nonrubber footwear, show 72.1 percent of US imports coming from Asia, including 60.0 percent from China. Within Asia, the shares of Taiwan and Korea have become very small as they have moved to more sophisticated, less labor-intensive products.

Trade Outlook

First half-year data indicate the 2000 deficit will top the $13.2 billion 1999 level, perhaps increasing to about $14 billion. Moreover, there is little reason to expect longer-term improvement in the footwear trade balance. Rather, the size of the deficit will be determined by per capita consumption -- in turn a function of economic growth rates as well as "fads," such as the recent growth in athletic footwear -- and import prices. Import prices, however, are likely to be relatively stable, given the intense competition for developed country markets among suppliers in low-wage developing countries.

Like most other manufacturing industries, footwear has been undergoing globalization. *"The production of footwear has become a truly global business. The US market is dominated completely by imports, and large domestic manufacturers, importers, wholesalers, and retailers all continue to transfer product sourcing to countries with abundant low-cost labor, particularly those in Asia …Per capita consumption of footwear will increase slightly but the gains will be recorded in casual and other types rather than in athletic footwear as the average age of the population increases. This shift in demand will result in the production of fewer pairs of higher quality, more comfortable footwear that wears longer than do most of the current styles."* ***US Industry and Trade Outlook, 2000, p. 34-9.***

The United States is dependent on foreign supplies of footwear, a situation unlikely to change in the foreseeable future, despite the fact that *"The industry has demonstrated an ability to respond quickly and effectively to changes in the market. However, large producers in the Far East, particularly in China, have adopted some of the new technology and could become even more price-competitive than they are today…Consequently, lower-cost foreign production could continue to provide stiff competition for domestic producers and limit their opportunity to increase their share of the US footwear market."* ***US Industry and Trade Outlook 2000, p. 34-9.***

Thus, absent a significant downturn in US economic growth and/or a very large decline in the dollar exchange rate relative to producing countries, there is little prospect of meaningful improvement in the $13.2 billion 1999 footwear trade deficit. Indeed, continued US economic growth will likely lead to further growth in the footwear deficit.

Conclusions

- Footwear has long been important in world trade and footwear exports have been a means by which several developing countries have pursued their export-led growth strategies.
- The United States is the world's largest importer of footwear, with 1.5 billion pairs of imports accounting for about 22 percent of 1997 world exports.
- Footwear provided 0.1 percent of US manufactures exports but 1.6 percent of imports. The result was a $13.2 billion 1999 footwear deficit.
- The United States is dependent on foreign suppliers for its footwear. About 93.5 percent of 1999 nonrubber footwear apparent consumption was supplied by imports.
- Footwear manufacturing is labor-intensive, favoring production in low labor cost areas. Moreover, technological advances in manufacturing processes are readily transferable to foreign producers dependent on exports.
- The small ($0.9 billion in 1999) US footwear exports are largely parts and pieces destined for further processing in low labor cost countries and re-export to the United States.
- Absent a US economic downturn and/or a major fall in the US dollar exchange rate vis-à-vis the producer countries, a substantial decrease in the $13.2 billion 1999 footwear deficit seems unlikely. Indeed, continued economic growth will likely lead to gradual further modest increases in the deficit.

Table 5.85.1 Footwear (SITC 85) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.8	0.8	0.9	0.9	0.9	0.8	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.2	0.2	0.2	16.3	17.3	15.4	17.0	20.4	21.4
	Mexico	0.1	0.1	0.1	0.1	0.1	0.1	13.6	9.1	8.6	11.5	11.9	13.1
	EU15	0.2	0.2	0.1	0.1	0.1	0.1	20.9	19.5	14.9	11.0	11.4	10.7
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	4.0	2.5	2.2	1.1	0.9	0.8
	France	0.0	0.0	0.0	0.0	0.0	0.0	3.7	2.9	2.3	1.1	1.6	1.3
	Italy	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.2	1.0	0.9	0.8	0.8
	United Kingdom	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.5	3.0	2.0	2.0	2.3
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1
	Other Europe	0.0	0.0	0.0	0.0	0.0	0.0	5.1	3.9	2.2	1.7	1.5	1.5
	Japan	0.1	0.1	0.1	0.1	0.1	0.1	11.7	12.6	13.9	14.4	13.8	12.4
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.4	1.2	1.1	0.6	0.4
	Hong Kong	0.0	0.0	0.1	0.1	0.1	0.1	3.7	5.0	7.7	6.1	6.0	6.7
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	2.4	3.7	4.3	2.6	1.0	1.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8	0.8	0.9	0.8	0.9
	China	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.1	1.0	2.3	3.5	4.9
	Other Asia	0.0	0.0	0.1	0.1	0.0	0.1	2.2	3.4	5.8	5.6	4.4	6.6
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	9.9	11.3	13.2	15.5	15.4	12.5
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	10.7	10.7	10.9	10.5	9.4	7.8
Imports	US from World	11.7	12.1	12.7	14.0	13.9	14.1	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.8	0.8	0.8	0.7	0.6
	Mexico	0.2	0.2	0.3	0.4	0.3	0.4	1.8	2.0	2.4	2.8	2.5	2.5
	EU15	1.6	1.8	2.0	2.1	2.1	2.0	13.4	14.5	15.4	14.9	14.8	14.5
	Germany	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.6	0.5	0.5	0.5	0.6
	France	0.1	0.1	0.0	0.1	0.1	0.1	0.5	0.5	0.4	0.4	0.5	0.5
	Italy	0.9	1.0	1.2	1.2	1.2	1.2	7.6	8.4	9.5	8.5	8.5	8.5
	United Kingdom	0.1	0.1	0.2	0.2	0.2	0.2	0.7	1.0	1.2	1.7	1.7	1.7
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other Europe	0.2	0.1	0.1	0.1	0.2	0.2	1.3	1.2	0.8	1.0	1.1	1.2
	Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Taiwan	0.5	0.4	0.3	0.2	0.1	0.1	3.9	2.9	2.0	1.3	1.1	0.8
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1	1.1	0.9	0.6	0.7	0.4	0.4
	Korea	0.7	0.5	0.3	0.2	0.2	0.2	5.8	4.3	2.7	1.7	1.3	1.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	China	5.3	5.8	6.4	7.4	8.0	8.4	44.9	48.1	50.1	52.9	57.7	60.0
	Other Asia	1.5	1.6	1.6	1.8	1.4	1.4	12.5	13.1	12.9	12.9	10.2	9.7
	South & Central America	0.3	0.3	0.3	0.3	0.3	0.3	2.7	2.3	2.4	2.4	2.3	1.8
	Rest of World	1.4	1.2	1.3	1.2	1.1	1.0	11.7	9.9	9.9	8.6	7.9	7.3
Balance	US with World	-11.0	-11.3	-11.9	-13.1	-13.0	-13.2						
	Canada	0.0	0.0	0.0	0.0	0.1	0.1						
	Mexico	-0.1	-0.2	-0.2	-0.3	-0.2	-0.2						
	EU15	-1.4	-1.6	-1.8	-2.0	-2.0	-2.0						
	Germany	0.0	-0.1	0.0	-0.1	-0.1	-0.1						
	France	0.0	0.0	0.0	0.0	-0.1	-0.1						
	Italy	-0.9	-1.0	-1.2	-1.2	-1.2	-1.2						
	United Kingdom	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2						
	Japan	0.1	0.1	0.1	0.1	0.1	0.1						
	Taiwan	-0.4	-0.3	-0.2	-0.2	-0.1	-0.1						
	Hong Kong	-0.1	-0.1	0.0	0.0	0.0	0.0						
	Korea	-0.7	-0.5	-0.3	-0.2	-0.2	-0.2						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-5.3	-5.8	-6.4	-7.4	-8.0	-8.4						
	Other Asia	-1.5	-1.6	-1.6	-1.8	-1.4	-1.3						
	South & Central America	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2						
	Rest of World	-1.3	-1.1	-1.2	-1.1	-1.0	-1.0						

Source: US Dept of Commerce

Professional, Scientific, and Controlling Instruments (SITC 87)

Professional, scientific, and controlling instruments include a variety of equipment falling into two broad groups. The first consists of equipment used primarily to measure, analyze, and test other materials and equipment. Equipment in this product group is increasingly used in production processes to provide feedback, to allow better control, and to improve product quality. The second group includes medical equipment and devices, except for electromedical and radiological apparatus included in SITC 774. Also of growing importance to this segment of SITC 87 is the increased monitoring of health, safety, and environmental hazards.

Description of the Product Group

Professional, scientific, and controlling equipment contains four 3-digit SITC categories:

871 Optical Instruments And Apparatus (Telescopes And Microscopes)

872 Medical Instruments And Appliances, Not Elsewhere Specified (Medical Equipment, Excluding Equipment Included In SITC 774 -- Electric Apparatus For Medical Purposes And Radiological Apparatus)

873 Meters And Counters, Not Elsewhere Specified (Gas, Electric, And Liquid Meters, Etc.)

874 Measuring, Checking, Analyzing, And Controlling Instruments And Apparatus, Not Elsewhere Specified, As Well As Parts And Accessories, Not Elsewhere Specified, Of The Instruments And Apparatus Of Subcategories 873 And 874 (This Includes Survey And Navigational Equipment, Chromatographs, Spectrometers, Etc.)

Role in US Trade

Professional and scientific instruments is a relatively small portion of US manufactures trade, 4.4 percent of US exports, 2.0 percent of imports, that has provided consistent surpluses. Surpluses grew from $3.5 billion in 1987 to $11.1 billion in 1997 and then declined to $9.3 billion in 1999.

Items from this product group in the top 100 US exports and imports at the 5-digit SITC level were:

(Billions of Dollars)

	Exports	Imports
SITC 872 Medical Instruments & Appliances		
Instruments and appliances for medical, surgical, etc. use	3.12	2.25
Syringes, catheters, needles, cannulae, etc.	1.91	n.a.
SITC 874 Measuring, checking & analyzing instruments		
Instruments & apparatus for measuring/checking	2.13	n.a.
Regulating and controlling instruments and apparatus	1.89	1.87
Measuring & checking instruments & apparatus	1.70	n.a.
Instruments/apparatus for physical/chemical analysis	1.01	n.a.

Performance in this product group is driven primarily by SITC 874, measuring/checking/analyzing instruments, which yielded a $7.8 billion surplus in 1999, down from $8.4 billion in 1997 **(Table 5.87.1)**. Of secondary importance is SITC 872, medical instruments and apparatus, with a $2.4 billion surplus, down from $3.0 billion in 1997. Together these two subcategories provided almost 93 percent of 1999's SITC 87 exports, 84 percent of imports.

About one-third of US exports of SITC 874 measuring and checking instruments has gone to Asian destinations in recent years, another one-third to Europe, and just under one-fourth to Canada and

Mexico **(Table 5.87.2)**. Demand for many of the products in this subcategory is dependent on spending for plant and equipment and R&D. Economic slowdowns in Europe and Asia have thus restrained the growth of exports and US surpluses.

Over two-fifths of imports in 1999 were from Europe, one-fourth from Canada and Mexico, and just over one-fifth from Japan. Many of the products in this category are high technology items, requiring sophisticated manufacturing processes and are relatively insensitive to labor costs. For these items, there has been less motivation to shift production to low labor cost areas. Nevertheless, there is some evidence of shifting production bases. For example, Mexico's share of US imports rose from 11.0 percent in 1994 to 15.3 percent in 1999. Over the same period, Japan's share declined from 25.9 percent to 20.7 percent while China's rose from 2.2 percent to 3.1 percent.

In the smaller but perhaps even more sophisticated medical instruments and appliances (SITC 872) trade almost 47 percent of 1999 US exports went to European destinations, 17.9 percent to Canada and Mexico, and 22.6 percent to Asia **(Table 5.78.3)**. Imports were 35.5 percent from Europe, 17.4 percent from Mexico and 26.4 percent from Asia, with the Japanese share falling from 17.2 percent in 1994 to 8.8 percent in 1999.

Outlook

Many items in the measuring, checking and analyzing instruments (SITC 874) subcategory are highly dependent on spending for plant and equipment and R&D. A recovery in the Asian economies and a speedup in Europe should boost US exports in this product group and a slowdown in US economic group would restrain imports.

The major competitors for world markets in the more sophisticated instruments are Japan, Germany, the United Kingdom and Switzerland. But the already tough competition for world markets will inevitably increase as the production capabilities of developing countries continues to grow. Evidence includes the rising US imports from Mexico, which in 1999 provided 15.3 percent of US SITC 874 imports.

Rising affluence in many foreign countries and aging populations in many developed countries should increase global demand for products in the medical instruments and appliances (SITC 872) group. Moreover, the emphasis on technical sophistication of much of the output in this group -- plus the need to modify standard components or custom-design instruments for particular applications -- has mitigated the movement of production to developing countries that has occurred in many other manufactured items. US producers are in a strong position in many products. *"[There is] continued demand for US produced advanced technology medical deices such as magnetic-resonance-imaging (MRI), computed tomographic (CT), ultrasound, and x-ray equipment to markets such as Europe, Canada, and Latin America. Other high technology medical goods manufactured in the United States that are in demand globally include pacemakers, cardioverter defibrillators, cardiac stents, and electrosurgical equipment."* ***Shifts in US merchandise Trade in 1998, ITC, p. 13-11.***

Nevertheless, the United States has no monopoly on medical technology or the manufacture of the equipment to use that technology. There is already strong competition for world markets -- Germany, the United Kingdom and Japan are particularly strong competitors in many product groups. *"Japan and Germany continued to be the largest suppliers of medical goods to the United States during 1997-98…US imports from Japan increased by $93 million (9 percent) to $1.1 billion. Most of these imports consisted of medical imaging products, such as ultrasound scanning devices and optical medical goods, such as endoscopes and patient monitoring equipment. Japanese producers are strong in the manufacture of small-size medical imaging products which are ideal for use by community hospital*

centers or mobile imaging units in the United States." ***Shifts in US Merchandise Trade in 1998, ITC, p.13-12****.*

And, as in most other manufactured goods, international competition in this product group will get tougher as the capabilities of developing countries increase. For example, *"Other countries that have significantly increased their supply of medical equipment to the United States include Israel and Singapore…Israel's medical devices industry is a leader in medical imaging equipment, electronic cardiology and blood pressure monitoring systems, and other advanced technology medical products. Further, the Israeli industry exports much of its production, especially to the United States…Much of the increase in US medical equipment imports from Singapore was a result of acquisitions of production facilities by US headquartered companies, as well as Singapore government promotion of the economy as a base for original equipment and original design manufacturing capabilities for the global medical devices industry."* ***Shifts in US Merchandise Trade in 1998, ITC, p. 13-12.***

Conclusions

- Professional and scientific instruments is a small portion of US manufactures trade, 4.4 percent of US exports, 2.0 percent of imports, but it has provided consistent surpluses that rose to $11.1 billion and then, reflecting economic conditions in Asia, declined to $9.3 billion in 1999.
- It is one of the strongest US trade performers. Moreover, the United States should continue to exhibit strong performance in this product group. Faster economic growth in Europe and Asia, together with somewhat slower levels of growth and investment in the United States, may well lead to increased exports, a slowdown in import growth, and enlarged US surpluses, even as production diversifies globally and competition increases.
- Unfortunately, however, world markets for professional and scientific instruments are small compared to markets for many consumer goods, such as automobiles, computers, clothing, shoes, etc, and US deficits incurred in these and other product groups. Maintenance -- even expansion -- of the US share of world markets in professional and scientific instruments is thus likely to result in only relatively small increases in surpluses above the $9.3 billion level of 1999.

Table 5.87.1 Professional and Scientific Instruments (SITC 87) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
87-- Professional Scientific Instruments								
Exports	17.2	19.4	21.4	25.0	25.4	26.9	9.7	56.4%
Imports	10.0	11.6	12.4	13.9	15.5	17.6	7.7	77.1%
Balance	7.2	7.8	9.1	11.1	9.9	9.3	2.0	-
of which								
871-- Optical Instruments And Apparatus								
Exports	0.7	0.8	1.0	1.2	1.2	1.4	0.7	106.7%
Imports	0.7	0.9	1.0	1.2	1.4	1.9	1.2	161.1%
Balance	(0.0)	(0.1)	(0.0)	0.0	(0.1)	(0.5)	(0.4)	-
872-- Medical Instruments & Appliances								
Exports	4.3	4.8	5.5	6.2	6.4	6.7	2.4	55.8%
Imports	2.4	2.7	2.9	3.2	3.7	4.4	2.0	84.9%
Balance	2.0	2.1	2.5	3.0	2.7	2.4	0.4	-
873-- Meters And Counters								
Exports	0.5	0.5	0.5	0.6	0.6	0.6	0.1	25.2%
Imports	1.0	1.0	0.9	0.9	1.0	1.1	0.1	13.4%
Balance	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)	(0.5)	(0.0)	-
874-- Measuring/Checking/Analysing Instuments								
Exports	11.7	13.3	14.5	17.0	17.2	18.2	6.4	55.0%
Imports	5.9	7.0	7.6	8.6	9.4	10.3	4.4	74.3%
Balance	5.8	6.3	7.0	8.4	7.8	7.8	2.0	-

Source: US Dept of Commerce

Table 5.87.2 Measuring / Checking / Analyzing Instruments (SITC 874) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	11.7	13.3	14.5	17.0	17.2	18.2	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	2.1	2.3	2.4	2.9	3.0	3.3	18.3	17.2	16.4	16.9	17.2	17.9
	Mexico	1.1	0.8	0.7	1.1	1.2	1.2	9.3	6.1	5.1	6.3	6.9	6.5
	EU15	3.2	3.9	4.0	4.4	5.0	5.4	27.6	29.0	27.4	25.7	29.3	29.5
	Germany	0.8	0.9	0.9	1.0	1.2	1.2	6.4	6.8	6.3	6.2	7.0	6.8
	France	0.5	0.6	0.6	0.6	0.7	0.8	4.7	4.3	4.3	3.7	4.3	4.5
	Italy	0.3	0.3	0.3	0.3	0.4	0.4	2.3	2.6	2.2	2.0	2.2	2.4
	United Kingdom	0.8	0.9	1.0	1.1	1.2	1.3	6.6	6.9	6.7	6.5	7.1	7.3
	Ireland	0.1	0.1	0.1	0.1	0.2	0.1	0.6	0.9	0.6	0.8	1.0	0.8
	Other Europe	0.4	0.5	0.5	0.5	0.6	0.5	3.5	3.6	3.4	3.0	3.5	2.9
	Japan	1.4	1.7	2.1	2.3	2.0	2.0	12.2	13.1	14.6	13.4	11.8	11.3
	Taiwan	0.4	0.4	0.5	0.7	0.8	1.0	3.1	2.9	3.6	4.2	4.5	5.3
	Hong Kong	0.2	0.3	0.2	0.3	0.3	0.3	1.8	1.9	1.7	1.8	1.7	1.7
	Korea	0.6	0.7	1.0	1.0	0.6	0.8	4.8	5.3	6.6	6.1	3.2	4.2
	Singapore	0.3	0.5	0.6	0.7	0.6	0.7	3.0	3.6	4.0	4.3	3.7	4.0
	China	0.3	0.3	0.3	0.4	0.5	0.5	2.3	2.3	2.0	2.2	2.7	2.6
	Other Asia	0.5	0.7	0.8	1.0	0.9	0.8	3.9	5.2	5.2	5.6	5.3	4.4
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.2	0.6	0.7	0.7	0.7	1.0	0.8
	Rest of World	1.1	1.2	1.4	1.7	1.6	1.6	9.6	9.1	9.3	9.8	9.2	8.9
Imports	US from World	5.9	7.0	7.6	8.6	9.4	10.3	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.7	0.8	0.8	0.9	0.9	1.0	11.1	10.9	11.2	10.7	9.6	9.4
	Mexico	0.7	0.7	0.8	1.1	1.4	1.6	11.0	10.4	11.0	12.6	15.2	15.3
	EU15	2.1	2.5	2.8	3.2	3.5	3.9	35.9	35.9	37.3	37.7	37.3	37.8
	Germany	0.7	0.8	1.0	1.1	1.3	1.5	12.2	11.9	12.9	12.2	13.2	14.5
	France	0.2	0.3	0.3	0.3	0.3	0.3	3.6	3.8	3.8	4.0	3.5	3.4
	Italy	0.1	0.1	0.1	0.1	0.1	0.1	1.5	1.4	1.3	1.3	1.2	1.3
	United Kingdom	0.6	0.8	0.9	1.1	1.2	1.3	10.7	10.8	11.4	12.7	12.2	12.1
	Ireland	0.0	0.0	0.1	0.1	0.1	0.0	0.4	0.5	0.7	0.9	0.7	0.5
	Other Europe	0.2	0.3	0.3	0.3	0.3	0.3	4.0	3.8	3.7	3.5	3.5	3.4
	Japan	1.5	1.9	1.9	2.0	2.0	2.1	25.9	27.4	25.4	23.5	21.1	20.7
	Taiwan	0.1	0.1	0.1	0.2	0.2	0.2	2.4	2.1	1.9	1.9	1.8	1.6
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.4	0.5	0.3
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.8	0.7	0.6	0.6	0.7
	Singapore	0.1	0.1	0.1	0.1	0.2	0.2	1.0	1.0	0.9	1.4	2.0	2.3
	China	0.1	0.1	0.2	0.2	0.2	0.3	2.2	2.1	2.3	2.4	2.4	3.1
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	2.2	2.0	1.7	1.2	1.3	1.4
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
	Rest of World	0.2	0.2	0.2	0.3	0.4	0.4	2.8	2.8	3.2	3.8	4.3	3.8
Balance	US with World	5.8	6.3	7.0	8.4	7.8	7.8						
	Canada	1.5	1.5	1.5	1.9	2.0	2.3						
	Mexico	0.4	0.1	-0.1	0.0	-0.3	-0.4						
	EU15	1.1	1.4	1.2	1.1	1.5	1.5						
	Germany	0.0	0.1	-0.1	0.0	0.0	-0.3						
	France	0.3	0.3	0.3	0.3	0.4	0.5						
	Italy	0.2	0.2	0.2	0.2	0.3	0.3						
	United Kingdom	0.1	0.2	0.1	0.0	0.1	0.1						
	Ireland	0.0	0.1	0.0	0.1	0.1	0.1						
	Other Europe	0.2	0.2	0.2	0.2	0.3	0.2						
	Japan	-0.1	-0.2	0.2	0.2	0.0	-0.1						
	Taiwan	0.2	0.2	0.4	0.6	0.6	0.8						
	Hong Kong	0.2	0.2	0.2	0.3	0.2	0.3						
	Korea	0.5	0.6	0.9	1.0	0.5	0.7						
	Singapore	0.3	0.4	0.5	0.6	0.4	0.5						
	China	0.1	0.2	0.1	0.2	0.2	0.1						
	Other Asia	0.3	0.6	0.6	0.9	0.8	0.7						
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.1						
	Rest of World	1.0	1.0	1.1	1.3	1.2	1.2						

Source: US Dept of Commerce

Table 5.87.3 Medical Instruments & Appliances (SITC 872) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	4.3	4.8	5.5	6.2	6.4	6.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.5	0.5	0.5	0.6	0.7	0.8	11.7	10.8	9.5	9.5	11.0	11.9
	Mexico	0.2	0.1	0.2	0.3	0.4	0.4	4.6	3.0	4.5	4.8	5.8	6.0
	EU15	1.8	2.0	2.3	2.6	2.7	2.9	41.5	40.8	41.4	41.9	42.9	43.8
	Germany	0.4	0.4	0.4	0.5	0.4	0.5	8.7	8.1	7.7	7.4	6.9	7.5
	France	0.3	0.3	0.3	0.4	0.5	0.5	6.1	6.0	6.1	6.5	7.4	7.2
	Italy	0.1	0.1	0.1	0.2	0.2	0.2	2.8	2.7	2.4	2.4	2.6	3.0
	United Kingdom	0.3	0.3	0.3	0.3	0.3	0.3	6.1	6.7	5.9	5.2	5.4	4.7
	Ireland	0.1	0.1	0.1	0.2	0.2	0.1	2.1	1.9	2.2	2.6	2.4	2.2
	Other Europe	0.2	0.2	0.2	0.2	0.2	0.2	3.8	3.5	3.3	3.6	3.7	3.1
	Japan	0.6	0.8	1.0	1.1	1.0	1.0	14.7	17.2	17.8	17.2	15.5	14.9
	Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	1.5	1.5	1.5	1.5	1.4	1.4
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1	1.7	1.8	1.3	1.5	1.5	1.4
	Korea	0.1	0.1	0.1	0.1	0.1	0.1	2.2	2.0	2.2	2.0	1.0	1.4
	Singapore	0.1	0.1	0.1	0.1	0.1	0.1	1.3	1.1	1.2	1.3	1.1	1.1
	China	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.7	0.6	0.6	0.9
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	1.9	1.9	2.1	2.0	1.4	1.5
	South & Central America	0.1	0.2	0.2	0.2	0.2	0.2	3.3	4.3	3.5	2.7	2.5	2.5
	Rest of World	0.5	0.6	0.6	0.7	0.7	0.7	11.5	11.8	11.0	11.4	11.5	10.0
Imports	US from World	2.4	2.7	2.9	3.2	3.7	4.4	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.1	0.1	0.1	2.9	2.9	2.7	3.1	2.7	2.6
	Mexico	0.3	0.4	0.5	0.6	0.7	0.8	14.8	15.3	17.7	19.6	18.2	17.4
	EU15	0.7	0.8	0.9	0.9	1.1	1.4	29.9	30.1	29.3	27.7	28.4	32.1
	Germany	0.4	0.4	0.4	0.4	0.4	0.5	16.6	16.0	14.0	12.7	11.9	10.8
	France	0.0	0.0	0.1	0.1	0.1	0.1	2.0	1.7	1.8	2.0	2.0	2.5
	Italy	0.0	0.0	0.0	0.0	0.0	0.1	1.3	1.2	1.2	1.3	1.3	1.4
	United Kingdom	0.1	0.1	0.1	0.1	0.2	0.2	4.6	4.9	5.0	4.6	4.3	3.7
	Ireland	0.0	0.0	0.1	0.1	0.1	0.3	1.4	1.8	2.0	2.1	3.5	7.6
	Other Europe	0.1	0.1	0.1	0.1	0.2	0.1	3.8	3.5	4.3	4.3	4.1	3.4
	Japan	0.4	0.4	0.3	0.3	0.3	0.4	17.2	13.5	11.1	10.6	9.3	8.8
	Taiwan	0.1	0.0	0.0	0.1	0.1	0.1	2.9	1.5	1.4	1.6	1.4	1.7
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.5	0.4	0.3	0.3
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.3	0.4	0.4	0.4
	Singapore	0.2	0.2	0.2	0.2	0.2	0.2	8.7	8.8	6.6	5.3	6.4	5.1
	China	0.1	0.1	0.2	0.3	0.3	0.3	3.3	4.7	7.4	8.6	8.0	7.4
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	4.4	4.0	3.8	3.6	3.3	2.7
	South & Central America	0.2	0.3	0.3	0.4	0.4	0.4	8.3	11.8	11.8	11.2	10.4	10.0
	Rest of World	0.1	0.1	0.1	0.1	0.3	0.4	2.7	2.5	3.1	3.7	6.9	8.1
Balance	US with World	2.0	2.1	2.5	3.0	2.7	2.4						
	Canada	0.4	0.4	0.4	0.5	0.6	0.7						
	Mexico	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3						
	EU15	1.1	1.1	1.4	1.7	1.7	1.5						
	Germany	0.0	0.0	0.0	0.1	0.0	0.0						
	France	0.2	0.2	0.3	0.3	0.4	0.4						
	Italy	0.1	0.1	0.1	0.1	0.1	0.1						
	United Kingdom	0.2	0.2	0.2	0.2	0.2	0.2						
	Ireland	0.1	0.0	0.1	0.1	0.0	-0.2						
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1						
	Japan	0.2	0.5	0.7	0.7	0.6	0.6						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.1	0.1	0.1	0.1	0.1	0.1						
	Korea	0.1	0.1	0.1	0.1	0.1	0.1						
	Singapore	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1						
	China	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3						
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0						
	South & Central America	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3						
	Rest of World	0.4	0.5	0.5	0.6	0.5	0.3						

Source: US Dept of Commerce

Miscellaneous Manufactures (SITC 89)

Miscellaneous manufactures includes a wide variety of products ranging from baskets and brooms to xylophones. Many of the products in this group are relatively low-technology items characterized by labor-intensive production techniques. A significant shift of many of these products from the developed countries to East Asia began in the 1980s and has continued.

Description of the Product Group

Miscellaneous manufactures is divided into a number of three-digit SITC categories:

891 Arms And Ammunition

892 Printed Matter (Newspapers, Books, Magazines, Labels, Banknotes, Maps, Etc.)

893 Plastic Articles, Not Elsewhere Specified (Food Containers, Flooring, Stoppers, Lids, Etc.)

894 Baby Carriages, Toys, Games, And Sporting Goods

895 Office Supplies, Not Elsewhere Specified (Filing Cabinets, Pens, Pencils, Binders, Paper Clips, Etc.)

896 Works Of Art, Etc. (Original Paintings, Statuary, Etc.)

897 Gold, Silverware, And Jewelry

898 Musical Instruments (Also Includes Records, Tapes, And Compact Discs)

899 Other Manufactured Goods (Includes Among Other Items Candles, Umbrellas, Matches, Cigarette Holders, Smoking Pipes, Artificial Limbs, Baskets, Brooms, Buttons, Combs, Vacuum Flasks, And Parachutes)

Role in US Trade

Miscellaneous manufactures is a not a large portion of US trade, 5.3 percent of 1999 manufactures exports, 5.8 percent of imports. It is, however, a persistent and increasing contributor to US trade deficits. Deficits declined from the 1987 level of $9.2 billion to $3.7 billion in 1991 and then began to rise, reaching $19.1 billion in 1999.

The dominant factor in miscellaneous manufactures trade performance is “toys and sporting goods,” SITC 894. Exports of only $3.9 billion and imports of $19.0 billion resulted in a $15.1 billion 1999 deficit **(Table 5.89.1)**. Significant deficits were also incurred in works of art, SITC 896 ($2.6 billion) and in jewelry, SITC 897 ($3.8 billion).

Items in the miscellaneous manufactures product group that were in the top 100 US exports and imports at the 5-digit SITC level were:

(Billions of Dollars)

	Exports	Imports
SITC 891 Arms & Ammunition		
Munitions of war and parts	1.43	n.a.
SITC 892 Printed matter		
Books, brochures	1.89	n.a.
SITC 893 Articles of plastics		
Articles of plastics, not elsewhere specified	3.16	2.56
Articles for conveying & packaging	1.78	n.a.
SITC 894 Toys & Sporting Goods		
Toys, n.e.s.	n.a.	3.99
Toys, representing animals, non-human	n.a.	2.83
Video games used with TV receivers.	n.a.	2.39
Articles, not elsewhere specified, for Christmas decorations.	n.a.	1.52
SITC 896 Works of Art		
Paintings, drawings	n.a.	3.04
SITC 897 Jewelry		
Articles of jewelry & parts, of precious metals	n.a.	4.88
SITC 898 Musical instruments and accessories		
Recorded media, not elsewhere specified, sound	3.34	n.a.
Magnetic discs for sound recording	1.16	n.a.

Outlook

Miscellaneous manufactures is a diverse product group. Assessing the outlook for the group requires looking at the prospects for the more important subcategories.

During the 1980s printed matter, SITC 892, was the largest of the miscellaneous manufactures trade subcategories and produced consistent small surpluses. It still provides annual surpluses in the $1 to $2 billion range but both exports and imports are relatively flat and printed matter is now only a small portion of miscellaneous manufactures trade. Given the small dollar value amounts involved, printed matter is unlikely to be a critical factor -- either positive or negative -- in future US trade performance.

Toys and sporting goods, SITC 894, is an increasingly dominant portion of miscellaneous manufactures. It has incurred persistent deficits in amounts rising to $15.1 billion in 1999. Imports in 1999 spanned a wide variety of items, including $1.5 billion of Christmas decorations and $2.8 billion of stuffed and plastic animals. The increasing US imports and deficits in this subcategory reflect ongoing changes in the toy and sporting goods industries. Production of many of the products is labor intensive. As a result, much of manufacturing operations for both toys and sporting goods have shifted from the developed countries to lower wage areas, particularly Asian countries, while management, design, and marketing functions continue to be performed primarily in the United States and other developed countries.

"A few large multinational (mostly US) firms control most of toy production. These companies do much of the design and development of toys in their home country but often license production to foreign producers, mostly in Asia"… ***Narrowing the US Current Account Deficit, p. 481.***

*"Today, the toy industry is global in both the production and the sale of products. Worldwide toy sales totaled $53.5 billion in 1998…the leading international toy companies have strong brand awareness across cultures and localize their products to meet the tastes and demands of consumers in more than 100 countries…To achieve profitable economies of scale, toy ma*nufacturers *have shifted production*

away from domestic markets to licensed or wholly owned production facilities in low-wage economies, primarily in Asia. To augment their product lines, they also purchase components, accessories, and finished products from international sources…the majority of toys sold in the United States are no longer produced domestically. In 1998, imports accounted for 80 percent of US apparent consumption, up from 69 percent in 1992. Large scale production of toys in the United States has decreased over the last decade as companies have shifted from domestic to international production. The sporting goods market can be divided into a relatively small group of high-end products, for which quality and performance are the primary purchase considerations, and a larger group of low-end products, for which price considerations tend to dominate. Developed countries continue to produce a substantial portion of the high-end products…Much of the production of low-end products has shifted to low-wage areas, with a significant portion of brand-name goods now being manufactured under license outside the home country. Production of these goods is sensitive to changes in exchange rates and to other factors affecting price." ***Narrowing the US Current Account Deficit, p. 481.***

A significant portion of US toy exports are copyrighted toys based on hit movies. US imports are primarily (85.8 percent) from Asian sources **(Table 5.89.2)**. Japan supplied 14.2 percent of the total, mostly the higher technology games, but China was the dominant source, 61.3 percent of the total. China's toy and sporting goods exports to the United States and its share of the US market have risen rapidly, from $5.5 billion and 46.8 percent in 1994 to $11.6 billion and 61.3 percent in 1999. Over the same period Taiwan's share declined from 10.8 percent to 3.6 percent, perhaps reflecting a shift of production by US and other companies from Taiwan to China.

Given the labor-intensive nature of toy production, the transfer of the majority of toy production for the US market to Asia, and the modest US exports in this category, the size of the US toy deficit will be largely determined by the volume of toy purchases by US consumers, which, in turn, will be influenced by demographic factors and US economic growth rates. First-half data indicate a deficit for 2000 roughly equal to that of 1999. A US economic slowdown could arrest -- and perhaps reverse -- the growth of this deficit. Export expansion, however, is unlikely to provide a significant means of improved US trade performance and dramatic dollar exchange rate declines against Asian and other developing country currencies would be required to displace production for the US market from Asia and return it to the United States.

Works of art, SITC 896, yields small but persistent deficits, $2.6 billion in 1999. Imports are mostly (88.4 percent in 1999) from Europe **(Table 5.89.3)**. Since Europe is the primary source of collector's items and antiques and the United States has only modest amounts of these kinds of items, US exports will continue to be small. The size and growth of the deficit in this category will continue to be largely a function of US affluence, although a decline in the dollar exchange rate vis-à-vis the Euro could have some restraining effects.

Jewelry, goldsmiths' and silversmiths' wares, SITC 897, also yields consistent deficits, $3.8 billion in 1999. Primary sources for jewelry imports are Europe, 30.9 percent in 1999, and Asia, 44.1 percent **(Table 5.89.4)**. Modest annual deficits near current levels are likely to continue in this subcategory.

Musical instruments and accessories, SITC 898, which includes sound recordings and magnetic discs for sound recording, has provided small surpluses and may continue to do so. Export expansion potential, however, is limited.

Conclusions

- Miscellaneous manufactures is not a large portion of US manufactures trade, 5.3 percent of 1999 exports, 5.2 percent of imports, but it generates persistent and increasingly large deficits, $16.1 billion in 1999.
- This group includes a wide variety of products, many of them relatively low-technology items, but it is increasingly dominated by fast-growing imports of toys and sporting goods. Deficits in that subcategory rose from $8.4 billion in 1994 to $15.1 billion in 1999. First half-year data indicate a year 2000 deficit of about the same level.
- Toy and sporting goods manufacturers have shifted much of their production to facilities in low-wage economies, primarily in Asia. 85.8 percent of imports are from Asia; 61.3 percent from China alone. In 1998 imports accounted for 80 percent of US apparent consumption of toys, up from 69 percent in 1992.
- Printed matter has yielded small annual surpluses and will probably continue to do so but has limited growth potential.
- Works of art and jewelry, however, both yield consistent, albeit small, deficits that will continue as the US has limited export capabilities in both. If US affluence continues to rise imports will also likely continue to rise, although dollar depreciation against European currencies -- Europe is the source of many art object imports -- might restrain US imports somewhat.
- Taken as a whole, substantial deficits in miscellaneous manufactures will continue and may expand from the $16.1 billion 1999 level. Export expansion will not be an important factor in constraining or reversing the growth of deficits.
- Performance in this product group will be determined primarily by changes in the level of toy and sporting goods imports which, in turn, will be influenced by economic growth rates and demographic changes in the United States. Very large changes in the dollar exchange rate vis-à-vis Asian currencies would be required to shift toy and sporting goods production for the US market from those areas.

Table 5.89.1 Miscellaneous Manufactured Articles (SITC 89) Product Composition of US Trade, 1994-1999

	Billions of Dollars						$ Change	% Change
	1994	1995	1996	1997	1998	1999	1994-1999	1994-1999
89-- Miscellaneous Manufactured Articles								
Exports	26.5	28.5	30.7	31.8	31.8	32.2	5.7	21.4%
Imports	33.6	36.5	38.8	43.5	47.5	51.3	17.7	52.7%
Balance	(7.1)	(8.0)	(8.1)	(11.8)	(15.7)	(19.1)	(12.0)	-
of which								
891-- Arms And Ammunition								
Exports	3.9	4.3	4.9	3.6	3.3	2.8	(1.1)	-27.4%
Imports	0.8	0.7	0.7	0.7	0.7	0.8	(0.1)	-6.4%
Balance	3.1	3.6	4.2	2.9	2.6	2.1	(1.0)	-
892-- Printed Matter								
Exports	4.1	4.4	4.4	4.7	4.8	4.7	0.6	15.2%
Imports	2.2	2.6	2.7	2.9	3.1	3.3	1.1	49.5%
Balance	1.9	1.8	1.7	1.8	1.7	1.4	(0.5)	-
893-- Articles Of Plastics								
Exports	3.7	3.9	4.5	5.2	5.7	6.5	2.9	78.8%
Imports	4.5	5.1	5.3	5.7	6.1	7.0	2.5	55.3%
Balance	(0.9)	(1.2)	(0.8)	(0.5)	(0.5)	(0.5)	0.4	-
894-- Toys And Sporting Goods								
Exports	3.4	3.9	4.0	4.2	3.9	3.9	0.5	15.1%
Imports	11.8	13.1	14.7	17.4	18.7	19.0	7.2	60.6%
Balance	(8.4)	(9.2)	(10.7)	(13.1)	(14.8)	(15.1)	(6.7)	-
895-- Office And Stationery Supplies								
Exports	0.5	0.6	0.7	0.8	0.8	0.8	0.3	54.4%
Imports	1.1	1.2	1.2	1.3	1.4	1.5	0.4	34.5%
Balance	(0.6)	(0.6)	(0.5)	(0.4)	(0.5)	(0.7)	(0.1)	-
896-- Works Of Art, Collectors' Pieces And Antiques								
Exports	1.9	1.7	1.7	2.0	2.7	2.3	0.4	21.9%
Imports	2.4	2.7	2.8	3.6	4.0	4.9	2.5	102.5%
Balance	(0.5)	(1.0)	(1.1)	(1.5)	(1.2)	(2.6)	(2.1)	-
897-- Jewelry, Goldsmiths' & Silversmiths' Wares								
Exports	0.9	1.1	1.3	1.4	1.5	1.9	1.0	109.0%
Imports	4.5	4.3	4.4	4.6	5.3	5.7	1.2	27.6%
Balance	(3.5)	(3.2)	(3.1)	(3.1)	(3.8)	(3.8)	(0.2)	-
898-- Musical Instruments And Accessories								
Exports	6.3	6.6	6.9	7.1	6.4	6.1	(0.1)	-2.2%
Imports	3.6	3.9	4.1	4.1	4.4	4.7	1.1	30.0%
Balance	2.7	2.7	2.8	3.0	2.0	1.4	(1.2)	-
899-- Miscellaneous Manufactured Articles								
Exports	1.9	2.0	2.3	2.6	2.7	3.0	1.1	61.2%
Imports	2.6	2.9	3.0	3.4	3.8	4.4	1.8	69.7%
Balance	(0.7)	(0.9)	(0.7)	(0.8)	(1.2)	(1.4)	(0.7)	-

Source: US Dept of Commerce

Table 5.89.2 Toys and Sporting Goods (SITC 894) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	3.4	3.9	4.0	4.2	3.9	3.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.8	0.8	0.9	1.0	1.2	1.2	23.3	21.3	21.6	23.3	29.9	31.3
	Mexico	0.4	0.2	0.3	0.4	0.4	0.4	10.8	5.8	6.5	9.1	9.2	9.4
	EU15	0.7	0.8	0.8	0.9	0.8	0.8	20.5	19.7	20.2	20.7	21.6	21.3
	Germany	0.2	0.2	0.2	0.2	0.2	0.1	4.8	4.5	4.8	4.4	4.2	3.4
	France	0.1	0.1	0.1	0.1	0.1	0.1	2.3	1.9	1.6	1.9	1.9	1.8
	Italy	0.0	0.1	0.1	0.1	0.1	0.0	1.4	1.5	1.4	1.4	1.3	1.1
	United Kingdom	0.2	0.2	0.3	0.3	0.3	0.4	6.8	6.1	6.9	7.1	8.4	9.0
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.5	0.5	0.3
	Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	1.6	1.6	2.0	1.8	1.9	1.7
	Japan	0.5	0.7	0.8	0.6	0.6	0.6	14.7	18.8	18.7	15.3	14.1	14.7
	Taiwan	0.2	0.2	0.1	0.1	0.0	0.0	5.3	4.0	1.6	1.3	1.1	1.1
	Hong Kong	0.1	0.1	0.1	0.2	0.1	0.1	2.5	3.8	3.3	3.9	3.5	3.5
	Korea	0.2	0.2	0.2	0.1	0.0	0.1	4.6	5.1	5.0	3.1	1.0	1.3
	Singapore	0.1	0.1	0.1	0.1	0.0	0.1	1.9	1.8	1.7	1.7	1.0	1.6
	China	0.0	0.1	0.1	0.1	0.0	0.0	0.5	1.8	3.4	2.7	1.3	1.0
	Other Asia	0.0	0.1	0.1	0.1	0.0	0.0	1.2	1.4	1.7	2.0	0.9	1.0
	South & Central America	0.1	0.1	0.1	0.1	0.1	0.1	2.0	2.0	2.1	2.0	2.4	2.2
	Rest of World	0.4	0.5	0.5	0.6	0.5	0.4	11.1	12.9	12.2	13.2	12.2	9.9
Imports	US from World	11.8	13.1	14.7	17.4	18.7	19.0	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.3	0.4	0.5	0.5	0.5	0.6	2.9	3.4	3.2	2.8	2.9	3.3
	Mexico	0.5	0.6	0.7	0.8	0.8	0.7	3.9	4.7	4.9	4.5	4.5	3.8
	EU15	0.8	0.9	0.9	0.8	1.0	1.0	6.6	7.0	6.2	4.9	5.2	5.3
	Germany	0.2	0.2	0.2	0.2	0.2	0.2	1.3	1.4	1.3	1.1	1.0	1.0
	France	0.1	0.1	0.1	0.1	0.1	0.1	1.0	0.8	0.7	0.6	0.6	0.5
	Italy	0.2	0.2	0.2	0.2	0.2	0.2	1.3	1.4	1.0	0.9	0.9	1.0
	United Kingdom	0.1	0.1	0.1	0.1	0.2	0.1	0.8	0.8	0.8	0.6	0.8	0.8
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1
	Other Europe	0.1	0.1	0.1	0.1	0.2	0.2	0.7	0.7	1.0	0.8	0.9	1.2
	Japan	1.6	1.3	1.6	2.7	2.7	2.7	13.2	10.0	11.0	15.8	14.7	14.2
	Taiwan	1.3	1.3	1.2	0.9	0.8	0.7	10.8	9.6	7.9	5.2	4.1	3.6
	Hong Kong	0.2	0.2	0.2	0.3	0.3	0.3	1.6	1.5	1.5	1.6	1.6	1.4
	Korea	0.2	0.2	0.2	0.2	0.2	0.2	1.9	1.7	1.5	1.2	1.0	1.1
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.1	0.0	0.0
	China	5.5	6.7	8.0	9.9	11.2	11.6	46.8	51.4	54.4	57.1	59.7	61.3
	Other Asia	1.2	1.2	1.1	1.0	0.9	0.8	10.4	9.0	7.7	5.6	4.8	4.2
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.2	0.2	0.2
	Rest of World	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.3	0.3	0.3
Balance	US with World	-8.4	-9.2	-10.7	-13.1	-14.8	-15.1						
	Canada	0.4	0.4	0.4	0.5	0.6	0.6						
	Mexico	-0.1	-0.4	-0.5	-0.4	-0.5	-0.4						
	EU15	-0.1	-0.2	-0.1	0.0	-0.1	-0.2						
	Germany	0.0	0.0	0.0	0.0	0.0	-0.1						
	France	0.0	0.0	0.0	0.0	0.0	0.0						
	Italy	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1						
	United Kingdom	0.1	0.1	0.2	0.2	0.2	0.2						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	-0.1	-0.1	-0.1	-0.2						
	Japan	-1.1	-0.6	-0.9	-2.1	-2.2	-2.1						
	Taiwan	-1.1	-1.1	-1.1	-0.9	-0.7	-0.6						
	Hong Kong	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1						
	Korea	-0.1	0.0	0.0	-0.1	-0.2	-0.2						
	Singapore	0.0	0.0	0.1	0.1	0.0	0.1						
	China	-5.5	-6.7	-7.9	-9.8	-11.1	-11.6						
	Other Asia	-1.2	-1.1	-1.1	-0.9	-0.9	-0.8						
	South & Central America	0.0	0.0	0.0	0.1	0.1	0.1						
	Rest of World	0.3	0.5	0.4	0.5	0.4	0.3						

Source: US Dept of Commerce

Table 5.89.3 Works of Art, Collectors' Pieces and Antiques (SITC 896) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	1.9	1.7	1.7	2.0	2.7	2.3	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.1	0.0	0.0	0.0	2.2	2.4	3.1	2.1	1.5	2.0
	Mexico	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.4	1.6	1.2	1.1	0.7
	EU15	0.8	0.8	0.8	1.1	1.2	1.4	44.9	47.4	45.2	53.0	45.1	59.4
	Germany	0.1	0.1	0.1	0.1	0.2	0.2	7.5	7.4	7.7	7.2	6.3	8.2
	France	0.1	0.1	0.1	0.2	0.2	0.2	7.7	8.5	7.4	7.8	7.4	9.0
	Italy	0.0	0.0	0.0	0.0	0.0	0.1	1.7	2.2	2.0	1.8	1.3	3.5
	United Kingdom	0.4	0.4	0.3	0.6	0.5	0.7	19.9	22.4	20.3	28.6	19.1	28.8
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.2	0.1	0.2
	Other Europe	0.5	0.4	0.5	0.5	1.1	0.6	25.0	24.6	27.8	25.4	39.6	25.3
	Japan	0.3	0.2	0.2	0.2	0.2	0.2	14.3	13.7	12.7	7.6	6.4	6.6
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.8	0.8	0.5	0.3	0.7
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.6	2.3	2.3	1.7	1.5
	Korea	0.0	0.1	0.0	0.0	0.0	0.0	2.2	4.1	1.4	1.1	0.1	0.5
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.5	0.6	0.8	0.4	0.1
	China	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	2.5	0.1	0.3
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.2	0.1
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.5	0.2	0.2	0.3
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	4.1	3.0	3.6	2.9	3.3	2.4
Imports	US from World	2.4	2.7	2.8	3.6	4.0	4.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	1.4	1.0	1.2	1.0
	Mexico	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.6	0.5	0.7	0.6
	EU15	1.7	2.0	2.2	2.9	3.2	4.1	71.7	74.0	79.3	80.8	81.5	83.4
	Germany	0.1	0.1	0.1	0.1	0.2	0.2	3.9	3.7	4.1	3.8	5.1	3.8
	France	0.6	0.5	0.9	1.3	1.5	1.8	23.3	18.7	33.0	36.9	36.5	37.2
	Italy	0.1	0.1	0.1	0.2	0.3	0.4	4.3	4.4	5.0	5.2	6.9	7.7
	United Kingdom	0.8	1.0	0.8	0.9	0.9	1.1	31.2	35.6	28.9	25.8	23.8	22.4
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.2	0.3	0.2	0.2
	Other Europe	0.3	0.4	0.2	0.2	0.3	0.2	12.7	14.1	8.3	6.8	6.3	5.0
	Japan	0.1	0.1	0.1	0.1	0.0	0.1	3.0	2.8	2.0	2.3	1.2	1.8
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.1	0.0	0.0	0.1	0.1
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.8	0.5	0.5	0.5
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.0	0.6	0.2	0.3
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0
	China	0.1	0.1	0.1	0.1	0.1	0.2	2.4	1.9	3.4	3.7	3.8	3.3
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.4	0.7	1.0	0.8
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.3	0.1	0.3
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	3.5	2.2	2.6	2.6	3.5	2.9
Balance	US with World	-0.5	-1.0	-1.1	-1.5	-1.2	-2.6						
	Canada	0.0	0.0	0.0	0.0	0.0	0.0						
	Mexico	0.0	0.0	0.0	0.0	0.0	0.0						
	EU15	-0.9	-1.2	-1.5	-1.8	-2.0	-2.7						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	-0.4	-0.4	-0.8	-1.2	-1.2	-1.6						
	Italy	-0.1	-0.1	-0.1	-0.1	-0.2	-0.3						
	United Kingdom	-0.4	-0.6	-0.5	-0.3	-0.4	-0.4						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.2	0.0	0.2	0.3	0.8	0.3						
	Japan	0.2	0.2	0.2	0.1	0.1	0.1						
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	0.0	0.0	0.0	0.0	0.0	0.0						
	Korea	0.0	0.0	0.0	0.0	0.0	0.0						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2						
	Other Asia	0.0	0.0	0.0	0.0	0.0	0.0						
	South & Central America	0.0	0.0	0.0	0.0	0.0	0.0						
	Rest of World	0.0	0.0	0.0	0.0	0.0	-0.1						

Source: US Dept of Commerce

Table 5.89.4 Jewelry, Goldsmiths' & Silversmiths' Wares (SITC 897) Geographic Distribution of US Trade, 1994-1999

		Billions of Dollars						Percent of Total					
		1994	1995	1996	1997	1998	1999	1994	1995	1996	1997	1998	1999
Exports	US to World	0.9	1.1	1.3	1.4	1.5	1.9	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.1	0.2	0.2	12.8	11.3	9.8	9.5	10.4	8.6
	Mexico	0.0	0.0	0.0	0.0	0.1	0.1	4.9	1.4	1.7	2.8	5.7	7.3
	EU15	0.2	0.2	0.2	0.3	0.3	0.3	16.8	16.9	16.3	20.7	19.0	15.7
	Germany	0.0	0.0	0.0	0.0	0.0	0.0	3.6	2.7	2.5	2.5	2.2	2.6
	France	0.0	0.0	0.0	0.0	0.0	0.0	2.7	4.4	3.7	3.1	2.1	2.2
	Italy	0.0	0.0	0.0	0.1	0.0	0.0	2.3	1.7	1.3	3.9	1.5	1.4
	United Kingdom	0.0	0.1	0.1	0.1	0.1	0.1	4.3	5.4	5.8	8.0	9.5	7.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.2	0.2
	Other Europe	0.1	0.1	0.3	0.2	0.2	0.3	12.6	13.2	20.0	16.3	13.5	15.1
	Japan	0.1	0.2	0.2	0.2	0.2	0.3	14.8	17.6	14.6	12.3	13.0	13.9
	Taiwan	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.9	1.6	1.2	0.6	1.1
	Hong Kong	0.1	0.1	0.2	0.2	0.2	0.2	9.2	13.5	12.0	12.4	10.6	10.7
	Korea	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.4	1.2	1.9	1.4	1.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.9	2.9	2.5	0.8	0.8
	China	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.0	0.1	0.1
	Other Asia	0.1	0.1	0.1	0.1	0.1	0.1	8.7	7.7	7.4	3.9	3.9	3.3
	South & Central America	0.1	0.1	0.1	0.1	0.2	0.3	6.2	5.5	4.9	9.4	15.2	16.2
	Rest of World	0.1	0.1	0.1	0.1	0.1	0.1	8.3	6.6	7.4	7.2	6.0	6.0
Imports	US from World	4.5	4.3	4.4	4.6	5.3	5.7	100.0	100.0	100.0	100.0	100.0	100.0
	Canada	0.1	0.1	0.1	0.1	0.2	0.2	2.2	2.5	2.7	3.0	3.0	3.4
	Mexico	0.1	0.1	0.1	0.2	0.2	0.2	1.9	2.6	3.2	3.5	3.6	3.0
	EU15	1.5	1.5	1.5	1.6	1.8	1.7	33.0	34.3	35.5	34.3	33.7	30.7
	Germany	0.0	0.0	0.0	0.0	0.1	0.1	0.7	0.7	0.8	0.8	1.2	1.0
	France	0.0	0.1	0.1	0.1	0.1	0.1	1.0	1.2	1.2	1.7	2.4	1.3
	Italy	1.3	1.3	1.4	1.3	1.5	1.5	29.7	30.5	31.3	29.3	28.0	26.3
	United Kingdom	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.6	0.8	1.3	1.1	1.1
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2
	Other Europe	0.1	0.1	0.1	0.2	0.3	0.3	2.5	2.9	2.9	4.3	4.9	4.7
	Japan	0.1	0.1	0.0	0.0	0.0	0.0	1.9	2.0	0.4	0.5	0.5	0.7
	Taiwan	0.1	0.1	0.1	0.1	0.0	0.0	2.1	1.6	1.4	1.1	0.9	0.7
	Hong Kong	0.3	0.4	0.4	0.4	0.4	0.5	7.7	8.3	8.9	8.6	8.2	9.3
	Korea	0.2	0.2	0.1	0.1	0.2	0.2	4.3	3.8	3.4	3.0	3.3	4.2
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
	China	0.2	0.2	0.2	0.3	0.3	0.4	4.0	4.8	5.2	5.5	5.9	7.8
	Other Asia	0.7	0.7	0.8	0.8	1.0	1.2	16.1	17.4	18.1	18.5	18.1	21.3
	South & Central America	0.2	0.2	0.2	0.2	0.2	0.2	4.5	4.4	4.8	4.5	4.3	4.1
	Rest of World	0.9	0.7	0.6	0.6	0.7	0.6	20.0	15.4	13.4	13.0	13.3	10.2
Balance	US with World	-3.5	-3.2	-3.1	-3.1	-3.8	-3.8						
	Canada	0.0	0.0	0.0	0.0	0.0	0.0						
	Mexico	0.0	-0.1	-0.1	-0.1	-0.1	0.0						
	EU15	-1.3	-1.3	-1.3	-1.3	-1.5	-1.4						
	Germany	0.0	0.0	0.0	0.0	0.0	0.0						
	France	0.0	0.0	0.0	0.0	-0.1	0.0						
	Italy	-1.3	-1.3	-1.3	-1.3	-1.5	-1.5						
	United Kingdom	0.0	0.0	0.0	0.1	0.1	0.1						
	Ireland	0.0	0.0	0.0	0.0	0.0	0.0						
	Other Europe	0.0	0.0	0.1	0.0	-0.1	0.0						
	Japan	0.1	0.1	0.2	0.2	0.2	0.2						
	Taiwan	-0.1	0.0	0.0	0.0	0.0	0.0						
	Hong Kong	-0.3	-0.2	-0.2	-0.2	-0.3	-0.3						
	Korea	-0.2	-0.2	-0.1	-0.1	-0.2	-0.2						
	Singapore	0.0	0.0	0.0	0.0	0.0	0.0						
	China	-0.2	-0.2	-0.2	-0.2	-0.3	-0.4						
	Other Asia	-0.6	-0.7	-0.7	-0.8	-0.9	-1.1						
	South & Central America	-0.1	-0.1	-0.1	-0.1	0.0	0.1						
	Rest of World	-0.8	-0.6	-0.5	-0.5	-0.6	-0.5						

Source: US Dept of Commerce

The Role of Intrafirm Trade In Manufactured Goods

The product group analyses in this chapter have repeatedly noted the competition for world manufactured goods production locations and markets is getting ever tougher. It should be expected that competition will continue to intensify. Why?

The fundamental cause of increasing competition -- and the resulting downward pressures on prices and costs -- is the expansion and global dispersion of manufacturing technologies and facilities. Advances in transportation, communications, and other areas have made economically efficient a widened separation between manufactured goods production and use locations. Many -- if not most -- manufactured products for everyday use may now be efficiently made half-way around the world from the point of their sale and use. These advances, together with the growth of markets in developing countries, have also made practical -- and economically efficient -- the global dispersion of production of not just finished products but as well the parts and components that are assembled into finished products. This enhanced ability to separate production and use locations has led to continuous world-wide searches by producers for lowest cost production locations, not just for finished products but for individual parts and components.

In today's world, manufacturing skills and plants no longer are concentrated mostly in a few relatively high-wage, developed countries but have spread to dozens of newly industrialized and industrializing countries. Firms in developed countries have built manufacturing facilities in developing countries to make products for domestic use and for export. And developing countries have built their own manufacturing firms and facilities. Exports of manufactured goods have provided the route to a better life for a number of developing countries. With the spread of manufacturing capabilities to many industrializing countries, there is ample -- if not excess -- global capacity in most manufacturing industries.

Moreover, as a result of the growing global manufacturing capabilities and competition, no longer is the large integrated firm that manufactures all or most of the parts and components that make up its products likely to hold a cost advantage over its competitors. To the contrary, many global firms are now divesting themselves of larger and larger portions of their manufacturing operations so that they may concentrate more on design, global marketing, and other management functions and less on manufacturing operations. For example, aircraft and automobiles may embody manufactured parts and components from hundreds or thousands of suppliers located in virtually every part of the world.

To meet ever-toughening global competition, manufacturing firms in the United States and other developed countries have adopted various "make or buy?" strategies. First, they have invested in sales and production facilities in foreign countries, both to tap foreign markets and to provide efficient sources of supplies for some products. Exports to and imports from these foreign affiliates are termed intrafirm trade.

There is also an increasing tendency to utilize domestic or foreign contract manufacturers -- to employ firms that specialize in certain kinds of manufacturing processes or product lines and produce for a number of user firms. These contract manufacturers may produce to the design and specifications of the purchasing firm and also may perform inventory control, shipping, and other services for the purchasing firm.

In addition, manufacturing firms in need of parts and components for inclusion in their products, and wholesalers looking for finished products to sell in retail markets, may simply purchase those items from

foreign -- as well as domestic -- suppliers with whom they have no investment or continuing contractual relationships.

There is interest in the roles of each of these means of procuring from foreign sources in the growth of US trade deficits. Intrafirm trade -- the trade between US parents and their foreign affiliates and between foreign companies in the United States and their foreign parents -- is a major portion of US manufactures trade. US multinational corporations (MNCs) generated 61.6 percent of total 1997 US manufactured goods exports **(Table 5.9).** Over half (53.3 percent) of these MNCs' exports went to their foreign affiliate firms, an amount equivalent to 32.8 percent of 1997 US manufactures exports. Exports by US MNCs to non-affiliated foreign customers totaled 28.7 percent of US manufactures exports.

Imports by US multinational firms were 31.3 percent of US 1997 manufactures imports. Almost two-thirds (65.7 percent) of those imports were from their foreign affiliates, an amount equivalent to 20.5 percent of 1997 US manufactures imports.

The United States had a $136.1 billion dollar 1997 surplus on the manufactures trade of its MNCs, including a $44.4 billion surplus on the trade of parents with their affiliates **(Table 5.9).**

By contrast the United States had a $122 billion dollar deficit in 1997 manufactures trade of the US affiliates of foreign MNCs **(Table 5.9).** Manufactured goods exports of foreign firms in the United States totaled $103.4 billion, 17.5 percent of the US total. Less than half (43.9 percent) of these affiliates' exports went to their foreign parents.

Imports of these foreign affiliates, however, totaled $225.4 billion, 30.9 percent of US manufactures imports. Almost four-fifths of imports, $175.9 billion, an amount equal to 24.1 percent of total manufactures imports, came from the foreign parents.

Table 5.9 summarizes the intrafirm portions of manufactures trade. Intrafirm trade accounted for about 40.5 percent of 1997 US exports; 32.8 percent from the exports of US MNCs to their foreign affiliates and 7.7 percent from the exports of foreign firms in the United States to their foreign parents.

Intrafirm trade accounted for a somewhat higher portion of US imports, with the imports of US firms from their foreign affiliates representing 20.5 percent of the total and the US imports of foreign firms from their foreign parents at 24.1 percent of the total.

The role of intrafirm trade -- trade between related parties -- varies widely among manufactures product groups but is large in some major product groups. In 1999 some 59.9 percent of road vehicle and parts (SITC 78) exports were to related parties and 82.0 percent of imports were from related parties. Intrafirm trade is probably most often thought of as exchanges of parts and components as inputs to further manufacturing or assembly operations. The importing related party in some cases, however, may be simply a wholesaler operation set up to distribute finished products; for example, vehicles imported to the United States from Asia or Europe. Similarly, some US exports to related parties may be simply shipments to a US firm's foreign sales and distribution facilities.

The 1999 related party export and import percentages for some important manufactures trade product groups include:

SITC	Related Party (Intrafirm) Percent of Total Trade Exports	Imports
71 Power generating machinery	37.1	53.1
74 General industrial machinery	27.0	46.9
75 Ofice machines & ADP Equipment	42.3	67.9
76 Telecommunications equipment	31.8	70.4
77 Electrical machinery & apparatus	43.7	63.4
78 Road vehicles & parts	59.9	82.0
79 Aircraft & parts	10.4	22.5
84 Apparel	18.1	15.6
85 Footwear	18.1	6.3

Also, some US manufactures exports are further processed in the importing country and the enhanced product, or some portion of it, may be reexported to the United States. These foreign processors and exporters may include, but are not limited to, the foreign affiliates of US firms. The portion of US exports of parts and components that returns to the United States in finished products or larger components and assemblies cannot be precisely quantified but is clearly large in some product groups.

For example, the $22.8 billion of 1999 US motor vehicle parts and accessories exports to Canada and Mexico represented over three-fourths (77.6 percent) of US exports of this product group. But most of parts and accessories exports came back to the United States included in the $44.3 billion of finished vehicle imports from those two countries. This is clearly the case since Canadian and Mexican production for their domestic markets is quite small and they have no major export markets other than the United States. Similarly, of the $8.9 billion of internal combustion engine exports to Canada and Mexico, 71.8 percent of the 1999 total, most returned to the United States included in finished vehicles. In large measure, the volume of US exports of parts and engines to Mexico and Canada are thus determined by US imports of finished vehicles from those countries.

Large portions of US exports of electrical and electronic component parts to Canada, Mexico and Asian developing countries are also destined to return to the US in enhanced or finished manufactured goods. To illustrate, three-fourths of the $49.4 billion of 1999 US exports of transistors, semiconductor devices and electronic microcircuit exports went to Canada, Mexico and several Asian developing countries. Together, these countries exported $47 billion of telecom equipment to the United States, 92.1 percent of total US telecom imports, and $34.1 billion of computers, 71.6 percent of total US computer imports. Clearly, there is a substantial cross trade in electrical and electronic products in which the volumes of US exports are, to a substantial degree, a function of the volume of US imports.

From the standpoint of the US trade balance, intrafirm trade by US MNCs has produced better results than intrafirm trade by foreign affiliates located in the United States. Nevertheless, foreign direct investments in the United States do generally provide an improved access for US goods to the parent companies' home markets. Thus, both US investments abroad and foreign investments in the United States are probably better for the US trade balance than the employment of contract manufacturers located outside the United States, and better than simply outsourcing US needs to unrelated foreign suppliers. Moreover, MNCs that can compete and produce in global markets probably also have a better chance of successfully producing in -- and exporting from -- the United States than do firms that produce only in the United States.

There is no official data available quantifying the volume of imports from contract manufacturers in foreign countries. But anecdotal evidence indicates rapid increases, particularly in electrical/electronic components.

In any event, separating intrafirm (related party) and unrelated party trade and quantifying the volume of imports from contract manufacturers probably offers few policy insights. The fundamental problem remains one of making US-based production competitive with foreign production, whether it be production of a US MNC, an affiliate of a foreign MNC, or a manufacturing firm that operates only in the United States.

Table 5.9 Manufactures Exports of MNCs Located in the US, 1997

	$ Billion	% of Total
Total US Manufactures Exports	591.2	100
Total US Manufactures Imports	728.6	100
Trade of US MNCs		
Exports: Total by parent firms	364.1	61.6
To foreign affiliates	194.2	32.8
To other foreign destinations	169.9	28.7
Imports: Total by parent firms	228.0	31.3
From foreign affiliates	149.8	20.5
From other foreign sources	78.2	10.7
Balance: On trade by parent firms	136.1	
On trade with foreign affiliates	44.1	
On trade with other foreign parties	91.7	
Trade of Foreign MNCs in the US		
Exports: Total by foreign affiliate in the US	103.4	17.5
To foreign parent	45.3	7.7
To other foreign destinations	57.9	9.8
Imports: Total by foreign affiliate in the US	225.4	30.9
From foreign parent	175.9	29.1
From other foreign sources	49.4	6.8
Balance: On total trade by foreign affiliate in US	-122.0	
On trade with foreign parent	-130.6	
On trade with other foreign destinations	8.5	
Summary of Intrafirm Trade		
US Manufactures Exports	591.2	100.0
By US MNCs to foreign affiliates	194.2	32.8
By US affiliates to foreign parents	45.3	7.7
Total Intrafirm exports	239.5	40.5
US Manufactures Imports	728.6	100.0
By US MNCs from foreign affiliates	149.8	20.5
By US affiliates from foreign parents.	175.9	24.1
Total Intrafirm Imports	325.7	44.6

Chapter 6: Conclusions

Manufactures trade has been, and will continue to be, the key variable component in US trade and current account balances. Large oil deficits are assured. Manufactures deficits are even larger and growing. Analysis has shown that improvements in other components of the current account -- including increases in net exports of services and agricultural goods and increased profits from US direct investments abroad -- do not have the potential to effect major reductions in US current account deficits.

Current account balances are largely the result of manufactured goods and mineral fuels (oil) trade deficits, both of which are large and more volatile than other components of US external accounts. Together, the $65.4 billion oil deficit and the $271.0 billion manufactures deficits totaled $336.4 billion, about the same amount as the $331.5 billion 1999 current account deficit. In 2000 the oil deficit will likely increase by about $35 billion to $100 billion and the manufactures deficit another $90 billion to about $360 billion. The $125 billion increases in these two deficits will bring their total to about $460 billion. The current account deficit will rise about $120 billion to about $450 billion.

Looking beyond 2000, the commanding roles of oil and manufactures trade will continue. Oil deficits will continue large, probably well above the $65 billion 1999 level and perhaps near or above the $100 billion level projected for 2000. The amounts will be determined primarily by average per barrel prices and the rate of decline in US domestic oil production.

Manufactures will continue to be by far the largest component of US goods and services trade, more than three-fifths of total goods and services exchanges. It is an even larger portion of US goods trade, 88 percent of total 1999 exports, 86.1 percent of imports.

This key role of manufactures trade is not unique to the United States and will continue to grow. Manufactures trade is also the largest portion of world goods trade, 76.1 percent in 1998. The buildup of manufacturing industries and the export of manufactured goods is the primary means by which many developing countries have successfully implemented their industrialization and “export led growth” strategies. These strategies will continue to be employed. World manufactures trade will grow significantly more rapidly than world production of manufactured goods and more rapidly than other categories of world goods trade. The United States has the world’s largest and most open market and will continue to be a prime target for manufactures exporters in both developed and developing countries.

Other elements of US trade will play important but lesser roles in US trade and current account balances. The United States runs consistent agricultural surpluses, $11.5 billion in 1999, but gains are likely to be modest. Agricultural surpluses are unlikely in the foreseeable future to top the 1996 peak of $28.1 billion.

Services trade also provides consistent surpluses that may enlarge beyond the $79.6 billion 1999 level. But the $271.0 billion 1999 manufactures trade deficit was 3.4 times the services surplus and the 2000 manufactures deficit will likely be about 4.5 times the services surplus in 2000. Huge increases in services surpluses would thus be required to offset continued large manufactures deficits. A detailed analysis of the various subcategories of the services component of the US current account shows there is no evident potential source of such gains.

Nor does any other component of the current account offer prospects for significant improvement. In fact, performance is worsening in some other elements. Investment income long provided consistent

small surpluses. However, persistent current account deficits have made the United States a net international debtor and as the net US external debt position has grown, the investment income component of the current account moved into deficit in 1999. As current account deficits continue, annual investment income deficits will enlarge and likely will offset gains that may be achieved in services balances.

Thus, given the size of manufactures trade, the volatility of its trade balances, and trends in other components of the current account, the key role of manufactures in US goods and services trade and current account balances will continue.

Manufactures trade plays a similar dominant role in the trade of other industrialized countries. Changes in manufactures trade flows and balances are the primary means by which large changes in international flows of goods, services, and capital are manifested.

In the past large oil price increases have, on occasion, had dramatic effects on global trade and net capital flows. Changes in oil prices may again have important effects on world trade and capital flows but oil is now a smaller factor in world trade than in earlier decades. Other factors, including rates of return on capital and nations' economic performances, now are more likely to influence the direction and amounts of changes in net international capital flows.

When capital flows affect exchange rates and economic performance, the resulting changes in international trade flows will be manifested primarily in manufactures trade balances. Typically, manufactures trade -- by far the largest portion of world goods and services trade -- will be the primary means by which net international resource transfers are accomplished. For large industrialized countries, large net capital outflows -- net foreign lending -- typically are manifested in large manufactures trade surpluses. Conversely, large net borrowings (capital inflows) are usually manifested in large manufactures trade deficits.

Manufactures trade is thus the "swing factor" -- the component of trade in which balances are most likely to change to reflect changes in directions and amounts of net capital flows.

The dominant role of manufactures in trade among industrialized countries and in their trade with developing countries, the globalization of manufactures production, and the potential for rapid shifts in production locations among countries make manufactures trade the primary means by which countries compete in the world economy. Policies, events, and other factors that alter exchange rates, national economic performance, and net international capital flows will therefore have greater effects on the manufacturing sector than on sectors more insulated from foreign competition.

The manufacturing sector is the primary interface of the US economy with the world economy. It has absorbed the major portion of the trade effects of changes in net international capital flows that are, in turn, caused by US and foreign economic policies and performance and other events that shape investor perceptions. Many services industries do not face foreign competition. The critical role of manufactures in US external transactions and the vulnerability of US manufacturing industries to foreign competition will continue to increase as world trade -- particularly manufactures trade -- expands more rapidly than world output.

Lower trade tariffs and barriers, low-cost transportation, rapid communication, the increased ability for rapid transfer of technology, the "commoditization" of manufacturing enhanced by the growing use of contract manufacturers, and the export-led growth strategies of developing countries will all contribute to a continuing globalization and dispersion of manufactured goods production. This

promises continuing intensification of competition among countries for production locations and export markets.

A more integrated world economy, continued use of export-led growth strategies by developing countries, and an increased number and global diversification of suppliers of manufactured goods will result in periodic global oversupplies and increased focus on price competition. There will be a constant search for lower-cost production locations and increased competition among countries for production sites, putting constant pressure on US-based production.

A US marginal propensity to import (MPI) of about 1.5 to 2.0 -- well above those of other major trading partners -- and the structural nature of the deficits in many products indicate that US trade deficits will not be eliminated or significantly reduced simply by increased foreign economic growth.

Trade balances and net capital flows are interactive and offsetting. International investor decisions that result in net capital inflows are consistent with trade deficits; net outflows with trade surpluses. The direction and amounts of net international capital flows are the result of investor perceptions and expectations about rates of return and many other factors. Within an economy, the individual transaction decisions of consumers and businesses that result in exports and imports -- and the trade flows and balances that offset capital flows -- are also influenced by many factors. One key factor in consumer and business decisions is a nation's economic growth rate, which affects the demand for, and supply of, goods and services and the amounts that will be exported and imported. A second key factor is the currency exchange rate, which affects the prices paid and received for goods and services in international trade.

Because the United States has a high MPI relative to its foreign trading partners, foreign economic growth rates that matched those of the United States would result in a continuing enlargement of US manufactures trade and current account deficits. Other things equal, foreign growth rates somewhat higher than US rates would be required to slow or halt the growth of US manufactures deficits. Foreign growth rates much higher than US rates would be required to reduce US deficits. MPIs, of course, are not immutable and may change over time. Indeed, the US MPI has been changing and may continue to change, rising still higher.

A disaggregated, product group-by-product group analysis of US manufactures trade indicates that US competitiveness in US and foreign markets has declined in a number of products and will continue to decline in the current US and world economic environments.

There are 41 two-digit SITC manufactures product groups. In 1999 surpluses from 13 of these two-digit product groups totaled $85.9 billion but deficits in 28 product groups totaled $356.9 billion.

More importantly, this study analyzed in some detail recent and potential future trade performance of 21 of the 41 manufactured goods product groups. These 21 groups accounted for 84.9 percent of 1999 US manufactured goods exports and 85.9 percent of imports. The analysis indicates limited US manufactures export expansion potential but likelihood of continued substantial expansion of US manufactures imports.

The MPI is high and may continue to rise for various reasons. The demand for a large part of US imports is relatively price and income inelastic because sources of supply do not exist or are inadequate to supply domestic needs for goods that are essential to the functioning of the US economy or to satisfy its consumers. Domestic supplies in some product groups may be inadequate because natural resources are exhausted or declining and/or because domestic production has become non-competitive and, in some cases, essentially non-existent. In these product groups the

deficits are largely a function of US consumption rates and the effects of dollar exchange rate declines on trade balances will be muted.

To illustrate, US oil production is adequate to supply less than half of US needs. There is no near term alternative to large import volumes and large deficits are assured, at or near the $100 billion level.

In some manufactures product lines both resource depletion and price competitiveness have played a role in increasing reliance on imports. Environmental concerns and restrictions in some cases have been important factors in the reduction of US production. Basic industrial materials for which the United States has become highly dependent on imports and the resulting 1999 deficits include: nonmetallic minerals, $13.2 billion; nonferrous metals, $10.3 billion; and iron and steel, $9.7 billion. In each instance increases in 2000 deficits are in store.

Material resources shortfalls are not a problem in some other industries. Instead, price competitiveness has been the major factor. US-based production of some basic labor-intensive consumer goods is noncompetitive and has largely disappeared, with the result that large annual deficits are inevitable and essentially a function of US consumption volumes. Examples include: clothing and apparel, a 1999 deficit of $56.4 billion, estimated to rise to abut $60 billion in 2000; footwear, a 1999 deficit of $13.2 billion, likely to top $14 billion in 2000, and toys and sporting goods, a 1999 deficit of $15.1 billion, likely to be about the same in 2000.

There are other labor-intensive industries where US-based production still retains most of the market but import penetration is increasing. Examples include: furniture, a $11.5 billion 1999 deficit; manufactures of metal, $6.0 billion; and textiles, $4.1 billion.

US import dependencies that have developed as a result of price competition are not limited to the simpler, more labor-intensive manufactures but extend as well to higher technology consumer goods. The United States has no particular competitive advantage in the manufacture of high technology goods. Products invented or designed in the United States are often produced abroad for the US market.

Examples and their 1999 deficits include office machines and ADP equipment, $35.6 billion, and telecommunications equipment, $23.3 billion.

Computers and their key components generate large and growing trade deficits and provide a classic illustration of the fact that technological leadership in a product does not ensure good trade performance, let alone trade surpluses. Manufacturing inevitably involves labor inputs, plant construction and maintenance costs, and other inputs that often may be had at lower costs in other nations that actively seek hosting manufacturing operations. Most computers and electronic parts are small and light weight and can be transported rapidly and economically to the market country. In many hi-tech products, US-invented and US-owned technologies can be utilized in foreign production for the US market, with US trade deficits the result. Thus, a strong trade position requires not just competitive US-owned and US-developed technology, but also competitive US-based manufacturing.

Another key example of US import dependency is motor vehicles, the largest product group deficit -- $89.6 billion in 1999 and likely to rise to $100 billion in 2000. The US MPI for road vehicles and parts is high, partly because of long-standing integration of production and sales with Canada and Mexico.

On a unit basis, over one-fourth of US motor vehicle consumption is now satisfied by imports. But nearly two-fifths -- $34.3 billion -- of the deficit results from the positioning of production by traditional

US brands (GM, Ford, Chrysler) in Mexico and Canada. The allocation of this production and imports from Mexico and Canada will be little affected by foreign economic growth rates or dollar exchange rate movements.

Vehicle and parts imports from Japan and Europe also have grown rapidly and produce large deficits, $62.6 billion in 1999. US road vehicle exports to Europe and Japan are small and road vehicle deficits are unlikely to be significantly affected by increased foreign growth or modest dollar exchange rate declines.

US consumers have developed a taste for Japanese and European vehicles, particularly the high-end products, many of which have firm holds on their market niches and will be difficult to displace. A large portion of US imports from Europe and Japan are high unit value products that have high profit margins for their makers. To protect their market shares some foreign exporters may be able to reduce their prices to offset the effects of a decline in the dollar exchange rate or a modest downturn in the US auto market. A US recession and/or a marked contraction of US auto sales would, of course, shrink the auto deficits with Europe and Japan.

On the other hand, increased growth in Japan and Europe would do little to increase US road vehicle and parts exports, as US-produced vehicles are not attractive in those markets.

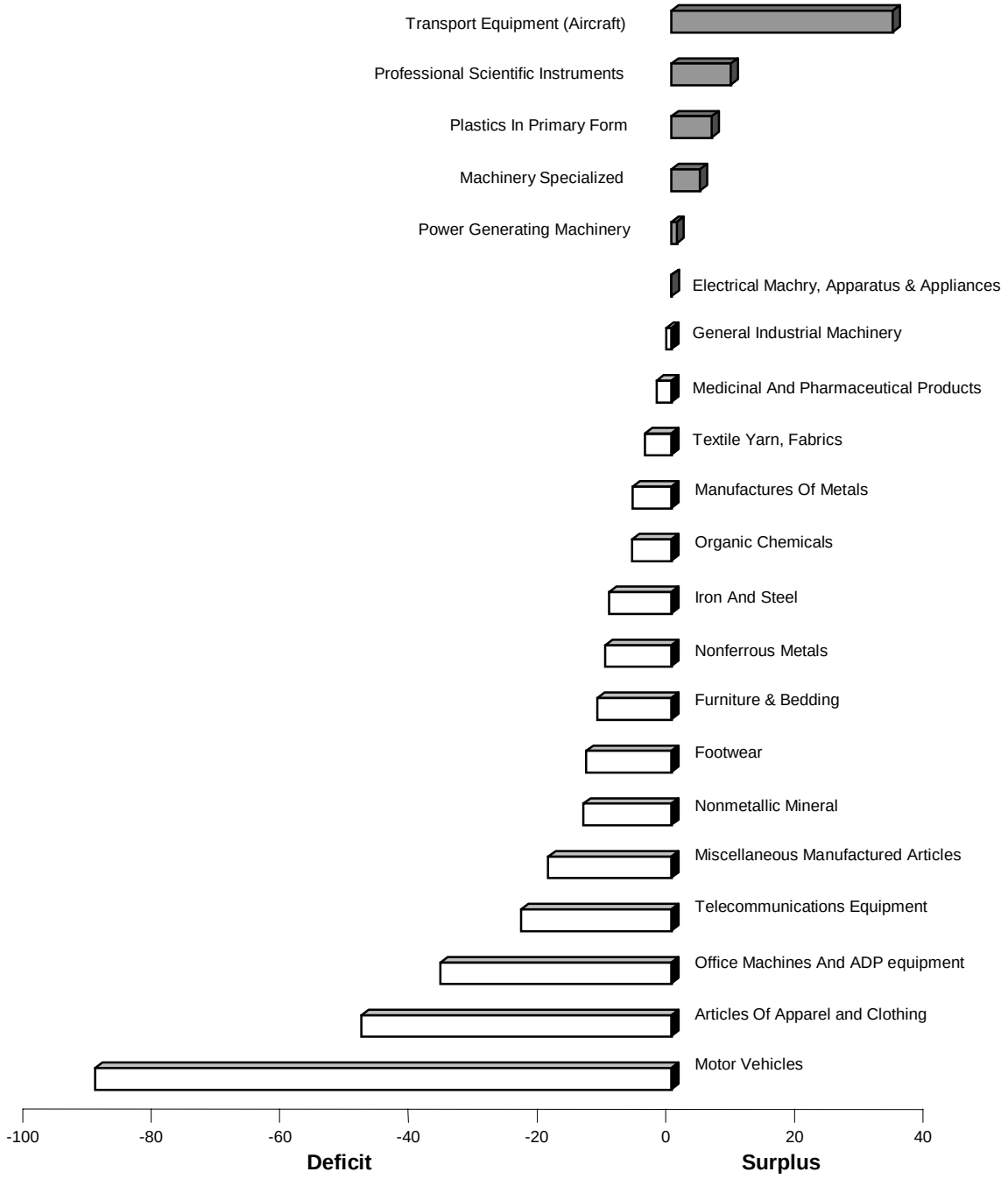
Given the large size of road vehicle deficits, any major improvement in US current account balances almost certainly will require that US-based production regain a larger share of the US auto and light truck market.

Export expansion is not a significant means to narrowing the road vehicle deficit. Excepting Canada and Mexico, most US vehicles do not find high acceptance rates in foreign markets. An enduring, significant long-term reduction therefore can probably best be accomplished by US-based production recapturing a larger portion of the US car and light truck market. How this might be accomplished is, however, unclear, as most new investment to serve the US market is likely to be in Canada and Mexico.

The United States is a large net importer of a number of manufactured industrial materials and a wide array of consumer goods. It is competitive -- to the extent of generating trade surpluses -- in only a very few product lines, mostly capital goods that have relatively small world export markets and limited export expansion potential.

The United States has significant positive trade balances in only a very few manufactures product groups **(see Figure 6.1)**. In industrial materials products, the nine chemicals product groups together provided an overall 1999 chemicals trade surplus of $8.2 billion.

Figure 6.1 Surpluses and Deficits
Key Manufactured Products, 1999
(billions of dollars)



Chemicals trade is likely to continue in surplus for the foreseeable future but its 1999 surplus was well below earlier levels and will likely decline a bit further in 2000. Surpluses in the years just ahead may increase modestly but also could decline still further as new foreign chemicals production comes on line in developing countries and as global competition for chemical markets continues to intensify.
The remaining manufactures product groups with significant 1999 surpluses were items of capital equipment: transport equipment, principally aircraft ($34.5 billion); professional, scientific, and controlling instruments ($9.3 billion); and specialized industrial machinery ($4.5 billion). The US has about 40 percent of the world aircraft export market and probably just over one-fourth of the scientific

instruments market. Unfortunately, both world export markets are relatively small. 1999 world aircraft exports were probably about $125 billion, scientific instruments, about $100 billion, and growth prospects are limited for both. Foreign competition is tough and increasing the US market share would be extremely difficult in both instances. The specialized industrial machinery market is even smaller and more limited in its potential.

When US current account deficits undergo a major contraction, export expansion will play an important role. Export expansion is, however, unlikely to be the main factor. Instead, improved manufactures and current account balances are more likely to be the result of a recapturing of larger portions of US markets by US-based production.

Overall, the United States maintains a competitive edge -- but not dominance -- in the manufacturing of a very few high technology capital equipment products that have relatively small world export markets. Excepting aircraft, US competitive strengths produce relatively small surpluses. The United States is not competitive in the manufacture of many consumer goods -- including those that embody high technologies -- that have much larger world markets. World consumer goods markets will continue to be much larger than capital goods markets.

Moreover, a large portion of current US exports actually is tied to -- and dependent on -- US imports in larger dollar amounts. In several product groups -- including road vehicles, computers, and telecommunications equipment -- most, or a very large portion, of US exports are parts or components for inclusion in products being manufactured for the United States. Export expansion in those product groups correlates with even larger import levels.

These facts lead to the conclusion that, although US manufactured goods exports will continue to expand and would benefit from increased foreign growth rates, export gains alone will not be sufficient to achieve major reductions of manufactures trade and current account deficits. Rather, such reductions will require that an increased portion of domestic demands be satisfied by domestic production, reversing the current trend of increasing import penetrations in a number of manufactures product groups. Generally, recapturing US markets should be less difficult for US-based production than capturing foreign markets by increased US exports. Prime candidates would include autos, computers, and telecommunications equipment.

Production locations and the US marginal propensity to import will change to meet changing economic conditions. At present, however, import penetration rates in most manufactures product groups are increasing and the role of domestic production in satisfying domestic consumption is declining. The longer current trends are maintained, the larger the negative growth rate and exchange rate movements that would be required to effect a significant move toward balanced accounts.

The strong dollar plays a role in rising import penetration rates and deficits. Some US-based production that could be competitive in US and world markets at a lower value of the dollar goes out of business or moves out of the United States. New investment in the United States that would be required to more fully meet domestic needs for manufactured goods instead goes to services and the non-traded goods sectors.

Modest dollar exchange rate declines will not significantly lower import penetration rates and resulting trade deficits in the several manufactures product groups that now account for the bulk of the US trade and current account deficits. Dramatic negative changes in US economic conditions and growth rates relative to trading partner rates and/or similarly dramatic declines in dollar exchange rates will be required to reverse rising import penetration rates in key product groups.