

Operations of U.S. Multinational Companies in the United States and Abroad

Preliminary Results From the 2009 Benchmark Survey

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PRELIMINARY results from the 2009 Benchmark Survey of U.S. Direct Investment Abroad by the Bureau of Economic Analysis (BEA) indicate that slow growth in the operations of U.S. multinational companies (MNCs) during the first decade of the 21st century, compared with growth in the preceding decade, was accompanied by a change in the geographic distribution of growth (see the appendix for more information about benchmark surveys). The statistics in this series now cover the operations of bank MNCs as well as those of nonbank MNCs; previously, coverage was limited to the operations of nonbank MNCs.¹

The worldwide current-dollar value added of U.S. MNCs—the combined value added of U.S. parent companies and their majority-owned foreign affiliates (hereafter, “foreign affiliates”)—increased at an average annual rate of 3.1 percent in 1999–2009, compared with 6.6 percent in 1989–1999 (table 1).² In 1999–2009, the value added of foreign affiliates grew substantially faster (7.0 percent) than that of their U.S. parents (1.7 percent). The faster growth abroad was concentrated in emerging markets, such as China, Brazil, India, and Eastern Europe. Judging from the destination of sales by affiliates in those countries, the goal of the U.S. MNCs expanded production was to primarily sell to local customers rather than to reduce their labor costs for goods and services destined for sale in the United States, Western Europe, and other high-

income countries. Growth in value added by U.S. MNCs in 1999–2009 was significantly higher in the first 5 years (1999–2004) of the period.

Another notable development in the operations of U.S. MNCs in 1999–2009 was the relatively rapid growth in research and development (R&D) expenditures. During that period, R&D expenditures grew at an average annual rate of 4.8 percent—nearly 2 percentage points faster than the 3.1 percent average growth in value added of U.S. MNCs and much faster than the 0.9 percent average growth in capital expenditures and the 0.6 percent average growth in employment. During periods of economic contraction and uncertainty, such as in much of 1999–2009, U.S. MNCs may continue to invest in R&D to remain competitive over the long run even when they are reluctant to hire workers or invest in tangible assets.

The following are additional highlights of U.S. MNC operations in 2009:

- The operations of U.S. MNCs remained concentrated in the United States: U.S. parents accounted for more than two-thirds, and foreign affiliates for less than one-third, of MNCs’ combined value

1. In previous presentations, the focus was on nonbank MNCs because information on bank MNC operations was limited to employment and a few other data items that are only collected in benchmark surveys. In the 2009 benchmark survey, the data collection for bank MNCs was expanded to cover core data items, including capital expenditures, R&D expenditures, and all of the items needed to compute MNC value added.

2. A U.S. MNC comprises a U.S. parent company and its foreign affiliates. For both conceptual and practical reasons, this examination of foreign operations of U.S. MNCs generally focuses on data for majority-owned foreign affiliates rather than on data for all foreign affiliates. Conceptually, most data users prefer using the data for majority-owned affiliates because these affiliates are unambiguously under U.S. control; foreign affiliates that are minority-owned by a U.S. resident could be under the control of foreign investors. In addition, some of the data items necessary for the examination of foreign operations of U.S. MNCs are more easily collected for majority-owned affiliates, and most foreign affiliates are majority owned; majority-owned affiliates accounted for 83.3 percent of the employment by all foreign affiliates in 2009.

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added, employment, capital expenditures, and R&D expenditures. However, the parent shares of value added and employment have declined about 10 percentage points over the preceding two decades.

- Most foreign affiliates continued to be located in high-income countries. Affiliates in these countries accounted for about 73 percent of the value added by all affiliates (chart 1). However, the share of these countries decreased 10 percentage points from 1999 to 2009.
- U.S. MNCs tend to be very large companies (parent companies that have more than 10,000 employees), compared with U.S. businesses as a whole. Very large U.S. parents accounted for over 40 percent of the total number of U.S. businesses in that employment size class. In contrast, small U.S. MNCs (parents that have a maximum of 500 employees) accounted for less than 1 percent of total U.S. businesses in that employment size class.
- Total R&D expenditures of U.S. MNCs were \$230.9 billion; R&D expenditures of U.S. parents were \$195.0 billion (or 84.4 percent of MNCs total R&D), and R&D expenditures of foreign affiliates were \$35.9 billion (or 15.6 percent). The ratio of R&D expenditures to capital expenditures of U.S. MNCs was 0.4—meaning that they spent \$400 million dollars on R&D for every \$1 billion spent on capital expenditures.
- MNC-associated U.S. exports of goods were \$578.1 billion, which represented 54.7 percent of total U.S. exports of goods. MNC-associated U.S. imports of goods were \$703.0 billion, which represented 45.1 percent of total U.S. imports of goods. MNC-associated imports exceeded MNC-associated exports by 21.6 percent, a reversal from 1999 when MNC-associated exports exceeded MNC-associated imports by 12.9 percent.
- Sales by U.S. parents were \$9,197.0 billion. Sales to customers in the United States accounted for 87.2 percent, and sales to foreign customers accounted for 12.8 percent. Sales by foreign affiliates were \$4,857.0 billion. Sales to host-country customers accounted for 60.8 percent, sales to customers in foreign countries other than the host country accounted for 30.3 percent, and sales to U.S. customers accounted for 8.9 percent.

The first part of this article examines the changes in value added of U.S. MNCs, U.S. parents, and foreign affiliates in 1999–2009. The second part examines selected aspects of U.S. MNC operations, including aspects for which data are collected only in benchmark survey years. The third part discusses the changes in

Table 1. Selected Statistics for U.S. Multinational Companies (MNCs), U.S. Parents, and Foreign Affiliates for Selected Years

	U.S. MNCs		Parents	Affiliates		
	Parents and all affiliates	Parents and MOFAs		Total	MOFAs	Other
Millions of dollars						
Value added ¹						
1989	n.a.	1,401,078	1,076,884	n.a.	324,194	n.a.
1994	n.a.	1,773,288	1,361,792	n.a.	411,496	n.a.
1999 ²	n.a.	2,644,739	2,064,343	n.a.	580,396	n.a.
2004	n.a.	3,220,723	2,366,467	n.a.	854,256	n.a.
2007	n.a.	3,866,364	2,705,132	n.a.	1,161,232	n.a.
2008 ^f	n.a.	3,740,989	2,500,543	n.a.	1,240,446	n.a.
2009 ^p	n.a.	3,593,020	2,453,426	n.a.	1,139,594	n.a.
Percent change at annual rates						
1989–1999	n.a.	6.6	6.7	n.a.	6.0	n.a.
1999–2004	n.a.	4.0	2.8	n.a.	8.0	n.a.
2004–2009	n.a.	2.2	0.7	n.a.	5.9	n.a.
1999–2009	n.a.	3.1	1.7	n.a.	7.0	n.a.
Thousands of employees						
Employment						
1989	26,370.1	24,825.9	19,616.9	6,753.2	5,209.0	1,544.2
1994	26,570.6	25,141.9	19,330.0	7,240.6	5,811.9	1,428.7
1999 ²	33,397.6	31,913.4	23,985.3	9,412.3	7,928.1	1,484.2
2004	32,891.6	31,466.0	22,446.2	10,445.4	9,019.8	1,425.6
2007	34,991.3	33,203.0	22,831.5	12,159.8	10,371.5	1,788.3
2008 ^f	34,891.8	32,736.7	22,273.3	12,618.5	10,463.4	2,155.1
2009 ^p	36,082.2	33,922.1	23,120.7	12,961.5	10,801.4	2,160.1
Percent change at annual rates						
1989–1999	2.4	2.5	2.0	3.4	4.3	–0.4
1999–2004	–0.3	–0.3	–1.3	2.1	2.6	–0.8
2004–2009	1.9	1.5	0.6	4.4	3.7	8.7
1999–2009	0.8	0.6	–0.4	3.3	3.1	3.8
Millions of dollars						
Capital expenditures ³						
1989	278,790	262,688	203,808	74,982	58,880	16,402
1994	330,940	306,364	234,617	96,323	71,747	24,976
1999 ²	562,705	531,399	416,795	145,910	114,604	31,306
2004	500,048	476,098	350,919	149,129	125,179	23,950
2007	n.a.	669,505	495,361	n.a.	174,144	n.a.
2008 ^f	n.a.	685,444	501,893	n.a.	183,551	n.a.
2009 ^p	622,782	579,553	409,634	213,148	169,919	43,229
Percent change at annual rates						
1989–1999	7.3	7.3	7.4	6.9	6.9	6.7
1999–2004	–2.3	–2.2	–3.4	0.4	1.8	–5.2
2004–2009	4.5	4.0	3.1	7.4	6.3	12.5
1999–2009	1.0	0.9	–0.2	3.9	4.0	3.3
Millions of dollars						
R&D expenditures ⁴						
1989	n.a.	90,149	82,227	n.a.	7,922	n.a.
1994	n.a.	103,451	91,574	n.a.	11,877	n.a.
1999 ²	n.a.	144,435	126,291	n.a.	18,144	n.a.
2004	n.a.	190,029	164,189	n.a.	25,840	n.a.
2007	n.a.	238,124	203,678	n.a.	34,446	n.a.
2008 ^f	n.a.	240,462	198,763	n.a.	41,699	n.a.
2009 ^p	n.a.	230,943	195,004	n.a.	35,939	n.a.
Percent change at annual rates						
1989–1999	n.a.	4.8	4.4	n.a.	8.6	n.a.
1999–2004	n.a.	5.6	5.4	n.a.	7.3	n.a.
2004–2009	n.a.	4.0	3.5	n.a.	6.8	n.a.
1999–2009	n.a.	4.8	4.4	n.a.	7.1	n.a.

^p Preliminary

^r Revised

1. For the years before 2007, the value added for bank U.S. parents and foreign affiliates are estimates because data for those years were only collected for nonbank parents and affiliates.

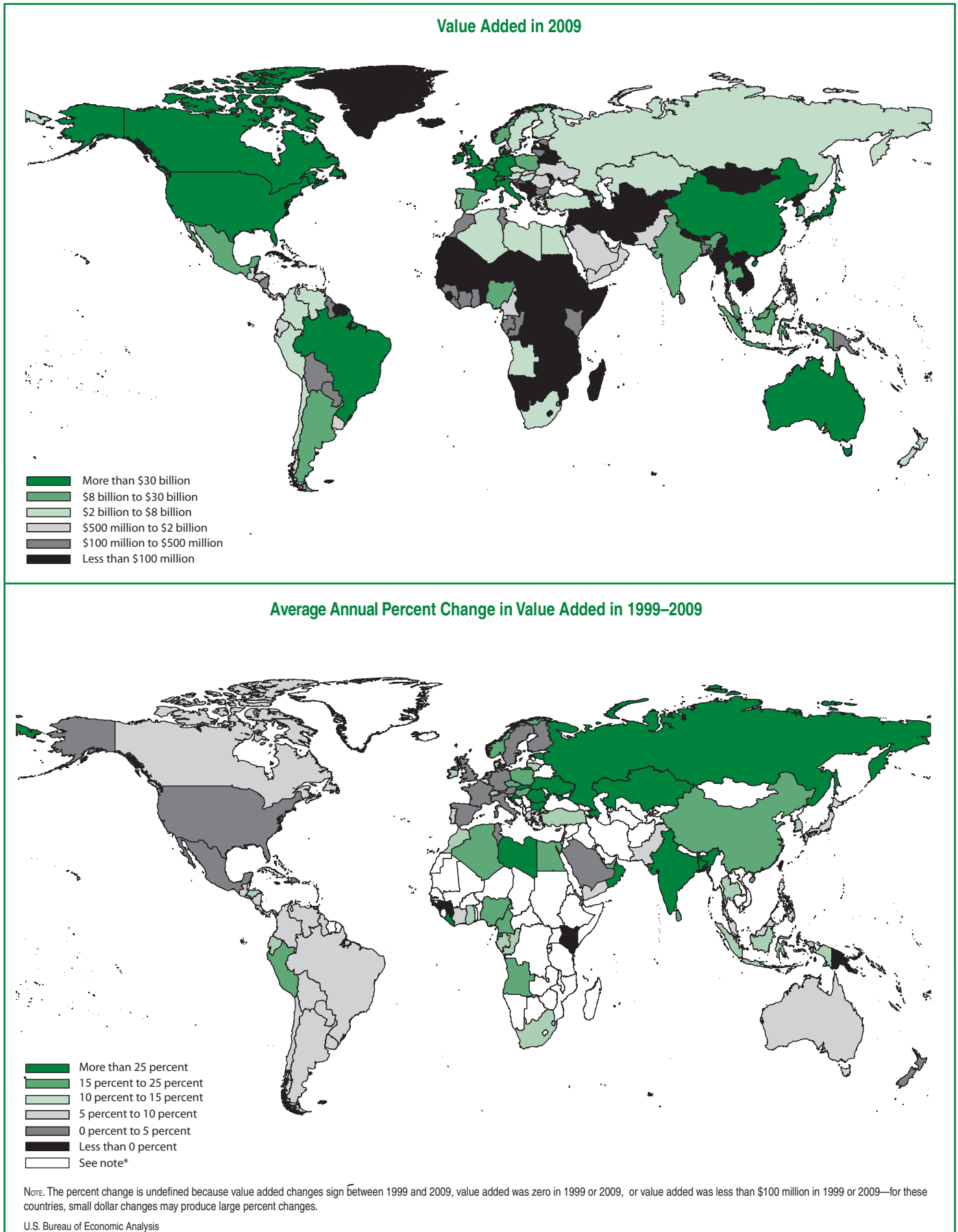
2. Break in series. Beginning with 1999, BEA expanded its statistics to include data for “very small” foreign affiliates and for parents that had only “very small” foreign affiliates. For details, see the technical note on page 121 of the December 2002 SURVEY OF CURRENT BUSINESS.

3. For the years before 2007, the capital expenditures for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates.

4. For the years before 2009, the R&D expenditures for bank U.S. parents and foreign affiliates are assumed to be zero; data for those years were only collected for nonbank parents and affiliates.

MOFAs Majority-owned foreign affiliates
n.a. Not available

Chart 1. Value Added and Change in Value Added of U.S. MNCs by Country



value added and employment of U.S. MNCs in 2008–2009, and the last part discusses revisions to the preliminary 2008 statistics. An appendix describes the 2009 benchmark survey.

Changes in Value Added in 1999–2009

This section examines the changes in value added of U.S. MNCs, U.S. parents, and foreign affiliates. It also examines changes in the real value added of affiliates in manufacturing.

U.S. MNCs

In current dollars, the value added of U.S. MNCs grew at an average annual rate of 3.1 percent, to \$3,593.0 billion in 2009 from \$2,644.7 billion in 1999 (table 2). The value added of parents grew at an average annual rate of 1.7 percent to \$2,453.4 billion, and the value added of foreign affiliates in U.S. dollars grew at an average annual rate of 7.0 percent to \$1,139.6 billion.

The real value added of parents most likely decreased because the 1.7 percent average annual increase in current dollars did not keep pace with the 2.0 percent average annual increase in U.S. prices (as measured by the implicit price deflator for value added of U.S. nonfarm businesses). In contrast, the available evidence on changes in prices and exchange rates suggests that the real value added of foreign affiliates increased. The 7.0 percent average annual increase in their current-dollar value added exceeded the increase that could be attributed to the combined effects of the 2.4 percent average annual rate of inflation in host countries and the 1.0 percent average annual deprecia-

tion of the dollar against major foreign currencies.³ Estimates of real value added of foreign affiliates in manufacturing, presented later in this article, show an average annual increase of 0.7 percent.

By industry, value added of U.S. MNCs increased most rapidly in mining (mainly oil and gas extraction) and in “other” industries (mainly retail trade) in 1999–2009. The growth in manufacturing was relatively weak and reflected offsetting changes by industry. Consistent with the usual effects of economic contraction, growth tended to occur in nondurable goods (such as food and chemicals), but value added in durable goods (such as primary and fabricated metals and transportation equipment) decreased. Value added also decreased in utilities and in finance and insurance.

Value added is a measure of the net dollar value of the goods and services produced by U.S. MNCs. By this measure, the 3.1 percent average annual growth in production exceeded growth in two measures of inputs to production: employment (up 0.6 percent) and capital expenditures (up 0.9 percent). In contrast, R&D expenditures—a measure of investment in intangible

3. The annual rate of inflation in 12 major euro area countries and in 15 other major host countries averaged 2.4 percent in 1999–2009. Together, these countries accounted for 73 percent of total value added of foreign affiliates in 2009. The average inflation rate (weighted by foreign affiliate value added) in these countries was derived from data on GDP implicit price deflators from the World Bank Web site. The weighted average U.S.-dollar price of the currencies of these countries in foreign exchange markets increased at an average annual rate of 1.0 percent in 1999–2009. This means that value added measured in foreign currency increased 1.0 percent on average when converted to U.S. dollars because the foreign currency buys more dollars.

Table 2. Selected Statistics for U.S. Multinational Companies (MNCs) by Industry of Parent, 1999 and 2009

	Millions of dollars						Thousands of employees		Average annual rate of change, 1999–2009			
	Value added ¹		Capital expenditures ²		R&D expenditures ³				Value added	Capital expenditures	R&D expenditures	Employment
	1999	2009	1999	2009	1999	2009	1999	2009	Value added	Capital expenditures	R&D expenditures	Employment
All industries	2,644,739	3,593,020	531,399	579,553	144,435	230,943	31,913.4	33,922.1	3.1	0.9	4.8	0.6
Mining	36,751	111,083	15,093	53,155	218	663	170.5	310.3	11.7	13.4	11.8	6.2
Utilities	98,275	64,903	32,506	28,992	81	3	433.4	177.3	-4.1	-1.1	-28.1	-8.6
Manufacturing	1,308,640	1,627,336	260,443	242,735	121,085	175,075	13,603.7	12,119.8	2.2	-0.7	3.8	-1.1
<i>Of which:</i>												
Food	62,513	120,269	8,461	15,051	1,192	2,415	892.7	1,224.8	6.8	5.9	7.3	3.2
Chemicals	205,984	327,699	33,805	31,816	32,758	52,271	1,728.0	1,611.3	4.8	-0.6	4.8	-0.7
Primary and fabricated metals	57,635	45,308	9,147	7,042	1,417	1,391	869.0	588.8	-2.4	-2.6	-0.2	-3.8
Machinery	69,398	94,267	7,737	10,429	6,041	8,659	1,014.4	932.4	3.1	3.0	3.7	-0.8
Computers and electronic products	143,072	205,693	26,946	23,260	33,608	44,071	1,635.3	1,805.6	3.7	-1.5	2.7	1.0
Electrical equipment, appliances, and components	40,065	41,294	5,440	4,601	3,146	3,158	635.3	508.8	0.3	-1.7	0.0	-2.2
Transportation equipment	304,213	262,605	98,055	53,230	35,351	49,382	3,393.7	2,698.2	-1.5	-5.9	3.4	-2.3
Wholesale trade	109,999	196,617	19,193	45,426	4,624	6,739	1,453.7	1,544.6	6.0	9.0	3.8	0.6
Information	270,699	310,769	77,554	56,455	6,907	22,158	2,214.2	2,139.4	1.4	-3.1	12.4	-0.3
Finance and insurance	298,157	280,459	21,820	47,484	316	(D)	2,754.7	3,218.7	-0.6	8.1	(D)	1.6
Professional, scientific, and technical services	134,973	251,981	17,072	11,125	9,058	20,200	1,495.4	1,983.8	6.4	-4.2	8.4	2.9
Other industries	387,246	749,873	75,517	94,180	2,147	(D)	9,788.0	12,428.2	6.8	2.2	(D)	2.4

D Suppressed to avoid disclosure of data of individual companies.

1. For 1999, the value added for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates.

2. For 1999, the capital expenditures for bank U.S. parents and foreign affiliates are estimates because data

were only collected for nonbank parents and affiliates.

3. For 1999, the R&D expenditures for bank U.S. parents and foreign affiliates are assumed to be zero; data for those years were only collected for nonbank parents and affiliates.

inputs to production—grew faster (up 4.8 percent) than either production or the other two input measures. These results suggest that while MNCs continued to invest heavily in intangible inputs to production, they were cautious about increasing employment or tangible inputs to production. Such behavior may reflect uncertainty about future business conditions such that firms are reluctant to hire new employees or to add tangible assets without confidence that future demand for their products will support the added capacity. In contrast, MNCs may have continued to invest in R&D despite uncertain business conditions because those investments were necessary to remain competitive.

U.S. parents

Value added of U.S. parents grew at an average annual rate of 1.7 percent to \$2,453.4 billion in 2009 from \$2,064.3 billion in 1999 (table 3). By this measure, growth in production exceeded growth in two measures of inputs to production: employment (down 0.4

percent) and capital expenditures (down 0.2 percent). By contrast, R&D expenditures—a measure of investment in intangible inputs to production—grew faster (up 4.4 percent) than either production or the other two input measures. A similar pattern is evident in the statistics for all U.S. companies; R&D expenditures grew faster (up 4.5 percent) than value added (up 4.1 percent), capital expenditures (up 0.5 percent), and employment (down 0.1 percent).

The 1.7 percent average annual rate of growth in total value added of U.S. parents reflects offsetting changes among industries. Increases were most pronounced in mining, wholesale trade, and “professional, scientific, and technical services.” The growth in manufacturing was relatively weak and reflected offsetting changes by industry. Decreases were most pronounced in utilities and in finance and insurance.

Value added of parents in mining grew at an average annual rate of 14.7 percent. The increase was concentrated in oil and gas extraction and reflected the rise in petroleum prices over the period, which both raised

Table 3. Selected Statistics for U.S. Parents and for All U.S. Companies, by Industry, 1999 and 2009

	Millions of dollars						Thousands of employees ⁴		Average annual rate of change, 1999–2009			
	Value added ¹		Capital expenditures ²		R&D expenditures ³		1999	2009	Value added	Capital expenditures	R&D expenditures	Employment
	1999	2009	1999	2009	1999	2009						
U.S. parents												
All industries	2,064,343	2,453,426	416,795	409,634	126,291	195,004	23,985.3	23,120.7	1.7	-0.2	4.4	-0.4
Mining.....	18,688	73,646	9,635	36,176	212	552	111.5	179.8	14.7	14.1	10.0	4.9
Utilities.....	90,109	61,791	25,589	26,942	81	3	367.8	157.9	-3.7	0.5	-28.1	-8.1
Manufacturing.....	931,180	959,348	190,707	142,212	104,842	146,861	9,020.9	6,898.7	0.3	-2.9	3.4	-2.6
Of which:												
Food.....	48,894	78,354	6,182	9,527	934	1,881	629.3	690.7	4.8	4.4	7.3	0.9
Chemicals.....	133,977	187,854	22,429	17,486	28,198	43,140	984.1	820.4	3.4	-2.5	4.3	-1.8
Primary and fabricated metals.....	46,283	31,904	6,930	4,345	1,320	1,220	616.2	365.3	-3.7	-4.6	-0.8	-5.1
Machinery.....	51,042	61,372	5,336	6,661	5,252	7,527	674.3	564.5	1.9	2.2	3.7	-1.8
Computers and electronic products.....	106,122	132,047	18,897	14,899	30,298	37,070	1,007.5	926.5	2.2	-2.3	2.0	-0.8
Electrical equipment, appliances, and components.....	31,528	26,225	3,900	3,305	2,958	2,682	451.2	263.3	-1.8	-1.6	-1.0	-5.2
Transportation equipment.....	236,705	186,912	81,854	41,202	29,162	40,894	2,219.6	1,569.7	-2.3	-6.6	3.4	-3.4
Wholesale trade.....	80,610	148,571	15,450	37,035	4,000	6,353	908.1	1,134.1	6.3	9.1	4.7	2.2
Information.....	248,859	259,764	71,718	49,965	6,763	20,114	1,931.3	1,748.6	0.4	-3.5	11.5	-1.0
Finance and insurance.....	258,961	205,040	17,733	37,240	315	182	2,345.0	2,512.6	-2.3	7.7	-5.3	0.7
Professional, scientific, and technical services.....	96,069	177,018	12,336	7,376	8,522	15,753	1,014.7	1,222.3	6.3	-5.0	6.3	1.9
Other industries.....	339,867	568,248	62,727	72,687	1,556	5,184	8,286.0	9,266.7	5.3	1.5	12.8	1.1
All U.S. companies												
All private industries	8,199,565	12,196,534	965,828	1,014,698	182,823	283,238	112,253.0	111,375.0	4.1	0.5	4.5	-0.1
Mining.....	82,027	240,843	30,536	101,187	(D)	n.a.	531.0	648.0	11.4	12.7	n.a.	2.0
Utilities.....	172,743	268,107	44,622	101,845	(D)	n.a.	604.0	553.0	4.5	8.6	n.a.	-0.9
Manufacturing.....	1,368,062	1,584,834	196,013	155,840	116,921	190,049	17,383.0	11,529.0	1.5	-2.3	5.0	-4.0
Of which:												
Food.....	163,095	206,098	13,653	16,728	1,159	3,177	1,777.0	1,646.0	2.4	2.1	10.6	-0.8
Chemicals.....	152,846	216,488	25,568	24,655	20,372	52,449	984.0	801.0	3.5	-0.4	9.9	-2.0
Primary and fabricated metals.....	162,163	165,309	17,344	16,935	2,174	3,108	2,365.0	1,676.0	0.2	-0.2	3.6	-3.4
Machinery.....	110,829	112,658	9,972	8,884	6,327	9,903	1,463.0	1,026.0	0.2	-1.1	4.6	-3.5
Computers and electronic products.....	146,749	206,428	34,798	16,717	37,749	59,037	1,756.0	1,137.0	3.5	-7.1	4.6	-4.3
Electrical equipment, appliances, and components.....	42,651	51,678	4,225	2,708	(D)	3,122	585.0	372.0	1.9	-4.4	(D)	-4.4
Transportation equipment.....	179,630	168,865	31,322	16,301	34,059	42,091	2,091.0	1,355.0	-0.6	-6.3	2.1	-4.2
Wholesale trade.....	579,103	780,784	33,434	24,547	n.a.	n.a.	5,667.0	5,621.0	3.0	-3.0	n.a.	-0.1
Information.....	438,549	639,350	120,237	87,687	11,335	37,071	3,390.0	2,824.0	3.8	-3.1	12.6	-1.8
Finance and insurance.....	681,747	1,171,612	127,168	99,744	(D)	1,162	5,733.0	5,784.0	5.6	-2.4	(D)	0.1
Professional, scientific, and technical services.....	606,984	1,068,506	29,334	27,473	23,640	40,008	6,550.0	7,617.0	5.8	-0.7	5.4	1.5
Other industries.....	4,270,350	6,442,498	384,484	416,375	n.a.	n.a.	72,395.0	76,799.0	4.2	0.8	n.a.	0.6

D Suppressed to avoid disclosure of data of individual companies.
n.a. Not available.

1. For 1999, the value added for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates. Statistics for all U.S. companies are from BEA's GDP by industry series.

2. For 1999, the capital expenditures for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates. Statistics for all U.S. companies are from the Census

Bureau Annual Capital Expenditures Survey (Table 4a. Capital Expenditures for Structures and Equipment for Companies With Employees by Industry).

3. For 1999, the R&D expenditures for U.S. parents and foreign affiliates are estimates because data for those years were only collected for nonbank parents and affiliates. Statistics for all U.S. companies are from the National Science Foundation, Research and Development in Industry, and cover the year 2008.

4. Statistics for all U.S. companies are from BEA's national income and product accounts (NIPA Table 6.4D. Full-Time and Part-Time Employees by Industry).

the value of a given level of output and encouraged expansion in output.

Value added of parents in wholesale trade grew at an average annual rate of 6.3 percent. The above-average growth in this industry partly reflected a change in the primary industry classification of some goods-producing parents from manufacturing to wholesale trade as those companies increased their reliance on finished goods purchased from other businesses, including their own foreign affiliates. The tendency for U.S. sellers of goods to shift their activities from manufacturing toward wholesale trade predates 1999, but it has been growing in importance. For example, the number of parent companies whose primary industry classification changed from manufacturing to wholesale trade in 1999–2009 (47 companies) more than doubled from the preceding 10-year period (20 companies). The ac-

celeration in this trend may be partly related to the rise of global value chains in firms' business strategies.⁴

Value added of parents in professional, scientific, and technical services grew at an average annual rate of 6.3 percent. The increase was most pronounced in "other" professional, scientific, and technical services (primarily legal services) and mainly reflected the entrance of law firms to the parent universe as they established their first foreign affiliate.

Value added of parents in utilities decreased at an average annual rate of 3.7 percent. The decrease mainly

4. See for example, Organisation for Economic Co-Operation and Development (OECD), *Staying Competitive in the Global Economy: Moving Up the Value Chain* (Paris: OECD, 2007) and Gordon H. Hanson, Raymond J. Mataloni Jr., and Matthew J. Slaughter, "Expansion Strategies of U.S. Multinational Firms," in *Brookings Trade Forum 2001*, ed. Susan M. Collins and Dani Rodrik (Washington, DC: Brookings Institution Press, 2002): 245–282.

Key Terms

The following key terms are used to describe U.S. multinational companies (MNCs) and their operations.¹

U.S. MNCs

U.S. multinational company (U.S. MNC). The U.S. parent and its foreign affiliates. (In this article, an MNC is usually defined as the U.S. parent and its majority-owned foreign affiliates.)

U.S. parent. A person, resident in the United States, that owns or controls 10 percent or more of the voting securities, or the equivalent, of a foreign business enterprise. "Person" is broadly defined to include any individual, branch, partnership, associated group, association, estate, trust, corporation, or other organization (whether or not organized under the laws of any state), or any government entity. If incorporated, the U.S. parent is the fully consolidated U.S. enterprise consisting of (1) the U.S. corporation whose voting securities are not owned more than 50 percent by another U.S. corporation and (2) proceeding down each ownership chain from that U.S. corporation, any U.S. corporation whose voting securities are more than 50 percent owned by the U.S. corporation above it. A U.S. parent comprises the domestic operations of a U.S. MNC, covering operations in the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands and all other U.S. territories and possessions.

U.S. direct investment abroad. The ownership or control, directly or indirectly, by one U.S. person of 10 percent or more of the voting securities of an incorporated foreign business enterprise or the equivalent interest in an unincorporated business enterprise.

Foreign affiliate. A foreign business enterprise in which there is U.S. direct investment, that is, in which a U.S. person owns or controls (directly or indirectly) 10 percent or more of

the voting securities or the equivalent. Foreign affiliates comprise the foreign operations of a U.S. MNC over which the parent is presumed to have a degree of managerial influence.

This article focuses on the operations of majority-owned foreign affiliates; for these affiliates, the combined ownership of all U.S. parents exceeds 50 percent. In 2009, these affiliates accounted for 83.3 percent of the employment of all foreign affiliates of U.S. MNCs.

Measures of operations²

Value added. The portion of the goods and services sold or added to inventory or fixed investment by a firm that reflects the production of the firm itself. It represents the firm's contribution to gross domestic product in its country of residence, which is the value of goods and services produced by labor and property located in that country. Compared with sales, value added is a preferable measure of production because it indicates the extent to which a firm's output results from its own production rather than from production that originates elsewhere. Sales data do not distinguish between these two sources of production. Value added can be measured as gross output minus intermediate inputs; alternatively, it can be measured as the sum of the costs incurred (except for intermediate inputs) and the profits earned in production. The value-added statistics presented in this article were prepared by summing the cost and profits data collected in the annual and benchmark surveys of U.S. direct investment abroad.

Employment. The number of full-time and part-time employees on the payroll at yearend. If the employment of a parent or an affiliate was unusually high or low because of temporary factors (such as a strike) or large seasonal variation, the number that reflects normal operations or an average for the year was requested.

1. For a comprehensive discussion of the terms and the concepts used, see Raymond J. Mataloni Jr., "A Guide to BEA Statistics on U.S. Multinational Companies," SURVEY 75 (March 1995): 38–55.

2. Statistics on the operations of U.S. MNCs cover the survey respondent's fiscal year ending in the reference year of the data.

reflected the departure of parents from the universe after they sold or liquidated their foreign affiliates. Value added of parents in finance and insurance decreased at an average annual rate of 2.3 percent. The decrease mostly reflected the effects of the U.S. financial crisis that began in 2007.

Foreign affiliates

Between 1999 and 2009, production by foreign affiliates shifted away from high-income countries toward emerging markets, but the purpose for production abroad appears to be unchanged. The longstanding tendency for foreign affiliates to serve as a means for parents to access foreign markets rather than as a low-cost base of production from which to sell to their U.S. customers was evident in both 1999 and 2009. In both years, about 90 percent of the goods and services produced by foreign affiliates were sold to foreign customers. However, the importance of the individual foreign markets shifted away from high-income, highly developed economies toward emerging markets. High-income countries' share of value added of foreign affiliates worldwide fell 9 percentage points, to 75 per-

cent in 2009 from 84 percent in 1999.⁵

Value added of foreign affiliates in all countries grew at an average annual rate of 7.0 percent to \$1,139.6 billion in 2009 from \$580.4 billion in 1999 (table 4). As was the case for U.S. parents, the 7.0 percent average growth in value added and the 7.1 percent average growth in R&D expenditures of foreign affiliates significantly exceeded the growth in their capital expenditures (up 4.0 percent) and employment (up 3.1 percent). Increases in value added were widespread by area, but they were most pronounced in Africa, the Middle East, and Asia and Pacific.

In Africa, value added of foreign affiliates in 1999–2009 grew at an average annual rate of 17.7 percent. The increase was concentrated in mining (primarily oil and gas extraction) and reflected the rise in petroleum prices over the period, which both raised the value of a given level of output and encouraged expansion in output.

In the Middle East, value added of foreign affiliates

5. By comparison, high-income countries' share of sales by foreign affiliates worldwide fell 4 percentage points to 80 percent in 2009 from 84 percent in 1999.

Table 4. Selected Statistics for Majority-Owned Foreign Affiliates by Major Area and by Major Industry of Parent, 1999 and 2009

	Millions of dollars						Thousands of employees		Average annual rate of change, 1999–2009			
	Value added ¹		Capital expenditures ²		R&D expenditures ³		1999	2009	Value added	Capital expenditures	R&D expenditures	Employment
	1999	2009	1999	2009	1999	2009						
All areas, all industries	580,396	1,139,594	114,604	169,919	18,144	35,939	7,928.1	10,801.4	7.0	4.0	7.1	3.1
By area												
Canada.....	66,401	111,106	14,020	22,038	1,681	2,532	1,011.4	1,077.5	5.3	4.6	4.2	0.6
Europe.....	330,517	591,826	56,160	64,634	12,217	22,681	3,598.5	4,173.9	6.0	1.4	6.4	1.5
<i>Of which:</i>												
Eastern Europe ⁴	4,969	45,948	3,019	9,339	54	317	221.6	509.1	24.9	12.0	19.4	8.7
Western Europe ⁵	325,548	545,878	53,141	55,295	12,163	22,364	3,376.9	3,664.8	5.3	0.4	6.3	0.8
Latin America and Other Western Hemisphere	63,928	125,584	18,635	24,140	613	1,394	1,574.5	2,106.8	7.0	2.6	8.6	3.0
<i>Of which:</i>												
Brazil.....	17,180	38,374	3,525	7,500	288	941	355.6	522.9	8.4	7.8	12.6	3.9
Mexico.....	18,255	25,285	4,691	5,280	238	257	788.9	965.0	3.3	1.2	0.8	2.0
Africa.....	9,055	46,056	3,535	15,312	18	85	127.6	170.2	17.7	15.8	16.8	2.9
Middle East.....	5,408	17,215	1,191	2,823	389	1,778	52.9	100.0	12.3	9.0	16.4	6.6
Asia and Pacific.....	105,088	247,807	21,062	40,971	3,226	7,469	1,563.2	3,173.0	9.0	6.9	8.8	7.3
<i>Of which:</i>												
Australia.....	20,677	44,901	5,102	9,833	294	750	264.7	296.9	8.1	6.8	9.8	1.2
China.....	3,971	30,861	1,623	6,399	319	1,517	252.7	943.8	22.8	14.7	16.9	14.1
India.....	1,301	13,997	377	1,609	20	1,245	64.9	490.7	26.8	15.6	51.2	22.4
Japan.....	30,726	53,054	4,021	4,949	1,523	1,744	212.6	322.7	5.6	2.1	1.4	4.3
By industry of parent												
Mining.....	18,063	37,437	5,458	16,979	6	111	59.0	130.5	7.6	12.0	33.9	8.3
Utilities.....	8,166	3,112	6,917	2,050	(*)	0	65.6	19.4	-9.2	-11.5	n.a.	-11.5
Manufacturing.....	377,460	667,988	69,736	100,523	16,243	28,214	4,582.8	5,221.1	5.9	3.7	5.7	1.3
<i>Of which:</i>												
Food.....	13,619	41,915	2,279	5,524	258	534	263.4	534.1	11.9	9.3	7.5	7.3
Chemicals.....	72,007	139,845	11,376	14,330	4,560	9,131	743.9	790.9	6.9	2.3	7.2	0.6
Primary and fabricated metals.....	11,352	13,404	2,217	2,697	97	171	252.8	223.5	1.7	2.0	5.8	-1.2
Machinery.....	18,356	32,895	2,401	3,768	789	1,132	340.1	367.9	6.0	4.6	3.7	0.8
Computers and electronic products.....	36,950	73,646	8,049	8,361	3,310	7,001	627.8	879.1	7.1	0.4	7.8	3.4
Electrical equipment, appliances, and components.....	8,537	15,069	1,540	1,296	188	476	184.1	245.5	5.8	-1.7	9.7	2.9
Transportation equipment.....	67,508	75,693	16,201	12,028	6,189	8,488	1,174.1	1,128.5	1.2	-2.9	3.2	-0.4
Wholesale trade.....	29,389	48,046	3,743	8,391	624	386	545.6	410.5	5.0	8.4	-4.7	-2.8
Information.....	21,840	51,005	5,836	6,490	144	2,044	282.9	390.8	8.9	1.1	30.4	3.3
Finance and insurance.....	39,196	75,419	5,687	10,244	1	(D)	409.7	706.1	6.8	6.1	(D)	5.6
Professional, scientific, and technical services.....	38,904	74,963	4,736	3,749	536	4,447	480.7	761.5	6.8	-2.3	23.6	4.7
Other industries.....	47,379	181,625	12,790	21,493	591	(D)	1,502.0	3,161.5	14.4	5.3	(D)	7.7

D Suppressed to avoid disclosure of data of individual companies.

* Less than \$500,000 (+/-)

n.a. Not available.

1. For 1999, the value added for bank U.S. parents and foreign affiliates are estimates because data for those years were only collected for nonbank parents and affiliates.

2. For 1999, the capital expenditures for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates.

3. For 1999, the R&D expenditures for bank U.S. parents and foreign affiliates are assumed to be zero; data for those years were only collected for nonbank parents and affiliates.

4. "Eastern Europe" comprises Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Poland, Romania, Russia, Slovakia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

5. "Western Europe" comprises European countries not listed in footnote 4.

in 1999–2009 grew at an average annual rate of 12.3 percent. The increase was concentrated in mining (primarily oil and gas extraction) and in manufacturing. The increases were most pronounced in the United Arab Emirates, Kuwait, Qatar, and Oman and mainly reflected the rise in petroleum prices. Expansion of national production of crude oil in these countries was most pronounced in Kuwait and Qatar. More than half of the increase in value added of manufacturing affiliates in the Middle East was accounted for by affiliates in Israel, particularly those in information technology products.

In Asia and Pacific, value added of foreign affiliates in 1999–2009 grew at an average annual rate of 9.0 percent. Increases were most pronounced in China and India and reflected strong economic growth and liberalization of foreign direct investment policies in these countries. In China, real GDP grew at an average annual rate of 10.3 percent, compared with 1.7 percent annual growth in the United States. A significant liberalization of China's foreign direct investment policies during the period was the removal of performance requirements on foreign-owned businesses, which followed China's accession to the World Trade Organization in 2001. In India, real GDP grew at an average annual rate of 7.2 percent. The Indian government implemented a variety of liberalizations during the period, including significant strengthening of its protection of intellectual property rights.⁶

In Latin America and Other Western Hemisphere, value added of foreign affiliates in 1999–2009 grew at an average annual rate of 7.0 percent. Increases were widespread across countries.

In Europe, value added of foreign affiliates in 1999–2009 grew at an average annual rate of 6.0 percent. Increases were most pronounced in Eastern Europe. Value added of affiliates in countries in Eastern Europe grew at an average annual rate of 24.9 percent, compared with 5.3 percent growth for affiliates in Western Europe. The increases in the Eastern European countries largely reflect an ongoing catch-up process, as many of these countries opened their economies to foreign direct investment for the first time in decades since the dissolution of the former Soviet Union in 1991. The accession of 12 Eastern European countries to the European Union in 1999–2009, which greatly expanded market access to European customers, may also have contributed.

In Canada, value added of foreign affiliates in

6. For example, see Laura Bloodgood, "FDI Deregulation and Dispute Settlement," in *Competitive Conditions for Foreign Direct Investment in India*, U.S. International Trade Commission, publication 3931 (Washington, DC: Office of Industries, July 2007): 5–1—5–13.

1999–2009 grew at an average annual rate of 5.3 percent.

By industry, increases in value added of foreign affiliates in 1999–2009 were especially pronounced in "other industries" (such as retail trade) and in information (especially software publishing). Value added in utilities decreased.

Real value added in manufacturing. In addition to the current-dollar estimates of value added of foreign affiliates, BEA prepares estimates of real value added of foreign affiliates in manufacturing; these estimates remove the effects of changes in prices and exchange rates. These estimates provide more meaningful comparisons of value added for foreign affiliates across countries and over time than the current-dollar estimates. Comparisons across countries are enhanced because the estimates in real terms are based on purchasing power parity (PPP) exchange rates rather than on market exchange rates.⁷ Comparisons over time are enhanced because the estimates are denominated in chained (2005) dollars that account for both

7. To translate the value-added estimates that are denominated in foreign currencies into U.S. dollars for international comparisons, PPP exchange rates generally are preferable because they approximate the number of foreign currency units required in a foreign country to buy the goods and services that are equivalent to those that can be bought in the United States with 1 U.S. dollar. A distinguishing feature of PPP exchange rates is that they are based on the prices of all goods and services produced or sold in a country, both those that are traded internationally and those that are not. For details and for a description of the original methodology used to derive the estimates of real value added, see Raymond J. Mataloni Jr., "Real Gross Product of U.S. Companies' Majority-Owned Foreign Affiliates in Manufacturing," *SURVEY 77* (April 1997): 8–17. The original methodology was significantly improved when the industry detail of the producer price indexes used for deflation was increased from 6 manufacturing industries to 22 manufacturing industries in 2006.

Reduction in Data Available for U.S. MNCs

In order to align its programs with available resources, BEA has reduced the detail and modified the reporting criteria on the benchmark survey of U.S. multinational companies (MNCs). Effective with 2009, some data items have been dropped from the survey and reporting thresholds have been raised. Data items that have been dropped since the 2004 benchmark survey include the breakdown of the number of employees and employee compensation by occupational classification, some detailed balance sheet items, some detail on U.S. parents' exports of goods by type, and the composition of external financing of foreign affiliates. The changes in survey reporting thresholds are discussed in the appendix.

Despite the reductions, key data series for U.S. MNCs have been maintained, including series on employment, value added, trade in goods, R&D expenditures, and services supplied by U.S. MNCs.

changes in prices and changes in the industry mix of production by manufacturing affiliates. The real value-added estimates are only available for manufacturing because the required source data are not available for other industries.

The real value added of foreign affiliates in manu-

facturing in 1999–2009 increased at an average annual rate of 0.7 percent to \$421.4 billion in 2009 from \$394.5 billion in 1999 (table 5). The share of total value added accounted for by the 29 countries for which estimates are available fell to 78.4 percent in 2009 from 89.4 percent in 1999. The real value added of

Table 5. Real Value Added by Majority-Owned Foreign Affiliates in Manufacturing by Country, 1999–2009

	Billions of chained (2005) dollars											Average annual rate of change, 1999–2009
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
All countries	394.5	409.1	399.6	405.5	404.7	438.3	435.2	448	461.6	441.5	421.4	0.7
29 selected countries	352.7	363.3	355.2	361.8	354.8	376.1	364.7	368.9	366.4	337.0	330.5	-0.6
Australia	8.0	9.1	9.2	8.1	8.2	8.8	8.6	8.5	8.3	8.1	6.8	-1.6
Austria	2.3	2.3	2.2	2.0	1.7	2.1	2.3	2.5	2.7	2.5	2.2	-0.4
Bulgaria	(*)	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	n.a.
Canada	60.9	63.3	59.1	57.8	57.4	59.6	49.2	47.8	44.2	41.2	35.6	-5.2
China	8.1	11.0	11.7	13.9	15.9	20.2	26.9	29.2	30.4	33.9	40.8	17.5
Czech Republic	2.5	2.6	3.1	3.1	3.0	3.9	4.0	3.8	4.4	4.4	4.1	5.1
Denmark	1.3	1.4	1.1	1.4	1.1	1.1	1.3	1.3	1.4	1.3	1.0	-2.6
Finland	0.9	1.0	0.9	0.8	0.6	1.1	1.1	1.2	1.3	1.2	1.0	1.1
France	27.2	27.0	27.0	26.6	25.8	25.1	25.4	24.3	23.3	21.8	21.3	-2.4
Germany	56.8	46.3	45.6	44.5	39.3	47.2	47.1	48.4	47.8	44.7	41.5	-3.1
Greece	0.7	0.7	0.6	0.6	0.7	2.3	2.6	2.5	2.6	2.6	1.1	4.6
Hungary	2.1	2.3	2.0	2.7	2.2	1.8	2.4	2.8	4.1	3.5	4.1	6.9
Ireland	14.8	16.7	17.9	23.1	21.3	20.7	21.7	22.8	22.0	20.5	20.7	3.4
Italy	24.3	23.2	24.3	22.8	21.2	20.3	18.8	17.3	16.0	13.9	13.4	-5.8
Japan	10.1	14.4	17.7	15.7	15.9	15.3	8.0	8.4	8.5	8.0	15.4	4.3
Lithuania	0.2	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.2	0.1	0.1	-6.7
Mexico	23.2	24.2	24.4	25.3	25.8	23.8	22.9	23.8	23.5	22.3	19.0	-2.0
Netherlands	15.9	16.1	15.7	16.2	15.1	15.7	17.7	14.9	13.8	13.7	13.9	-1.3
Norway	2.2	2.0	2.2	2.3	2.1	2.1	2.3	1.7	1.8	1.9	2.8	2.4
Poland	2.4	4.3	4.9	5.4	6.2	7.4	7.5	8.4	8.6	6.3	5.3	8.2
Portugal	1.6	3.9	3.7	3.8	3.7	3.6	3.3	3.0	2.9	1.0	1.1	-3.7
Singapore	9.8	14.0	9.5	11.0	13.1	15.2	11.1	15.1	16.2	14.5	20.9	7.9
Slovak Republic	0.3	0.2	1.1	1.7	1.8	2.1	2.1	2.5	2.0	1.6	0.9	11.6
Slovenia	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	7.2
South Korea	2.4	3.4	3.1	4.4	4.3	5.3	6.0	6.9	7.5	7.2	4.9	7.4
Spain	10.8	10.9	10.9	11.0	10.4	10.1	10.4	10.5	11.3	8.6	7.7	-3.3
Sweden	3.0	3.8	3.7	3.8	4.9	5.6	4.6	5.1	4.9	3.3	2.4	-2.2
Switzerland	3.4	4.1	2.4	2.7	2.9	3.7	4.3	5.5	7.8	7.3	7.4	8.1
United Kingdom	58.2	53.6	50.2	51.4	50.8	51.2	52.5	49.1	48.7	42.5	38.0	-4.2
All other countries	42.7	46.4	45.0	44.5	50.3	62.3	70.5	79.1	95.6	105.9	91.9	8.0
Residual ¹	-1.7	0.1	-0.4	-1.8	-1.6	0.0	-0.2	0.6	-0.6	-2.7	-4.3	.....
Share of all countries total (percent)												
All countries	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	.....
29 selected countries	89.4	88.8	88.9	89.2	87.7	85.8	83.8	82.3	79.4	76.3	78.4	.....
Australia	2.0	2.2	2.3	2.0	2.0	2.0	2.0	1.9	1.8	1.8	1.6	.....
Austria	0.6	0.6	0.6	0.5	0.4	0.5	0.5	0.6	0.6	0.6	0.5	.....
Bulgaria	(*)	(*)	(*)	(*)	(*)	(*)	0.1	0.1	(*)	(*)	(*)	.....
Canada	15.4	15.5	14.8	14.3	14.2	13.6	11.3	10.7	9.6	9.3	8.4	.....
China	2.1	2.7	2.9	3.4	3.9	4.6	6.2	6.5	6.6	7.7	9.7	.....
Czech Republic	0.6	0.6	0.8	0.8	0.7	0.9	0.9	0.8	1.0	1.0	1.0	.....
Denmark	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	.....
Finland	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.2	.....
France	6.9	6.6	6.8	6.6	6.4	5.7	5.8	5.4	5.0	4.9	5.1	.....
Germany	14.4	11.3	11.4	11.0	9.7	10.8	10.8	10.8	10.4	10.1	9.8	.....
Greece	0.2	0.2	0.2	0.1	0.2	0.5	0.6	0.6	0.6	0.6	0.3	.....
Hungary	0.5	0.6	0.5	0.7	0.5	0.4	0.6	0.6	0.9	0.8	1.0	.....
Ireland	3.8	4.1	4.5	5.7	5.3	4.7	5.0	5.1	4.8	4.6	4.9	.....
Italy	6.2	5.7	6.1	5.6	5.2	4.6	4.3	3.9	3.5	3.1	3.2	.....
Japan	2.6	3.5	4.4	3.9	3.9	3.5	1.8	1.9	1.8	1.8	3.7	.....
Lithuania	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	(*)	(*)	0.0	.....
Mexico	5.9	5.9	6.1	6.2	6.4	5.4	5.3	5.3	5.1	5.1	4.5	.....
Netherlands	4.0	3.9	3.9	4.0	3.7	3.6	4.1	3.3	3.0	3.1	3.3	.....
Norway	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.7	.....
Poland	0.6	1.1	1.2	1.3	1.5	1.7	1.7	1.9	1.9	1.4	1.3	.....
Portugal	0.4	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.2	0.3	.....
Singapore	2.5	3.4	2.4	2.7	3.2	3.5	2.6	3.4	3.5	3.3	5.0	.....
Slovak Republic	0.1	(*)	0.3	0.4	0.4	0.5	0.5	0.6	0.4	0.4	0.2	.....
Slovenia	(*)	(*)	(*)	(*)	(*)	(*)	(*)	0.1	(*)	(*)	0.0	.....
South Korea	0.6	0.8	0.8	1.1	1.1	1.2	1.4	1.5	1.6	1.6	1.2	.....
Spain	2.7	2.7	2.7	2.7	2.6	2.3	2.4	2.3	2.4	1.9	1.8	.....
Sweden	0.8	0.9	0.9	0.9	1.2	1.3	1.1	1.1	1.1	0.7	0.6	.....
Switzerland	0.9	1.0	0.6	0.7	0.7	0.8	1.0	1.2	1.7	1.7	1.8	.....
United Kingdom	14.8	13.1	12.6	12.7	12.6	11.7	12.1	11.0	10.6	9.6	9.0	.....
All other countries	10.8	11.3	11.3	11.0	12.4	14.2	16.2	17.7	20.7	24.0	21.8	.....
Residual ¹ .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

* Less than \$500,000 or less than 0.05 percent.

n.a. Not available.

1. Because the formula for the chain-type quantity indexes uses weights of more than one period, the corre-

sponding chained-dollar estimates are usually not additive. The residual line is the difference between the first line and the sum of the most detailed lines.

manufacturing affiliates in these countries was little changed overall, decreasing at an average annual rate of 0.6 percent to \$330.5 billion in 2009 from \$352.7 billion in 1999, reflecting offsetting changes in individual countries. The decreases in real value added of foreign affiliates in Canada, the United Kingdom, Germany, Italy, France, and Mexico were especially large, but these decreases were partly offset by increases in China and Singapore.

The decreases in Canada and Mexico partly reflected weak economic conditions in the United States. Affiliates in those countries sell roughly three times as much of their output to the United States as affiliates in other countries, and during 1999–2009, real economic growth in the United States averaged only 1.7 percent after averaging 3.2 percent growth in the preceding decade.

The decreases in Canada and Mexico may have also been related to reductions in restrictions on U.S. trade in goods. In the case of Canada, evidence suggests that some of the foreign direct investment it received from the United States was largely tariff-induced and that after the implementation of the North American Free Trade Agreement, some U.S. companies found it more efficient to serve the Canadian market from the United

States rather than from a Canadian affiliate.⁸ In the case of Mexico, studies show that some U.S. companies have found the coastal provinces of China to be more attractive export processing zones than maquiladora sites along the United States-Mexican border.⁹ Thus, some export-oriented foreign direct investment may have been diverted from Mexico to China, especially after China's entry into the World Trade Organization. The decreases in the United Kingdom, Germany, Italy, and France partly reflect parents' divestiture of some affiliates in an effort to refocus on core strategies and raise cash in response to the recessions that started in 2001 and 2007.

The large increases in the value added of affiliates in manufacturing in China were widespread by industry and mainly reflected expanded production to serve the large and growing local market. Roughly two-thirds of the total output of these affiliates was sold to local customers in both 1999 and 2009. The share of these affiliates' total output that was sold to U.S. customers actually declined to 10.2 percent in 2009 from 16.3 percent in 1999. Production by the minority of affiliates that did sell primarily to customers outside China was probably enhanced by the country's entry into the World Trade Organization. The increases in affiliate value added in Singapore was concentrated in chemicals (primarily pharmaceuticals) and in computers and electronic products. Unlike their counterparts in China, manufacturing affiliates in Singapore exported most of their output in both 1999 and 2009. A large part of these exports were low-weight, high-value products, such as semiconductors and pharmaceuticals, that could be sold in distant markets at a profit because the cost savings realized in Singapore more than offset any additional transportation costs incurred in delivering the goods to their final destination.

The real value added of foreign affiliates in the countries other than the 29 selected countries increased at an average annual rate of 8.0 percent in 1999–2009 to \$91.9 billion in 2009 from \$42.7 billion in 1999. Based on the market-exchange-rate-based estimates, the increases were largest in Latin American

Data Availability

The final statistics on the worldwide operations of U.S. multinational companies (MNCs) for 2008 and the preliminary statistics for 2009 are presented in this article. The statistics are based on the 2008 Annual Survey of U.S. Direct Investment Abroad and the 2009 Benchmark Survey of U.S. Direct Investment Abroad. More detailed statistics are available on BEA's Web site.

The final statistics for U.S. MNC operations for 1977 and for 1982–2008 are available in publications or in data files that can be downloaded free of charge from the Web site at www.bea.gov.

For more information about these products and how to obtain them, go to www.bea.gov/scb/account_articles/international/iidguide.htm.

The Bureau has a free service on its Web site that allows users to interactively access detailed statistics on the operations of U.S. multinational companies, on the operations of foreign-owned companies in the United States, and on other aspects of U.S. direct investment abroad and foreign direct investment in the United States. For an introductory guide to this service, see Ned G. Howenstine, "Primer: Accessing BEA Direct Investment Data Interactively," SURVEY 86 (May 2006): 61–64.

8. Walid Hejazi, "Dispelling Canadian Myths About Foreign Direct Investment," Institute for Research on Public Policy Study no. 1 (Montreal, Canada, January 2010).

9. For example, see John Sargent and Linda Matthews, "China vs. Mexico in the Global EPZ Industry: Maquiladoras, FDI Quality, and Plant Mortality," Department of Management, Marketing, and International Business, University of Texas Pan American, (mimeo) and Gordon Hanson and Raymond Robertson, "China and the Manufacturing Exports of Other Developing Countries," in *China's Growing Role in World Trade*, ed. Robert Feenstra and Shang Jin Wei (Chicago: University of Chicago Press for the National Bureau of Economic Research, 2010): 137–159.

and Other Western Hemisphere (mainly Brazil) and in Asia and Pacific (such as Indonesia, India, Thailand, and Taiwan).¹⁰

Selected Aspects of MNC Operations

This section analyzes selected aspects of the operations of U.S. MNCs, including some based on detailed data collected only in benchmark survey years. Specifically, this analysis focuses on four main aspects of MNC operations—employment, R&D, U.S. trade in goods, and sales.

Operations by employment size class

In 2009, the number of very large U.S. parent companies was 415.¹¹ In comparison, the number of U.S. businesses in the same employment category in 2008

was 981, meaning U.S. parents accounted for about 42 percent of all U.S. businesses in the same employment size class (table 6).¹² This is a decrease from 1999 when the number of very large U.S. parents was 464 or about half of the number of all U.S. businesses in the same employment class.

In contrast, small U.S. parent companies accounted for less than 1 percent of total U.S. businesses in the same employment class. In 2009, the number of small U.S. parents was 613, while the number of small U.S. businesses in 2008 was 5.9 million. There was no meaningful change in the number of small U.S. parents relative to the number of all small U.S. businesses from 1999.

U.S. parents. In 2009, U.S. parents' employment totaled 23.1 million; very large parents accounted for 78.3 percent, and large parents accounted for 19.0 percent. Small parents and medium parents accounted for the remaining 2.7 percent.

10. Estimates of real value added by affiliates in Brazil, Indonesia, India, Thailand, and Taiwan are not separately available because of the lack of data on host-country producer price indexes by industry.

11. For this article, employment was broken into four size classes of small, medium, large, and very large. The small class consists of parents with a maximum of 500 employees. The medium class consists of parents with employment between 501 and 1,000 employees. The large class consists of parents with employment between 1,001 and 10,000 employees. The very large class consists of parents with over 10,000 employees.

12. Data for U.S. businesses for 1999 and 2008 are available from the Census Bureau's *Statistics of U.S. Businesses* at www.census.gov/econ/subs. The 2008 statistics were used because data for 2009 were not available at the time of this article.

Table 6. Selected Statistics for U.S. Parent Companies and Majority-Owned Foreign Affiliates by Industry and by Employment Size of U.S. Parent, 1999 and 2009

Employment size class	U.S. parents				Majority-owned foreign affiliates			
	Number of enterprises ¹		Thousands of employees		Number of affiliates ¹		Thousands of employees	
	1999	2009	1999	2009	1999	2009	1999	2009
All industries	2,605	2,347	23,985.3	23,120.7	21,844	25,424	7,928.1	10,801.4
0-500.....	669	613	264.9	291.8	1,241	1,602	249.7	602.0
501-1,000.....	341	269	339.8	331.6	988	830	232.6	191.3
1,001-10,000.....	1,131	1,050	4,673.2	4,390.7	7,848	8,881	1,869.9	2,716.2
Greater than 10,000.....	464	415	18,707.4	18,106.6	11,767	14,111	5,575.9	7,292.0
Manufacturing	1,325	1,079	9,020.9	6,898.7	13,264	15,587	4,590.0	5,221.1
0-500.....	265	247	147.8	150.2	412	565	87.9	202.6
501-1,000.....	202	148	202.6	167.9	552	516	137.1	141.1
1,001-10,000.....	652	530	2,520.2	2,050.9	4,951	5,470	1,202.3	1,690.0
Greater than 10,000.....	206	154	6,150.3	4,529.8	7,349	9,036	3,162.7	3,187.5
Wholesale trade	277	229	908.1	1,134.1	1,758	1,289	545.6	410.5
0-500.....	115	80	36.3	32.5	330	163	54.5	35.5
501-1,000.....	36	32	33.9	32.7	111	89	49.9	11.8
1,001-10,000.....	106	95	358.5	412.8	645	714	197.3	213.7
Greater than 10,000.....	20	22	479.5	656.1	672	323	243.9	149.5
Information	134	155	1,931.3	1,748.6	1,001	1,222	282.9	390.8
0-500.....	25	21	21.2	32.4	35	45	14.2	38.9
501-1,000.....	24	18	23.1	23.6	74	51	8.2	7.7
1,001-10,000.....	46	86	185.4	286.8	282	587	47.9	136.3
Greater than 10,000.....	39	30	1,701.6	1,405.7	610	539	212.7	207.9
Finance and insurance	184	201	2,345.0	2,512.6	2,052	3,048	401.9	706.1
0-500.....	41	50	8.5	14.5	67	144	6.4	87.2
501-1,000.....	16	21	11.8	21.4	37	50	3.4	5.1
1,001-10,000.....	69	80	358.7	380.9	484	509	56.6	72.5
Greater than 10,000.....	58	50	1,966.0	2,095.7	1,464	2,345	335.5	541.3
Professional, scientific, and technical services	166	169	1,014.7	1,222.3	1,156	1,091	480.7	761.5
0-500.....	41	39	29.1	33.3	56	108	8.8	35.7
501-1,000.....	23	20	27.8	42.4	73	62	11.6	9.8
1,001-10,000.....	83	85	394.2	393.4	553	460	137.6	180.7
Greater than 10,000.....	19	25	563.6	753.3	474	461	322.7	535.2
All other industries	519	514	8,765.3	9,604.4	2,613	3,187	1,627.1	3,311.4
0-500.....	182	176	21.9	28.8	341	577	78.0	202.1
501-1,000.....	40	30	40.7	43.6	141	62	22.5	15.9
1,001-10,000.....	175	174	856.2	866.0	933	1,141	228.2	422.8
Greater than 10,000.....	122	134	7,846.5	8,665.9	1,198	1,407	1,298.4	2,670.6

1. The numbers exclude affiliates that were not required to report on standard benchmark survey reports and parents that had only such affiliates even though estimates for such affiliates and parents are included in the data for other items.

By industry and employment size class, U.S. parents in “all other industries” tended to be very large companies, especially in retail trade and accommodation and food services. Very large companies accounted for 90.2 percent of employment in this group of industries.

In manufacturing and wholesale trade, large parents were relatively prevalent. In manufacturing, large parents accounted for 29.7 percent of employment, and about half of this employment was accounted for by companies in chemicals, “computers and electronic products,” transportation equipment, and machinery. In wholesale trade, large companies accounted for 36.4 percent.

In finance and insurance, information, and “professional, scientific, and technical services,” the distribution of parents by size mirrored that for parents overall. Small and medium companies in “professional, scientific, and technical services” accounted for 6.2 percent of employment in the industry sector.

Between 1999 and 2009, U.S. parent total employment declined slightly, decreasing an average of 0.4 percent annually. U.S. parents’ average employment increased to 9,900 in 2009 from 9,200 in 1999. Three of the four employment classes decreased, led by the large employment size class. In contrast, employment accounted for by the small employment size class increased. Despite this, the shares by employment size class for all industries were almost unchanged from

1999. However, there were substantial shifts in employment between industry sectors.

Between 1999 and 2009, manufacturing’s share of total employment dropped 7.8 percentage points; the decreases were concentrated in transportation equipment and “computers and electronic products.” For each employment size class, the share accounted for by manufacturing fell between 4.3 and 9.0 percentage points. In contrast, the share of total employment accounted for by “all other industries” rose 5.0 percentage points from 1999, led by very large parents in retail trade.

The total employment shares of “professional, scientific, and technical services,” “finance and insurance,” and wholesale trade each had slight increases of 1.1 percentage points. Within “professional, scientific, and technical services” and “finance and insurance,” growth was most rapid for medium parents. Within wholesale trade, growth was most rapid for large and very large parents.

Foreign affiliates. In 2009, foreign affiliates’ employment totaled 10.8 million; affiliates of very large parents accounted for 67.5 percent, and affiliates of large parents accounted for 25.1 percent. Of the remaining 7.4 percent, affiliates of small parents accounted for 5.6 percent.

By industry and employment size class of U.S. parent, very large parents in “all other industries,”

Statistics on U.S. Direct Investment Abroad

BEA collects two broad sets of data on U.S. direct investment abroad: (1) financial and operating data of U.S. multinational companies and (2) international transactions and direct investment position data. This article presents highlights of statistics derived from the first set of data; the statistics derived from the second set of data are usually published in the July and September issues of the *SURVEY OF CURRENT BUSINESS*.¹

Financial and operating statistics. The financial and operating statistics provide a picture of the overall activities of foreign affiliates and U.S. parent companies using a variety of indicators of their financial structure and operations. The statistics on foreign affiliates cover the entire operations of the affiliate, regardless of the share of U.S. ownership. These statistics cover items that are used to analyze the characteristics, performance, and economic impact of multinational companies, such as sales, value added, employment and employee compensation, capital expenditures, goods exports and imports, and

research and development expenditures. Separate statistics are available for all affiliates and for affiliates that are majority-owned by their U.S. parents.

International transactions and direct investment position statistics. The international transactions statistics cover a foreign affiliate’s transactions with its U.S. parent(s), so these statistics relate to the U.S. parent’s share, or interest, in its affiliate rather than to the affiliate’s size or level of operations. These statistics are key components of the U.S. international transactions accounts (ITAs), the international investment position, and the national income and product accounts. The major data items are financial flows (recorded in the financial account of the ITAs), which measure the funds that U.S. parents invest in their foreign affiliates, and income (recorded in the current account), which measures the return on those investments.

Direct investment position statistics are stock (cumulative) measures, showing the total outstanding level of U.S. direct investment abroad at yearend. Statistics are provided both at historical cost and at current-period prices. The historical-cost statistics are published by country and by industry.

1. See Kevin B. Barefoot and Marilyn Ibarra-Caton, “Direct Investment Positions for 2010: Country and Industry Detail,” *SURVEY 91* (July 2011): 125–141 and Jeffrey H. Lowe, “Direct Investment for 2007–2010: Detailed Historical-Cost Positions and Related Financial and Income Flows,” *SURVEY 91* (September 2011): 50–137.

“finance and insurance,” and “professional, scientific and technical services” accounted for higher shares of affiliate employment than parents in all industries. Affiliates of very large companies in “all other industries” accounted for 80.6 percent, affiliates in “finance and insurance” accounted for 76.7 percent, and affiliates in “professional, scientific and technical services” accounted for 70.3 percent of affiliate employment in their industry sectors. In “all other industries,” the pervasiveness of very large companies reflected the importance of very large companies in retail trade and accommodation and food services. In finance and insurance, affiliates of very large and large parents together accounted for 86.9 percent of that sector’s total employment.

Affiliates of large parents were relatively prevalent in manufacturing, wholesale trade, and information. In manufacturing, affiliates of large companies accounted for 32.4 percent of affiliate employment. In wholesale trade, affiliates of large companies accounted for 52.1 percent of affiliate employment, and in information, affiliates of large companies accounted for 34.9 percent of affiliate employment. In manufacturing, affiliates of large parents in “computers and electronic products,” transportation equipment, and chemicals accounted for almost half of the affiliate employment in that sector.

Between 1999 and 2009, total affiliate employment rose at an average annual rate of 3.1 percent. By U.S. parent employment size class, employment by affiliates of small parents (9.2 percent growth) and large parents (3.8 percent growth) outpaced total employment growth. Parents in information led the increase in employment of affiliates of small parents. Employment by affiliates of very large parents grew at an average rate of 2.7 percent; slower growth of affiliates with parents in manufacturing was partly offset by strong growth of affiliates with parents in “all other industries.” In contrast, employment by affiliates of medium parents declined at an average rate of 1.9 percent.

R&D expenditures

U.S. MNCs. In 2009, total R&D expenditures of U.S. MNCs were \$230.9 billion; R&D of U.S. parents was \$195.0 billion, and R&D of foreign affiliates was \$35.9 billion (table 7). Between 1999 and 2009, U.S. MNCs growth in R&D expenditures was strong, in comparison to growth in total production as measured by value added. U.S. MNCs’ R&D expenditures grew at an average annual rate of 4.8 percent, but their value added grew 3.1 percent. U.S. parents’ R&D expenditures grew at an average annual rate of 4.4 percent, but their value added grew 1.7 percent; foreign affiliates’ R&D expenditures grew at an average annual rate of 7.1 percent,

which was almost the same as the growth of their value added.

Of the \$230.9 billion in R&D expenditures of U.S. MNCs in 2009, 84.4 percent was accounted for by U.S. parents, and 15.6 percent was accounted for by their foreign affiliates. The 2009 shares represented a 3.0 percentage point shift away from U.S. parents towards foreign affiliates, compared with the 1999 shares. Overall, the large share of U.S. parents in 2009 partly reflects several factors, including the readily available scientific and technological resources—institutions, facilities, and personnel—in the United States, which are imperative to R&D development. Furthermore, due to economies of scale in knowledge generation and the United States’ strong stance on intellectual property protection relative to many other countries, it may be more efficient for U.S. MNCs to concentrate their global R&D activities in the United States and then distribute their innovations to foreign affiliates. The shift towards increased R&D expenditures by foreign affiliates appears to be partly market-driven, as U.S. MNCs are choosing to have R&D performed by their foreign affiliates in order to be close to rapidly growing markets; the shift is also partly driven by increases in scientific and technological resources in foreign countries.

U.S. parents. In 2009, R&D expenditures by U.S. parents totaled \$195.0 billion, up from \$126.3 billion in 1999. Of the 2009 total, \$167.8 billion or 86.1 percent was own-account spending, and \$27.2 billion or 13.9 percent was for others. Within R&D expenditures for others, projects for the federal government were \$17.2 billion or 8.8 percent of U.S. parents’ total R&D expenditures. The 86.1 percent share of own-account

Table 7. R&D Expenditures of U.S. Multinational Companies (MNCs), 1999 and 2009
[Millions of dollars]

	MNC total	U.S. parents	MOFAs
1999			
Total	144,435	126,291	18,144
Type:			
For themselves	124,252	111,008	13,244
For others	20,183	15,283	4,900
Of which:			
For the federal government.....	n.a.	7,810	n.a.
Addenda:			
Capital expenditures	531,399	416,795	114,604
Ratio of capital expenditures to R&D expenditures	3.7	3.3	6.3
2009			
Total	230,943	195,004	35,939
Type:			
For themselves	198,931	167,847	31,084
For others	32,012	27,157	4,855
Of which:			
For the federal government.....	n.a.	17,188	n.a.
Addenda:			
Capital expenditures	579,553	409,634	169,919
Ratio of capital expenditures to R&D expenditures	2.5	2.1	4.7

MOFAs Majority-owned foreign affiliates

spending was down 1.8 percentage points from the share in 1999. The small increase in spending for others partly reflected a 2.6 percentage point increase in the share of federally funded R&D.

By industry, R&D expenditures by U.S. parents were concentrated in three industry sectors—manufacturing (\$146.9 billion), information (\$20.1 billion), and “professional, scientific, and technical services” (\$15.8 billion); together, these sectors accounted for 93.7 percent of total R&D by U.S. parents in 2009 (table 8). Within manufacturing, chemicals, transportation equipment, and “computers and electronic products” accounted for 82.5 percent of the R&D expenditures. Information accounted for 10.3 percent of parent R&D and was concentrated in publishing industries, primarily software publishing. “Professional, scientific, and technical services” accounted for 8.1 percent of R&D by U.S. parents, primarily “computer systems design and related services.”

Between 1999 and 2009, R&D performed by parents

grew at an average annual rate of 4.4 percent. In comparison, R&D performed by all U.S. businesses in 2008 was \$283.2 billion, up from \$182.7 billion in 1999 or an average annual growth rate of 5.0 percent in 1999–2008; as a result, the parent share of total private R&D performed in the United States decreased slightly.¹³

Between 1999 and 2009, the share of total parent R&D by U.S. parents in manufacturing fell 7.7 percentage points, while the combined share of R&D by U.S. parents in information and “professional, scientific, and technical services” rose 6.3 percentage points. Within manufacturing, the share of R&D by U.S. parents in computers and electronics products fell, but the share in chemicals rose. The share of parent R&D in information rose 5.0 percentage points, led by increases in publishing industries (including software publishing) and other information services.

In 2009, U.S. parents’ capital expenditures (expenditures for property, plant, and equipment) totaled \$409.6 billion. Between 1999 and 2009, the relationship between U.S. parents’ capital expenditures, which are related to the accumulation of tangible assets, and R&D expenditures, which are related to the accumulation of intangible assets, shifted in favor of R&D expenditures. In 2009, the ratio between U.S. parents’ capital expenditures to R&D expenditures was 2.1—U.S. parents spent \$2.1 billion on capital expenditures for every \$1.0 billion spent on R&D; in 1999, the ratio was 3.3. The decrease in the ratio reflects the large growth in U.S. parents’ R&D expenditures (which grew at an average annual rate of 4.4 percent) relative to the slight decline (0.2 percent) in U.S. parents’ capital expenditures over the same period.

By industry sector, the size of capital expenditures relative to R&D expenditures varied markedly. In information, capital expenditures were \$50.0 billion and R&D expenditures were \$20.1 billion, leading to a ratio of 2.5, which was down substantially from the ratio of 10.6 in 1999. The decrease reflected a decrease in capital expenditures, which were down about 30 percent from 1999, and an increase in R&D expenditures, which rose to almost three times their 1999 value. In manufacturing, U.S. parents’ capital expenditures and R&D expenditures were almost equal, a notable change from 1999 when the size of capital expenditures was almost twice as much as R&D expenditures. Within “professional, scientific, and technical services” in 2009, R&D expenditures (\$15.8 billion) were twice the

Table 8. R&D Expenditures and Capital Expenditures of U.S. Parent Companies and Majority-Owned Foreign Affiliates, 1999 and 2009

(Millions of dollars)

	1999		2009	
	R&D expenditures ¹	Capital expenditures ²	R&D expenditures	Capital expenditures
	U.S. parents			
Total	126,291	416,795	195,004	409,634
Mining.....	212	9,635	552	36,176
Utilities.....	81	25,589	3	26,942
Manufacturing.....	104,842	190,708	146,861	142,212
<i>Of which:</i>				
Food.....	934	6,182	1,881	9,527
Chemicals.....	28,198	22,429	43,140	17,486
Primary and fabricated metals.....	1,320	6,930	1,220	4,345
Machinery.....	5,252	5,336	7,527	6,661
Computers and electronic products	30,298	18,897	37,070	14,899
Electrical equipment, appliances,				
and components.....	2,958	3,900	2,682	3,305
Transportation equipment.....	29,162	81,855	40,894	41,202
Wholesale trade.....	4,000	15,450	6,353	37,035
Information.....	6,763	71,718	20,114	49,965
Finance and insurance.....	315	28,633	182	37,240
Professional, scientific, and technical				
services.....	8,522	12,336	15,753	7,376
Other industries.....	1,556	62,727	5,184	72,687
	Majority-owned foreign affiliates			
Total	18,144	114,604	35,939	169,919
Mining.....	8	20,492	115	59,443
Utilities.....	(*)	6,976	1	3,331
Manufacturing.....	16,388	47,545	24,888	54,255
<i>Of which:</i>				
Food.....	367	2,917	521	4,269
Chemicals.....	4,340	10,962	7,254	14,143
Primary and fabricated metals.....	151	2,463	215	2,849
Machinery.....	748	1,799	1,309	3,109
Computers and electronic products	3,773	8,708	5,703	6,073
Electrical equipment, appliances,				
and components.....	214	1,146	512	1,210
Transportation equipment.....	5,669	9,582	7,784	7,324
Wholesale trade.....	515	6,443	1,986	7,985
Information.....	161	8,483	1,444	7,111
Finance and insurance.....	1	5,724	1	8,878
Professional, scientific, and technical				
services.....	1,040	3,686	7,414	4,298
Other industries.....	31	15,255	90	24,618

* Less than \$500,000 (+/-).

1. For 1999, the R&D expenditures for bank U.S. parents and foreign affiliates are assumed to be zero; data for those years were only collected for nonbank parents and affiliates.

2. For 1999, the capital expenditures for bank U.S. parents and foreign affiliates are estimates because data were only collected for nonbank parents and affiliates.

13. R&D data for U.S. businesses for 1999 and 2008 are available from the National Science Foundation Web site www.nsf.gov/statistics/infbrief/nsf10322. The 2008 statistics were used because data for 2009 were not available at the time of this article.

size of their capital expenditures (\$7.4 billion). This was a reversal from 1999 when their capital expenditures (\$12.3 billion) exceeded their R&D expenditures (\$8.5 billion).

Foreign affiliates. R&D expenditures by foreign affiliates totaled \$35.9 billion in 2009, up from \$18.1 billion in 1999. Of the 2009 total, \$31.1 billion or 86.5 percent was own-account spending, and \$4.9 billion or 13.5 percent was for others (primarily affiliated persons). The 86.5 percent share of own-account spending was a 13.5 percentage point increase from the share in 1999. This large shift reflected rapid growth for foreign affiliates' own-account spending in 1999–2009; spending on projects for others had almost no change.

By industry, R&D expenditures by foreign affiliates were concentrated in two industry sectors—manufacturing (\$24.9 billion) and “professional, scientific, and technical services” (\$7.4 billion)—which together accounted for 89.9 percent of foreign affiliates' R&D in 2009. Manufacturing accounted for 69.3 percent of foreign affiliates' R&D. Within manufacturing, transportation equipment, chemicals, and “computer and electronic products” accounted for 83.3 percent of R&D expenditures. “Professional, scientific, and technical services” accounted for 20.6 percent, primarily in “computer systems design and related services.”

Between 1999 and 2009, the share of R&D by manufacturing affiliates fell 21.1 percentage points, while the share of R&D by foreign affiliates in “professional, scientific, and technical services” rose 14.9 percentage points. The shift in the shares reflected the strong growth in R&D by foreign affiliates in “professional, scientific, and technical services,” which increased to \$7.4 billion in 2009 from \$1.0 billion in 1999 and outpaced the growth in manufacturing.

In 2009, foreign affiliates' capital expenditures totaled \$169.9 billion. Similar to U.S. parents, foreign affiliates' ratio of capital expenditures to R&D expenditures shifted in favor of R&D expenditures between 1999 and 2009. In 2009, the ratio of foreign affiliates' capital expenditures to R&D expenditures was 4.7, down from a ratio of 6.3 in 1999. Foreign affiliates' higher ratio of capital expenditures to R&D expenditures, compared with that of U.S. parents, might reflect the fact that foreign affiliates can rely on R&D performed by its U.S. parent.

By industry sector, foreign affiliates' capital expenditures exceeded their R&D expenditures in almost all the major industry sectors. “Professional, scientific, and technical services” was the only industry sector where R&D expenditures (\$7.4 billion) were greater than capital expenditures (\$4.3 billion) in 2009. In

contrast, in 1999, capital expenditures (\$3.7 billion) were greater than R&D expenditures (\$1.0 billion).

MNC-associated U.S. trade in goods

U.S. MNC-associated trade in goods consists of all U.S. exports and U.S. imports of goods that involve U.S. parents or their foreign affiliates. This trade accounts for an important share of total U.S. trade. In 2009, MNC-associated U.S. exports of goods were \$578.1 billion or 54.7 percent of total U.S. exports of goods, and MNC-associated U.S. imports of goods were \$703.0 billion or 45.1 percent of total U.S. imports of goods (table 9 and chart 2). Trade between U.S. parents and their foreign affiliates (intra-MNC trade) accounted for 36.1 percent of total MNC-associated U.S. exports, while MNC trade with “others” (trade between U.S. parent companies and foreigners other than their own

Table 9. U.S. Trade in Goods Associated With Nonbank U.S. Multinational Companies (MNCs), 1999, 2008, and 2009
[Millions of dollars]

	1999	2008	2009
Total MNC-associated U.S. exports	441,598	597,458	578,108
Intra-MNC trade	168,909	227,586	208,851
Shipped by U.S. parents to MOFAs	158,575	214,116	187,104
For further manufacture ¹	102,574	n.a.	110,773
For resale without further manufacture ¹	53,297	n.a.	72,177
Other ¹	2,704	n.a.	4,154
Shipped by U.S. parents to other foreign affiliates ²	10,334	13,470	21,747
MNC trade with others	272,689	369,872	369,256
Shipped by U.S. parents to other foreigners	238,693	326,072	328,863
<i>Of which:</i>			
Shipped to foreign parent groups of U.S. parents ³	26,140	49,061	54,480
Shipped to foreign affiliates by other U.S. persons	33,996	43,800	40,393
To MOFAs	31,973	43,800	40,393
For further manufacture ¹	25,941	n.a.	29,353
For resale without further manufacture ¹	4,584	n.a.	9,391
Other ¹	1,448	n.a.	1,650
To other foreign affiliates ⁴	2,023	n.a.	n.a.
Total MNC-associated U.S. imports	391,022	770,815	703,013
Intra-MNC trade	166,990	272,604	222,252
Shipped by MOFAs to U.S. parents	158,958	257,620	208,419
Shipped by other foreign affiliates to U.S. parents ²	8,032	14,984	13,833
MNC trade with others	224,032	498,211	480,761
Shipped by other foreigners to U.S. parents	193,969	436,102	436,040
<i>Of which:</i>			
Shipped by foreign parent groups of U.S. parents ³	78,002	125,901	165,415
Shipped by foreign affiliates to other U.S. persons	30,063	62,109	44,721
By MOFAs	23,288	57,902	43,581
By other foreign affiliates ⁴	6,775	4,207	1,140
Addenda:			
All U.S. exports of goods	695,797	1,287,442	1,056,043
MNC-associated U.S. exports as a percentage of total	63.5	46.4	54.7
Intra-MNC exports as a percentage of total	24.3	17.7	19.8
All U.S. imports of goods	1,024,618	2,103,641	1,559,625
MNC-associated U.S. imports as a percentage of total	38.2	36.6	45.1
Intra-MNC imports as a percentage of total	16.3	13.0	14.3

1. These data are only collected in benchmark surveys.

2. This number is calculated as total exports (imports) between U.S. parents and all of their foreign affiliates (as reported for U.S. parents) less exports (imports) between U.S. parents and MOFAs (as reported for MOFAs).

3. U.S. parents that are owned 10 percent or more by a foreign person. The foreign parent group consists of (1) the foreign parent of the U.S. parent, (2) any foreign person, proceeding up the foreign parent's ownership chain, that owns more than 50 percent of the person below it, and (3) any foreign person, proceeding down the ownership chain(s) of each of these members, that is owned more than 50 percent by the person above it.

4. This number is calculated as total exports (imports) associated with “other” (that is, minority-owned and 50-percent owned) foreign affiliates (as reported for affiliates) less the estimate of exports (imports) between U.S. parents and “other” foreign affiliates that are calculated as described in footnote 2. However, these estimates may be imprecise because of differences in the coverage of the data reported for U.S. parents and for foreign affiliates. No estimate of exports can be made for 2008 and 2009 because the differences were especially large in those years.

MOFAs Majority-owned foreign affiliates
n.a. Not available

affiliates and trade between foreign affiliates and U.S. residents other than their own parents) accounted for 63.9 percent. Intra-MNC trade accounted for 31.6 percent of MNC-associated U.S. imports, while MNC trade with others accounted for 68.4 percent.

The share of goods for further manufacture shipped to foreign affiliates from their U.S. parents and from other U.S. persons decreased. The share of these goods shipped to foreign affiliates decreased about 5 percentage points, and the share from their U.S. parents and others decreased about 9 percentage points. These decreases were offset by increases in the share of goods shipped to foreign affiliates for resale without further manufacture.¹⁴

Between 1999 and 2009, the share of U.S. exports attributable to MNC-associated trade fell, while the share of U.S. imports attributable to MNC-associated trade rose. The share of MNC-associated exports fell to 54.7 percent in 2009 from 63.5 percent in 1999. The drop in shares continues a trend that began in 1994, when growth in MNC-associated trade started to fall behind the growth in total U.S. trade. MNC-associated U.S. exports rose to \$578.1 billion in 2009 from \$441.6 billion in 1999, reflecting a 2.7 percent average annual growth rate over the decade, which was below the 4.3 percent average annual growth rate of total U.S. ex-

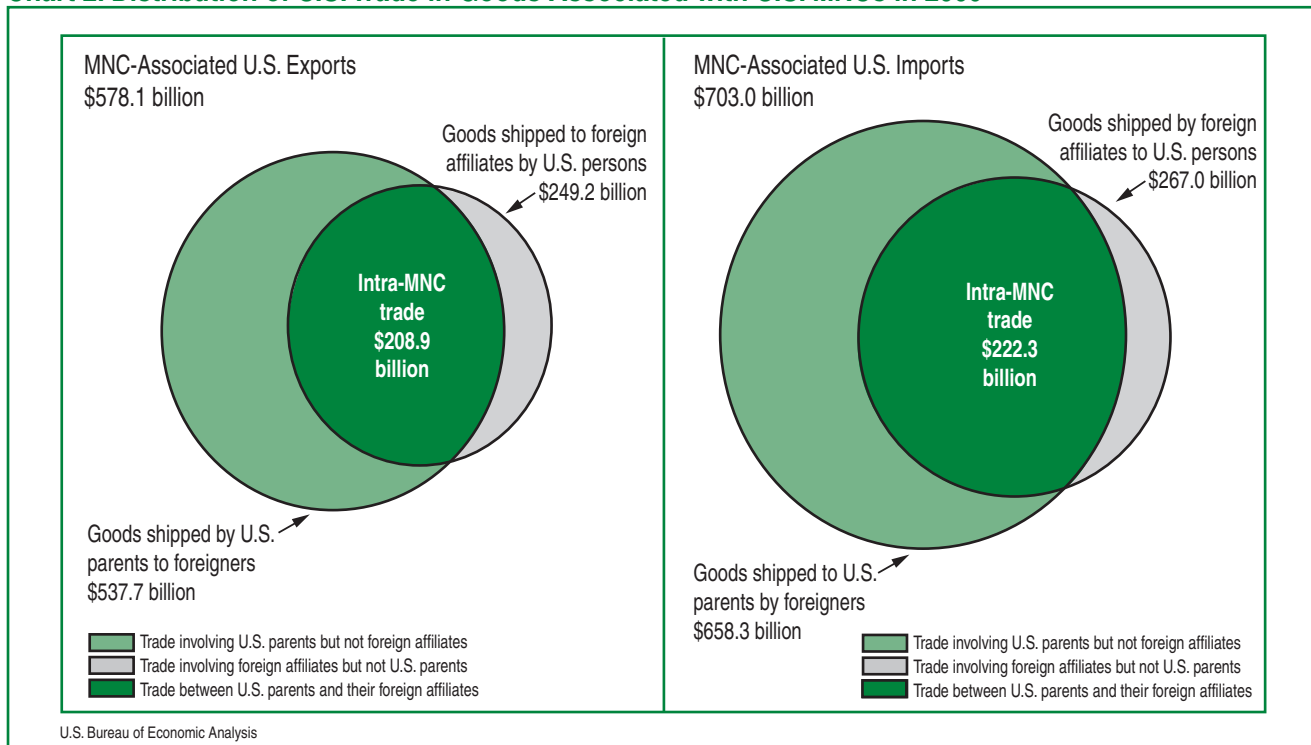
ports. Between 1999 and 2009, the share of total exports shipped by U.S. parents to affiliates in manufacturing fell 11.7 percentage points, led by declines in computer and electronic products and transportation equipment. For exports, both the share of total U.S. trade accounted for by intra-MNC trade and the share accounted for by MNC trade with others fell.

In contrast, the share of U.S. imports attributable to MNC-associated trade rose to 45.1 percent in 2009 from 38.2 percent in 1999. MNC-associated U.S. imports increased to \$703.0 billion in 2009 from \$391.0 billion in 1999, reflecting a 6.0 percent average annual growth rate over the decade, which exceeded the 4.3 percent average annual growth rate of total U.S. imports. The rise was primarily due to the 25.9 percent decrease in total U.S. imports from 2008 to 2009; MNC-associated imports decreased 8.8 percent in the same period. Prior to the 2008-2009 decline, the average annual growth rate of total U.S. imports was 8.3 percent. Between 1999 and 2009, the share of total imports of goods shipped by manufacturing affiliates to U.S. parents fell, led by decreases in transportation equipment and computers and electronic products. For imports, the share of total U.S. trade accounted for by intra-MNC trade decreased, but the decrease was more than offset by an increase in the share accounted for by MNC trade with others.

In addition to lagging behind the growth in total U.S. exports, MNC-associated U.S. exports also lagged

14. More detailed data on the intended use of exports shipped to foreign affiliates are collected in benchmark surveys than in annual surveys.

Chart 2. Distribution of U.S. Trade in Goods Associated with U.S. MNCs in 2009



slightly behind the growth in MNC value added in 1999–2009. In contrast, MNC-associated U.S. imports grew more quickly than MNC value added. This continues a trend started in 1994 that reflects a pattern in the U.S. economy as a whole: total U.S. exports grew more slowly and U.S. imports grew more rapidly than U.S. (current-dollar) GDP.

U.S. trade in goods with foreign affiliates. U.S. exports of goods to foreign affiliates were \$227.5 billion in 2009, accounting for 21.5 percent of total U.S. exports. U.S. imports of goods from foreign affiliates were \$252.0 billion, accounting for 16.2 percent of total U.S. imports. More than four-fifths of this trade—82.2 percent for exports and 82.7 percent for imports—was intra-MNC trade, a slight decrease from 1999. In 2009, imports shipped from foreign affiliates exceeded exports shipped to foreign affiliates by \$24.5 billion. This was a reversal from 1999 when exports to foreign affiliates exceeded imports from foreign affiliates by \$8.3 billion.

Sales

In 2009, total sales by U.S. parents were \$9,196.9 billion, and total sales by foreign affiliates were \$4,857.0 billion (tables 10 and 11). In 1999, total sales by U.S. parents in all industries were \$6,271.5 billion, and total

**Table 10. Sales by U.S. Parents
by Type and by Destination, 1999 and 2009**

	Total sales (Millions of dollars)	Shares of total sales (Percent)
1999		
Total	6,271,525	100.0
Nonbank industries	5,975,478	100.0
By type:		
Goods ¹	3,842,387	64.3
Services ²	1,854,339	31.0
By destination:		
To U.S. persons	5,431,021	90.9
To foreign countries	544,457	9.1
To foreign affiliates	244,829	4.1
To other foreign persons	299,628	5.0
2009		
Total	9,196,939	100.0
By type:		
Goods supplied ¹	5,207,990	56.6
Services supplied ²	3,342,572	36.3
By destination:		
To U.S. persons	8,015,309	87.2
To foreign countries	1,181,630	12.8
To foreign affiliates	589,893	6.4
To other foreign persons	591,737	6.4

1. For most industries, "sales of goods" and "goods supplied" are both generally defined as sales of tangible outputs, but "goods supplied" is a more conceptually precise measure. For wholesalers and retailers, sales of goods is the value of the goods they resold, while goods supplied equals their sales of goods less the value of the distributive services they provided by selling, or arranging for the sale of, goods. BEA estimates the value of distributive services and includes it in services supplied.

2. For most industries, "sales of services" and "services supplied" are both generally defined as sales of intangible outputs, but "services supplied" is a more conceptually precise measure. For insurance, sales of services consists of premiums earned, while services supplied consists of BEA's estimate of the portion of premiums remaining after a measure of expected claims, called "normal" losses, are paid and a measure of premium supplements, which are the investment income earned on funds insurers hold on policyholders' behalf. Banks are excluded from the 1999 data on sales of services, but for 2009, their services supplied consist of explicit fees and commissions and an estimate of the value of implicit services they provide. For wholesalers and retailers, the value of the distributive services they provide by selling, or arranging for the sale of, goods is excluded from sales of services but is included in services supplied.

sales by majority-owned foreign affiliates were \$2,705.1 billion. Between 1999 and 2009, U.S. parents and foreign affiliates reported strong growth in sales that exceeded growth in total production as measured by value added. The stronger growth in sales was led by U.S. parents, which grew at an average annual rate of 3.9 percent, in comparison with the 1.7 percent rate of growth for U.S. parents' value added. Sales by foreign affiliates grew at a 6.0 percent average annual growth rate, which was below the 7.0 percent rate of growth for foreign affiliates' value added. Foreign affiliates' sales growth was particularly strong from 2003 to 2008. As in preceding years, sales by parents and those by foreign affiliates were mainly targeted to different customers. In 2009, 87.2 percent of parents' sales were to customers in the United States, and 91.1 percent of foreign affiliates' sales were to customers outside the United States.

U.S. parents. In 2009, sales by U.S. parents totaled \$9,196.9 billion, up from \$6,271.5 billion in 1999. Between 1999 and 2009, sales to foreign countries became more important.¹⁵ In 2009, sales to U.S. persons were \$8,015.3 billion or 87.2 percent of U.S. parents' sales, compared with 90.9 percent in 1999; in 2009, sales to foreign countries were \$1,181.6 billion or 12.8 percent, compared with 9.1 percent in 1999. Within sales to foreign countries, sales to foreign affiliates (\$589.9 billion) were similar in magnitude to sales to other foreign persons (\$591.7 billion). By type of product, goods supplied were \$5,208.0 billion or 56.6 percent of U.S. parents' sales, and services supplied were \$3,342.6 billion or 36.3 percent in 2009.

Foreign affiliates. In 2009, sales by foreign affiliates of U.S. MNCs totaled \$4,857.0 billion, up from \$2,705.1 billion in 1999, reflecting a 6.0 percent average annual growth rate. In 2009, the majority of their sales were to customers outside the United States; 91.1 percent of total sales by affiliates were to foreign customers and 8.9 percent were to U.S. customers. These shares were little changed from the shares of nonbank affiliates of nonbank parents in 1999 when the share of sales to foreign customers was 89.6 percent and the share of sales to U.S. customers was 10.4 percent. By transactor, most foreign affiliates' sales in 2009 were to unaffiliated customers; 70.8 percent of total sales were to unaffiliated customers and 29.2 percent were to affiliated customers. In comparison, 74.0 percent of sales in 1999 were to unaffiliated customers and 26.0 percent were to affiliated customers.

15. Sales by nonbank parents and nonbank affiliates in 1999 are used for comparison purposes because data were not collected on sales by destination for bank parents and affiliates; nonbank industries accounted for 95.3 percent of U.S. parents' all industries sales and 82.0 percent of foreign affiliates' all industries sales in 1999.

Between 1999 and 2009, sales within the host country of the foreign affiliate shifted to sales to customers in "other foreign countries" (foreign countries other than the host country), but the share of sales to U.S. customers was little changed.¹⁶ In 2009, sales within the host country of the foreign affiliate were 60.8 percent of total sales, and sales to other foreign countries were 30.3 percent of total sales. In 1999, the share of sales within the host country was 67.4 percent, and the share of sales to other foreign countries was 22.2 percent.

By type of product, goods accounted for 70.9 percent of total sales, and services accounted for 23.8 percent of total sales in 2009. By transactor, 70.2 percent of goods supplied and services supplied were to unaffiliated customers in 2009.

By destination, European sales accounted for 48.3 percent of total sales in 2009, a decrease from 52.6 percent in 1999. In 2009, 27.9 percent of total sales were by European affiliates to their host country market, and 20.3 percent of total sales were sales to Europe by affiliates selling to other foreign countries, or a ratio of

1.4, which was down from 2.2 in 1999. Asia and Pacific accounted for 21.7 percent of total sales in 2009, up from 17.1 percent in 1999. In 2009, 15.7 percent of total sales were by Asian and Pacific affiliates to their host country market, and 6.1 percent of total sales were sales to Asia and Pacific by affiliates selling to other foreign countries, or a ratio of 2.6, down from 4.1 in 1999. By type of product, Asia and Pacific accounted for almost a fifth of goods and services supplied to foreign countries.

By location of affiliate, the destination of sales by affiliates varied. Sales by affiliates in Canada and Mexico to the United States accounted for 19.1 percent and 18.2 percent, respectively, of their total sales (down from approximately 28 percent and 27 percent in 1999). Asia and Pacific, led by Japan, had a much smaller share of sales by affiliates to U.S. customers (7.3 percent). Within Europe, 17.2 percent of Irish sales by affiliates and 6.4 percent of United Kingdom sales by affiliates were to U.S. customers. Similarly, the share of foreign affiliates' sales to customers in their host countries also varied: 89.8 percent of sales by affiliates in Japan were local, 69.8 percent of sales by affiliates in the United Kingdom were local, and 45.6

16. More detailed data on the destination of sales to "other foreign countries" are collected in benchmark surveys than in annual surveys.

Table 11. Sales of Goods and Services by Majority-Owned Foreign Affiliates by Destination, 1999 and 2009

	Total sales	Goods	Services	Share of total sales	Goods	Services		Total sales	Goods supplied	Services supplied	Share of total sales	Goods supplied	Services supplied
	Millions of dollars			Percent				Millions of dollars			Percent		
	1999							2009					
Total	2,705,066	n.a.	n.a.	100.0	n.a.	n.a.	Total	4,857,010	3,445,517	1,158,102	100.0	70.9	23.8
Nonbank industries	2,218,945	1,782,680	372,853	100.0	80.3	16.8	By transactor						
By transactor							To affiliated persons.....	1,419,527	1,136,955	236,731	29.2	23.4	4.9
To affiliated persons.....	577,253	524,014	38,435	26.0	23.6	1.7	To unaffiliated persons.....	3,437,483	2,308,562	921,371	70.8	47.5	19.0
To unaffiliated persons.....	1,641,692	1,258,666	334,418	74.0	56.7	15.1	By destination						
By destination							To U.S. persons.....	432,005	324,332	81,663	8.9	6.7	1.7
To U.S. persons.....	230,975	205,639	19,646	10.4	9.3	0.9	To foreign countries.....	4,425,004	3,121,185	1,076,439	91.1	64.3	22.2
To foreign countries.....	1,987,970	1,577,041	353,207	89.6	71.1	15.9	<i>Of which:</i>						
<i>Of which:</i>							Canada.....	403,199	280,858	101,424	8.3	5.8	2.1
Canada.....	203,170	161,639	34,741	9.2	7.3	1.6	Europe.....	2,343,775	1,658,914	581,319	48.3	34.2	12.0
Europe.....	1,166,840	937,208	198,673	52.6	42.2	9.0	Latin America and Other Western Hemisphere.....	510,421	350,117	118,642	10.5	7.2	2.4
Latin America and Other Western Hemisphere.....	208,020	157,910	41,551	9.4	7.1	1.9	Africa.....	69,368	57,046	11,047	1.4	1.2	0.2
Africa.....	20,403	17,689	2,536	0.9	0.8	0.1	Middle East.....	41,885	26,938	14,093	0.9	0.6	0.3
Middle East.....	10,511	5,991	4,391	0.5	0.3	0.2	Asia and Pacific.....	1,056,356	747,312	249,914	21.7	15.4	5.1
Asia and Pacific.....	379,025	296,605	71,315	17.1	13.4	3.2	Host country.....	2,953,315	1,926,196	838,122	60.8	39.7	17.3
Host country.....	1,494,903	1,127,489	320,686	67.4	50.8	14.5	Canada.....	389,338	269,713	98,763	8.0	5.6	2.0
Canada.....	197,222	155,956	34,511	8.9	7.0	1.6	Europe.....	1,357,313	857,983	420,732	27.9	17.7	8.7
Europe.....	803,860	602,002	178,319	36.2	27.1	8.0	Latin America and Other Western Hemisphere.....	372,104	250,862	90,654	7.7	5.2	1.9
Latin America and Other Western Hemisphere.....	165,678	126,311	33,570	7.5	5.7	1.5	Africa.....	43,445	32,714	9,492	0.9	0.7	0.2
Africa.....	15,938	13,285	2,510	0.7	0.6	0.1	Middle East.....	29,526	16,490	12,343	0.6	0.3	0.3
Middle East.....	8,026	3,646	4,252	0.4	0.2	0.2	Asia and Pacific.....	761,589	498,433	206,138	15.7	10.3	4.2
Asia and Pacific.....	304,177	226,288	67,524	13.7	10.2	3.0	Foreign country other than the host country.....	1,471,690	1,194,989	238,318	30.3	24.6	4.9
Foreign country other than the host country.....	493,067	449,553	32,520	22.2	20.3	1.5	Canada.....	13,861	11,145	2,662	0.3	0.2	0.1
Canada.....	5,948	5,682	229	0.3	0.3	0.0	Europe.....	986,462	800,931	160,587	20.3	16.5	3.3
Europe.....	362,979	335,206	20,353	16.4	15.1	0.9	Latin America and Other Western Hemisphere.....	138,317	99,255	27,988	2.8	2.0	0.6
Latin America and Other Western Hemisphere.....	42,342	31,598	7,981	1.9	1.4	0.4	Africa.....	25,923	24,331	1,555	0.5	0.5	0.0
Africa.....	4,465	4,404	26	0.2	0.2	0.0	Middle East.....	12,359	10,448	1,750	0.3	0.2	0.0
Middle East.....	2,485	2,346	139	0.1	0.1	0.0	Asia and Pacific.....	294,767	248,878	43,777	6.1	5.1	0.9
Asia and Pacific.....	74,848	70,317	3,791	3.4	3.2	0.2							

n.a. Not available

1. For most industries, "sales of goods" and "goods supplied" are both generally defined as sales of tangible outputs, but "goods supplied" is a more conceptually precise measure. For wholesalers and retailers, sales of goods is the value of the goods they resold, while goods supplied equals their sales of goods less the value of the distributive services they provided by selling, or arranging for the sale of, goods. BEA estimates the value of distributive services and includes it in services supplied.

2. For most industries, "sales of services" and "services supplied" are both generally defined as sales of intangible

outputs, but "services supplied" is a more conceptually precise measure. For insurance, sales of services consists of premiums earned, while services supplied consists of BEA's estimate of the portion of premiums remaining after a measure of expected claims, called "normal" losses, are paid and a measure of premium supplements, which are the investment income earned on funds insurers hold on policyholders' behalf. Banks are excluded from the 1999 data on sales of services, but for 2009, their services supplied consist of explicit fees and commissions and an estimate of the value of implicit services they provide. For wholesalers and retailers, the value of the distributive services they provide by selling, or arranging for the sale of, goods is excluded from sales of services but is included in services supplied.

percent of sales by affiliates in the Netherlands were local. Sales to other foreign countries (excluding the United States) also had a wide distribution of shares. For the Netherlands, 48.8 percent of their sales were to other foreign countries, while for Canada, 2.8 percent of their sales were to other foreign countries.

Since 1999, the distribution of sales by affiliates has shifted away from sales to the United States and sales in their host countries to sales to other foreign countries. Between 1999 and 2009, the share of sales by affiliates to U.S. customers decreased in all major regions except Europe, and the share of sales by affiliates within the local market decreased in four of five major regions. The share of sales to other foreign countries increased for all major regions.

Changes in Value Added and Employment in 2008–2009

The changes in 2008–2009 in measures of MNC operations, such as value added and employment, can be derived as the net effect of changes that result from several factors—(1) parents entering the MNC universe by acquiring or establishing their first foreign affiliate; (2) foreign affiliates entering the MNC universe by being newly acquired or established; (3) changes in the existing operations of parents and affiliates; (4) parents and affiliates leaving the MNC universe because they were sold or liquidated; and (5) other changes, including benchmark revisions (table 12). The employment of U.S. parent companies and foreign affiliates declined at their existing operations and exits from the survey universe, but these decreases were more than offset by increases related to “other changes, including benchmark revisions,” which largely reflected improvements in coverage in the benchmark survey. For value added, increases related to improved coverage in the benchmark survey partly offset the decreases at existing operations and exits from the survey universe.

Revisions

The statistics on MNC operations for 2009 are preliminary. The employment and sales statistics replace the advance summary statistics that were released on April 18, 2011. From the advance to the preliminary statistics, employment was revised up 7.7 percent, and sales were revised up 9.6 percent. These revisions were fully accounted for by improvements in survey coverage associated with the benchmark survey.

The final statistics on MNC operations in 2008 are also presented. The final statistics on employment and sales replace the summary statistics in the April 2010

news release and the preliminary statistics that were published in the August 2010 SURVEY OF CURRENT BUSINESS.¹⁷ From the summary to the final statistics, employment was revised up 0.1 percent and sales were revised down 2.1 percent. From the preliminary to the final statistics, employment was revised down 0.9 percent and sales were revised down 0.7 percent.

In addition to the statistics for the levels of U.S. MNC employment and sales, the April 2011 news release included 2008–2009 growth rates. The revisions to the levels for 2008 and 2009 resulted in revisions to the rates of change in 2009; the rate of change in employment was revised to 3.6 percent from –4.1 percent, and the rate of change in sales was revised to –4.9 percent from –14.0 percent. If improvements in survey coverage were excluded, the rate of change in employment growth would have been revised to –7.4 percent, and the rate of change in sales would have been revised to –12.3 percent.

17. See Kevin B. Barefoot and Raymond J. Mataloni Jr., “U.S. Multinational Companies: Operations in the United States and Abroad in 2008,” SURVEY 90 (August 2010): 205–230.

Table 12. Sources of Change in the Value Added and Employment of U.S. Multinational Companies (MNCs), 2008–2009

Line		Value added (Millions of dollars)	Thousands of employees
U.S. MNCs			
1	2008 level	3,740,989	32,736.7
2	Total change	-147,969	1,185.4
3	New parents or affiliates	11,201	125.1
4	Changes in existing operations ²	-429,402	-1,847.3
5	Sales or liquidations	-46,606	-715.6
6	Other changes, including benchmark revisions ⁴	316,838	3,623.2
7	2009 level	3,593,020	33,922.1
Parents			
8	2008 level	2,500,543	22,273.3
9	Total change	-47,117	847.4
10	New parents ¹	7,876	35.2
11	Changes in existing operations ²	-260,089	-1,382.4
12	Parents departing the universe ³	-25,380	-304.9
13	Other changes, including benchmark revisions ⁴	230,476	2,499.5
14	2009 level	2,453,426	23,120.7
MOFAs			
15	2008 level	1,240,446	10,463.4
16	Total change	-100,852	338.0
17	New affiliates	3,325	89.9
<i>Of which:</i>			
18	Acquired by US parents	1,538	27.5
19	Established by US parents	1,787	62.4
20	Changes in existing operations ²	-169,313	-464.9
21	Sales or liquidations of foreign affiliates	-21,226	-410.7
22	Other changes, including benchmark revisions ⁴	86,362	1,123.7
23	2009 level	1,139,594	10,801.4

1. Parents that established or acquires their first foreign affiliate in 2009.

2. Includes changes resulting from parents or affiliates acquiring, establishing, selling, or liquidating parts of their consolidated operations. BEA generally requires survey respondents to fully consolidate their U.S. parent operations, but does not generally permit survey respondents to consolidate affiliate operations unless they are in the same country and the same industry or are integral parts of a single business operation.

3. Parents that sold or liquidated their last foreign affiliate and those that went out of business in 2009.

4. Changes that could not be allocated, such as the addition of parents and affiliates to the survey universe that were required to report on earlier surveys but did not. Includes any measurement error in the identifiable sources of change, because they are calculated as residuals. For example, line 6 is calculated as the difference between line 2 and the sum of lines 3–5.

MOFAs Majorly-owned foreign affiliates

Appendix: Benchmark Surveys

Benchmark surveys are BEA's most comprehensive surveys of U.S. direct investment abroad in terms of both coverage of companies and subject matter. In terms of value, the 2009 survey covered the entire universe of U.S. direct investment abroad. The preliminary results presented in this article are based on reported or estimated data for 2,347 U.S. parent companies and for 26,961 foreign affiliates (of which, 25,424 were majority owned by their U.S. parents). The survey collected detailed information on the financial structure and operations of U.S. parent companies and their foreign affiliates and on the transactions and positions between parents and their affiliates. An improvement introduced in the 2009 benchmark survey is the use of industrial classification based on the 2007 North American Industry Classification System (NAICS).

The concepts and definitions underlying the 2009 benchmark survey are similar to those underlying the previous (2004) benchmark survey. The methodology of the 2009 survey will be published with the final results of the survey.

The financial and operating data from the benchmark survey extend the time series that begin with 1982 and that are derived from data reported on both annual and benchmark surveys.

Every foreign affiliate was required to report in the benchmark survey. Benchmark survey reports that collected data on all of the major aspects of operations were required for any foreign affiliate with total assets, sales, or net income of more than \$25 million and for the affiliate's U.S. parents. Affiliates that were too small to meet one of these criteria were required to complete a highly abbreviated survey report that collected just a few major data items (including assets, sales, and em-

ployment) indicating the overall size of their operations. These data were included in the estimates presented in this article and were also used as a basis for estimating other items covered by the survey.

To reduce the reporting burden of small enterprises, the threshold for the standard benchmark survey report was raised to \$25 million from \$10 million for the 2004 benchmark survey. This change has virtually no effect on the published totals, because the aggregate value of the data for these small enterprises is negligible. To further reduce the burden on respondents, detailed benchmark survey reports were required only for U.S. parents and foreign affiliates with assets, sales, or net income of more than \$300 million and \$80 million, respectively. Less detailed standard reports were required for smaller parents and affiliates.

The data collected in the 2009 benchmark survey will provide the basis for further evaluation and improvement of other BEA estimates of U.S. direct investment abroad. For the financial and operating data, the benchmark survey data will allow BEA to improve its estimates by providing a basis for the construction of estimates for affiliates too small to be reported on the annual survey and by identifying new U.S. parents that will provide data in the annual survey. For the international transactions and direct investment position data, the survey will provide a basis for revising the estimates derived from BEA's quarterly surveys of U.S. direct investment abroad.

The preliminary results from the benchmark survey include estimates of data for reports that could not be fully processed in time for publication. The final results will incorporate data from the reports processed after the publication of the preliminary results.

Tables 13.1 to 17 follow.