

International Investment and R&D Data Link: 2004–07

Detailed Statistical Tables | NSF 12-327 | September 2012

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General Notes

This report summarizes newly developed data from the R&D Data Link Project, a project matching research and development and international investment data sets from several federal agencies. The combined data sets provide information on the R&D activities of U.S. multinational companies (MNCs) and foreign MNCs with U.S. activities that was previously unavailable from the original surveys. The project also produced benefits for the participating agencies through improvements in survey frame, sampling, and data quality. This report covers four separate years of the project: 2004, 2005, 2006, and 2007.

Methodology

Data presented in this report were obtained by linking company-specific information from the National Science Foundation (NSF)/U.S. Census Bureau (Census) Survey of Industrial Research and Development (SIRD) with information from two surveys from the Bureau of Economic Analysis (BEA): the survey of Foreign Direct Investment in the United States (FDIUS) and the survey of U.S. Direct Investment Abroad (USDIA). The link consisted of matching data across surveys for a given year. No linking was performed across years.

SIRD provided details on R&D activities by U.S.-located nonfarm, for-profit companies with five or more employees, including character of work of R&D and the U.S. state location of R&D performance, but it collected no information on foreign ownership or overseas investments. The BEA FDIUS survey provides information on U.S. affiliates of foreign MNCs; the USDIA survey covers domestic activities of parents of U.S. MNCs and their affiliates abroad. See "Scope of Linked Surveys" in the appendix for detailed information on individual surveys.

Data from matched companies presented here are based on the subset of companies in SIRD that are part of a multinational corporation and are not equivalent to estimates presented in SIRD. SIRD estimates for total U.S. industrial R&D activity are computed by weighting sample data to universe totals. Data from the link project are not weighted and are obtained from simple aggregations of sample microdata.

Companies in the SIRD-FDIUS match are the subset of SIRD companies that are also U.S. affiliates of foreign MNCs. Companies in the SIRD-USDIA match are the subset of SIRD companies that are parent companies of U.S. MNCs. Data from the link project cover only matched companies and account for over 90% but not the entire U.S. R&D performance by MNCs measured in the BEA surveys. Thus the linked companies are not the complete universe of all R&D-performing U.S. MNC parent companies or U.S. affiliates.

Matched data for U.S. affiliates and for parent companies of U.S. MNCs include R&D by industry, character of work, and source of funds. Matched data for U.S. affiliates of foreign MNCs include data by selected technology area, state, and selected investing country.

Matched data for U.S. MNCs include data for selected host country and their overseas affiliates. This report also includes domestic net sales, employment, and R&D employment.

Data for matched parent companies of U.S. MNCs and matched U.S. affiliates (U.S.-located foreign owned companies) should not be summed to attempt a U.S. R&D aggregate related to MNCs because some companies both are parent companies of overseas affiliates and are themselves owned by a foreign parent company.

The link largely follows methodology developed in a feasibility matching project that was conducted (1) to determine the comparability of the data files, including comparability of the definition of respondents and data items; (2) to study the quality of the resulting matches; (3) to assess tabulations that could be supported by future links; and (4) to produce a limited set of linked data. The feasibility matching project was compliant with the regulations listed under the Confidential Information Protection and Statistical Efficiency Act. The release presented here is the first since the earlier feasibility effort (see "Data Availability" in the appendix). The NSF Division of Science Resources Statistics (SRS) proposed and funded this project. SRS, renamed the National Center for Science and Engineering Statistics (NCSES) by the America COMPETES Reauthorization Act of 2010 (Section 505), serves "as a central Federal clearinghouse for the collection, interpretation, analysis, and dissemination of objective data on science, engineering, technology, and research and development." Census conducted the SIRD under an interagency agreement with NSF. Responses to the BEA surveys are mandatory under the International Investment and Trade in Services Survey Act (P.L. 94-472, 90 Stat. 2059, 22 U.S.C. 3101-3108). See "Link Methodology" in the appendix for more information about the methods used.

Description of Linked Data

Through 2007, NSF and Census jointly collected detailed information on the U.S. business R&D activities through SIRD (<http://www.nsf.gov/statistics/industry/>).^[1] Information from SIRD includes sales, employment, R&D by character of work (basic research, applied research, and development), the technology areas supported by R&D, and the U.S. state location of R&D performance. SIRD has no information on foreign ownership or the multinational status of companies.

In contrast, BEA collects data on parent companies of U.S. MNCs, detailing their U.S. and overseas activities through the survey of U.S. Direct Investment Abroad (USDIA). BEA also collects information from U.S. affiliates of foreign MNCs through the survey of Foreign Direct Investment in the United States (FDIUS). The BEA surveys provide extensive financial and operating statistics, including sales, balance sheets, income statements, trade in goods, employment, and R&D expenditures, but they do not collect certain R&D details, such as character of work or technology areas supported.

Tables 1–13 (year 2004), 26–38 (2005), 51–63 (2006), and 76–88 (2007) of this report show data that resulted from matching SIRD companies to majority-owned U.S. affiliates of foreign MNCs from the FDIUS survey. Majority-owned U.S. affiliates are those whose combined ownership interests by foreign parent companies exceed 50%.

Tables 14–25 (2004), 39–50 (2005), 64–75 (2006), and 89–100 (2007) show data that resulted from matching SIRD companies to parent companies of U.S. MNCs from the USDIA survey. Selected tables also present USDIA survey data for majority-owned foreign affiliates of matched U.S. parent companies. Majority-owned foreign affiliates are overseas companies whose combined ownership interests by U.S. parent companies exceed 50%.

Notes

[1] SIRD collected data through 2007. Its successor survey, the Business R&D and Innovation Survey (BRDIS), launched with the 2008 data collection. BRDIS is also

conducted jointly by NSF and the Census Bureau. For data and other information see <http://www.nsf.gov/statistics/srvyindustry/about/brdis/>.

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TABLE 1. Summary SIRD data for matched majority-owned U.S. affiliates of foreign companies: 2004

Characteristic	R&D performance						Employees	
	Character of work			Source of funds				
	All R&D	Basic	Applied	Development	Company ^a	Federal	All	R&D (FTE)
		research	research			government		
Companies (<i>n</i>) ^b	907	299	476	841	905	39	911	891
	US\$millions						Thousands	
All industries	28,854	873	6,121	21,860	27,606	1,248	1,957	117
Major sector ^c								
Manufacturing	24,276	719	4,644	18,914	D	D	1,518	97
Nonmanufacturing	4,578	155	1,478	2,946	D	D	439	20
Investing country ^d								
Canada	1,565	14	187	1,364	D	D	125	8
France	3,391	95	739	2,557	D	D	144	10
Germany	5,400	346	724	4,330	5,386	15	362	25
Japan	3,419	158	543	2,719	3,418	1	291	13
Netherlands	1,328	15	262	1,051	D	D	128	5
Switzerland	3,243	15	1,089	2,139	D	D	98	12
United Kingdom	5,839	154	1,378	4,307	4,671	1,168	334	23
Other	4,668	75	1,200	3,392	4,637	31	475	22

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

^b Companies in all industries with non-zero value for item.

^c Major sector classification based on SIRD data.

^d Investing country classification based on FDIUS survey data.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 994 companies from SIRD, majority owned (>50%) by their foreign parent companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 907 had non-zero R&D expenditures. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 2. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2004

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries				
Sales	911	1,072,687	1,040	1,174,407
R&D performed	907	28,854	851	29,270
Character of work (SIRD)				
Basic research	299	873	na	na
Applied research	476	6,121	na	na
Development	841	21,860	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	905	27,606	na	na
Federally funded R&D	39	1,248	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	183	2,281	na	na
Overseas	144	3,286	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	911	1,957	1,025	2,098
R&D employees ^f	891	117	776	122
Manufacturing				
Sales	733	925,130	738	699,452
R&D performed	730	24,276	632	20,204
Character of work (SIRD)				
Basic research	232	719	na	na
Applied research	374	4,644	na	na
Development	679	18,914	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	728	D	na	na
Federally funded R&D	32	D	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	144	2,072	na	na
Overseas	110	3,155	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	733	1,518	730	1,469
R&D employees ^f	723	97	573	86
Wholesale trade				
Sales	44	12,052	168	386,308
R&D performed	43	209	138	6,636
Character of work (SIRD)				
Basic research	32	D	na	na
Applied research	38	D	na	na
Development	40	159	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	43	209	na	na
Federally funded R&D	0	0	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA

TABLE 2. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2004

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	4	1	na	na
Overseas	4	2	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	44	26	167	306
R&D employees ^f	36	1	125	26
Nonmanufacturing, excluding wholesale trade				
Sales	134	135,505	134	88,646
R&D performed	134	4,369	81	2,430
Character of work (SIRD)				
Basic research	35	D	na	na
Applied research	64	D	na	na
Development	122	2,788	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	134	D	na	na
Federally funded R&D	7	D	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	35	207	na	na
Overseas	30	129	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	134	413	128	323
R&D employees ^f	132	19	78	10

D = suppressed to avoid disclosure of confidential information; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Includes company and other nonfederal sources.

^d R&D performed by others is company funded.

^e R&D performed by others is company funded. Includes others located in United States and overseas.

^f In SIRD, R&D employees are reported as full-time equivalent employment. In FDIUS survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 994 companies from SIRD, majority owned (>50%) by their foreign parents companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 790 were classified in manufacturing industries, 66 were classified in wholesale trade industries, and 138 were classified in nonmanufacturing industries, excluding wholesale trade. In FDIUS survey, 1,057 majority-owned companies were linked to SIRD; of these, 745 were classified in manufacturing industries, 168 were classified in whole trade industries, and 144 were classified in nonmanufacturing industries, excluding wholesale trade. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 3. Character of work distribution of R&D performance by matched majority-owned U.S. affiliates of foreign companies: FDIUS survey and SIRD 2004

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
FDIUS survey	851	29,270	20,204	9,066
SIRD	907	28,854	24,276	4,578
Character of work (SIRD)				
Basic research	299	873	719	155
Applied research	476	6,121	4,644	1,478
Development	841	21,860	18,914	2,946
		Percent distribution		
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.0	3.0	3.4
Applied research	na	21.2	19.1	32.3
Development	na	75.8	77.9	64.4

na = not applicable.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 4. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21-23, 31-33, 42, 44-81	28,854	873	6,121	21,860
Manufacturing	31-33	24,276	719	4,644	18,914
Food	311	440	D	D	367
Beverage and tobacco products	312	D	D	D	D
Paper, printing, and support activities	322, 323	41	D	D	D
Petroleum and coal products	324	D	D	D	D
Chemicals	325	10,063	263	2,859	6,942
Basic chemicals	3251	565	67	122	375
Resin, synthetic rubber, fibers, and filament	3252	73	2	14	57
Pharmaceuticals and medicines	3254	8,908	186	2,522	6,199
Other chemicals	other 325	517	7	200	310
Plastics and rubber products	326	378	D	D	302
Nonmetallic mineral products	327	175	13	62	101
Primary metals	331	75	D	D	63
Fabricated metal products	332	166	2	17	147
Machinery	333	844	10	139	695
Computer and electronic products	334	6,855	336	861	5,658
Computers and peripheral equipment	3341	1,078	D	D	D
Communications equipment	3342	2,046	D	D	1,643
Semiconductor and other electronic components	3344	1,129	D	D	1,064
Navigational, measuring, electromedical, and control instruments	3345	2,429	39	404	1,986
Other computer and electronic products	other 334	173	D	D	D
Electrical equipment, appliances, and components	335	348	3	71	274
Transportation equipment	336	3,887	24	211	3,652
Motor vehicles, trailers, and parts	3361-63	3,549	D	D	D
Aerospace products and parts	3364	D	D	D	D
Other transportation equipment	other 336	D	0	0	D
Miscellaneous manufacturing	339	521	6	55	460
Medical equipment and supplies	3391	401	D	D	362
Other miscellaneous manufacturing	other 339	120	D	D	98
Other manufacturing	313-16, 321, 337	63	D	D	59
Nonmanufacturing	21-23, 42, 44-81	4,578	155	1,478	2,946
Mining, extraction, and support activities	21	349	D	72	D
Wholesale trade	42	209	D	D	159
Information	51	1,517	D	D	679
Publishing	511	784	D	D	D
Newspaper, periodical, book, and database	5111	D	D	D	D
Software	5112	D	D	120	D
Broadcasting and telecommunications	513	D	*	D	D
Other information	other 51	D	D	D	D
Finance, insurance, and real estate	52, 53	D	D	D	165
Professional, scientific, and technical services	54	1,685	D	D	1,126
Architectural, engineering, and related services	5413	183	D	D	D
Computer systems design and related services	5415	170	1	D	D
Scientific R&D services	5417	1,131	D	D	604
Other professional, scientific, and technical services	other 54	201	D	D	D

TABLE 4. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Health care services	621-23	D	0	D	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	469	7	70	392

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 5. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	28,854	27,606	1,248
Manufacturing	31-33	24,276	D	D
Food	311	440	440	0
Beverage and tobacco products	312	D	D	0
Paper, printing, and support activities	322, 323	41	41	0
Petroleum and coal products	324	D	D	D
Chemicals	325	10,063	10,054	9
Basic chemicals	3251	565	D	D
Resin, synthetic rubber, fibers, and filament	3252	73	73	0
Pharmaceuticals and medicines	3254	8,908	D	D
Other chemicals	other 325	517	D	D
Plastics and rubber products	326	378	D	D
Nonmetallic mineral products	327	175	175	0
Primary metals	331	75	75	0
Fabricated metal products	332	166	D	D
Machinery	333	844	D	D
Computer and electronic products	334	6,855	D	D
Computers and peripheral equipment	3341	1,078	1,078	0
Communications equipment	3342	2,046	2,022	23
Semiconductor and other electronic components	3344	1,129	D	D
Navigational, measuring, electromedical, and control instruments	3345	2,429	D	D
Other computer and electronic products	other 334	173	173	0
Electrical equipment, appliances, and components	335	348	D	D
Transportation equipment	336	3,887	3,705	182
Motor vehicles, trailers, and parts	3361-63	3,549	D	D
Aerospace products and parts	3364	D	D	D
Other transportation equipment	other 336	D	D	0
Miscellaneous manufacturing	339	521	D	D
Medical equipment and supplies	3391	401	401	0
Other miscellaneous manufacturing	other 339	120	D	D
Other manufacturing	313-16, 321, 337	63	D	D
Nonmanufacturing	21-23, 42, 44-81	4,578	D	D
Mining, extraction, and support activities	21	349	349	0
Wholesale trade	42	209	209	0
Information	51	1,517	D	D
Publishing	511	784	D	D
Newspaper, periodical, book, and database	5111	D	D	0
Software	5112	D	D	D
Broadcasting and telecommunications	513	D	D	0
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	D	D	0
Professional, scientific, and technical services	54	1,685	D	D
Architectural, engineering, and related services	5413	183	D	D
Computer systems design and related services	5415	170	170	0
Scientific R&D services	5417	1,131	D	D

TABLE 5. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	201	201	0
Health care services	621-23	D	D	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	469	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 6. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by selected investing country/region and industry: SIRD 2004

(Millions of U.S. dollars)

Investing country/region	All industries	Manufacturing	Wholesale trade	Information	Professional, scientific, and technical services	Other
All countries/regions	28,854	24,276	209	1,517	1,685	1,168
Canada	1,565	943	D	D	296	D
Europe	21,322	18,424	118	962	1,184	635
Belgium	272	D	0	0	0	D
Denmark	255	D	D	0	D	0
Finland	680	D	0	D	0	D
France	3,391	2,975	36	120	D	D
Germany	5,400	5,204	D	D	D	D
Ireland	124	D	0	D	0	0
Italy	301	301	0	0	0	0
Netherlands	1,328	1,316	0	0	D	D
Norway	71	D	0	0	D	0
Sweden	355	306	0	D	0	D
Switzerland	3,243	3,060	D	D	118	D
United Kingdom	5,839	4,478	D	D	D	272
Other	63	D	0	0	D	D
Latin America and other						
Western Hemisphere	1,447	911	D	D	D	382
Mexico	6	6	0	0	0	0
Other	1,442	906	D	D	D	382
Africa	D	D	0	D	0	0
Middle East	77	D	0	D	0	D
Israel	D	70	0	D	0	D
Other	D	D	0	0	0	0
Asia and Pacific	3,768	3,266	D	210	D	D
Australia	63	D	0	0	D	0
China	13	D	D	D	0	0
India	0	0	0	0	0	0
Japan	3,419	2,979	D	177	75	D
Singapore	22	D	D	D	D	0
South Korea	D	D	0	D	0	0
Taiwan	98	D	D	D	0	0
Other ^a	D	D	0	0	D	0
Other ^b	D	D	D	0	0	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes Hong Kong.

^b Includes affiliates whose immediate parent is located outside United States but whose ultimate owner is U.S. company.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry sector classification based on SIRD data. Investing country/region classification based on FDIUS survey data. Investing country is country of ultimate beneficial owner, entity that ultimately owns or controls U.S. affiliate.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 7. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2004

(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
All states	28,854	1,565	3,391	5,400	3,419	1,328	3,243	5,839	4,668
Alabama	30	0	D	D	D	D	D	D	4
Alaska	D	0	0	D	0	0	0	D	0
Arizona	222	D	D	37	44	48	0	54	7
Arkansas	21	0	0	D	12	D	D	D	4
California	3,158	89	209	413	849	D	59	223	D
Colorado	325	D	D	2	7	58	3	24	D
Connecticut	1,119	D	D	D	0	D	D	20	D
Delaware	D	0	0	0	D	D	6	D	0
District of Columbia	23	0	D	D	D	0	0	D	0
Florida	182	D	4	D	D	5	19	26	D
Georgia	247	D	D	17	19	12	1	29	D
Hawaii	D	0	0	0	0	0	D	D	0
Idaho	12	0	0	D	0	0	D	D	D
Illinois	603	27	27	113	171	43	14	170	39
Indiana	402	D	5	126	13	D	2	D	6
Iowa	46	D	D	13	D	D	D	D	7
Kansas	80	D	D	17	0	D	D	D	49
Kentucky	66	0	D	19	6	D	D	11	3
Louisiana	41	D	0	D	0	D	0	0	9
Maine	26	D	D	D	0	0	D	D	D
Maryland	388	D	D	2	D	D	D	63	60
Massachusetts	1,086	199	93	144	118	61	D	142	D
Michigan	3,166	121	75	2,174	493	15	17	200	72
Minnesota	457	9	D	73	0	D	D	17	326
Mississippi	5	0	D	D	D	D	D	0	D
Missouri	248	0	D	81	34	D	D	6	92
Montana	0	0	0	0	0	0	0	0	0
Nebraska	65	D	D	D	D	0	D	0	D
Nevada	25	0	0	D	D	D	0	D	15
New Hampshire	777	D	D	D	D	0	D	D	D
New Jersey	5,177	21	D	228	367	139	D	407	232
New Mexico	16	D	D	D	D	D	0	D	D
New York	737	D	140	113	99	60	35	111	D
North Carolina	1,510	D	80	302	42	4	46	D	D
North Dakota	D	0	D	0	0	0	0	0	D
Ohio	630	D	20	63	384	64	22	42	D
Oklahoma	15	0	0	6	D	D	D	D	D
Oregon	117	D	D	D	D	D	D	1	14
Pennsylvania	2,087	57	399	166	8	13	15	D	D
Rhode Island	30	0	D	D	0	0	3	D	D
South Carolina	511	D	D	49	41	0	D	5	D
South Dakota	D	0	0	D	0	0	D	0	0
Tennessee	262	3	14	12	13	D	4	44	D
Texas	2,004	D	330	20	151	175	D	178	D
Utah	16	0	D	7	D	D	0	D	3
Vermont	16	0	D	D	0	D	4	0	0
Virginia	187	D	10	35	8	D	9	7	67
Washington	452	D	D	D	29	D	D	D	D

TABLE 7. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2004

(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
West Virginia	5	0	0	D	0	0	D	D	0
Wisconsin	135	0	12	25	0	D	D	24	47
Wyoming	D	0	0	0	0	0	0	0	D
Undistributed ^a	1,065	37	30	29	333	6	96	114	418

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Investing country classification based on FDIUS survey data. State location based on SIRD data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 8. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by technology area: SIRD 2004

(Millions of U.S. dollars)

Technology area	R&D performance
All areas	28,854
Biotechnology	2,358
Materials	1,502
Software development	2,454
Other and undistributed	22,540

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 9. Company funds from matched majority-owned U.S. affiliates of foreign companies for R&D performed in the United States but outside of company facilities, by type of organization: SIRD 2004

(Millions of U.S. dollars)

Type of organization	Company-funded ^a R&D performed outside company facilities
All organizations	2,243
For-profit companies	2,102
Universities or colleges	66
Nonprofits other than universities or colleges	24
Other and undistributed	51

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail does not sum to total because not all companies report type of outside organization.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 10. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	1,072,687
Manufacturing	31–33	925,130
Food	311	28,056
Beverage and tobacco products	312	10,155
Paper, printing, and support activities	322, 323	8,488
Petroleum and coal products	324	D
Chemicals	325	146,824
Basic chemicals	3251	35,420
Resin, synthetic rubber, fibers, and filament	3252	9,612
Pharmaceuticals and medicines	3254	78,667
Other chemicals	other 325	23,126
Plastics and rubber products	326	16,532
Nonmetallic mineral products	327	18,025
Primary metals	331	23,512
Fabricated metal products	332	16,199
Machinery	333	35,055
Computer and electronic products	334	120,345
Computers and peripheral equipment	3341	10,408
Communications equipment	3342	30,755
Semiconductor and other electronic components	3344	39,976
Navigational, measuring, electromedical, and control instruments	3345	27,532
Other computer and electronic products	other 334	11,673
Electrical equipment, appliances, and components	335	21,183
Transportation equipment	336	276,476
Motor vehicles, trailers, and parts	3361–63	266,233
Aerospace products and parts	3364	5,197
Other transportation equipment	other 336	5,047
Miscellaneous manufacturing	339	14,257
Medical equipment and supplies	3391	9,664
Other miscellaneous manufacturing	other 339	4,593
Other manufacturing	313–16, 321, 337	D
Nonmanufacturing	21–23, 42, 44–81	147,557
Mining, extraction, and support activities	21	7,727
Wholesale trade	42	12,052
Information	51	41,197
Publishing	511	9,630
Newspaper, periodical, book, and database	5111	D
Software	5112	D
Broadcasting and telecommunications	513	D
Other information	other 51	D
Finance, insurance, and real estate	52, 53	17,519
Professional, scientific, and technical services	54	16,464
Architectural, engineering, and related services	5413	D
Computer systems design and related services	5415	3,796
Scientific R&D services	5417	3,870

TABLE 10. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	D
Health care services	621–23	13,423
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	39,175

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 11. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by character of work: SIRD 2004

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	8,743	203,656	151,525	52,131
Basic research	1,833	7,936	6,142	1,795
Applied research	4,049	43,063	31,316	11,747
Development	7,861	152,657	114,067	38,589
SIRD matched majority-owned U.S. affiliates				
All R&D	907	28,854	24,276	4,578
Basic research	299	873	719	155
Applied research	476	6,121	4,644	1,478
Development	841	21,860	18,914	2,946
Matched as percent of SIRD sample (%)				
All R&D	10.4	14.2	16.0	8.8
Basic research	16.3	11.0	11.7	8.6
Applied research	11.8	14.2	14.8	12.6
Development	10.7	14.3	16.6	7.6

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity, only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 12. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by source of funds: SIRD 2004

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	8,743	203,656	151,525	52,131
Company ^b	8,621	180,344	131,890	48,453
Federal government	702	23,313	19,635	3,678
SIRD matched majority-owned U.S. affiliates				
All R&D	907	28,854	24,276	4,578
Company ^b	905	27,606	D	D
Federal government	39	1,248	D	D
Matched as percent of SIRD sample (%)				
All R&D	10.4	14.2	16.0	8.8
Company ^b	10.5	15.3	D	D
Federal government	5.6	5.4	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. Majority-owned classification based on FDIUS data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 13. Employees in matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies: SIRD 2004

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	9,088	15,140	9,121	6,019
R&D (FTE) employees	8,771	946	659	287
SIRD matched majority-owned U.S. affiliates				
All employees	911	1,957	1,518	439
R&D (FTE) employees	891	117	97	20
Matched as percent of SIRD sample (%)				
All employees	10.0	12.9	16.6	7.3
R&D (FTE) employees	10.2	12.4	14.7	7.0

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 14. Summary SIRD data for matched U.S. parent companies: 2004

Characteristic	Companies ^a	All industries	Manufacturing	Nonmanufacturing
		(US\$millions)		
All R&D performance	1,497	157,935	124,965	32,970
Character of work				
Basic research	457	5,951	5,192	759
Applied research	800	32,591	25,813	6,779
Development	1,408	119,393	93,960	25,432
Source of funds				
Company ^b	1,492	139,306	107,277	32,029
Federal government	132	18,630	17,688	941
		Employees (1,000s)		
All employees	1,505	10,186	6,586	3,601
R&D (FTE) employees	1,497	698	521	177

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,505 companies in SIRD were matched to U.S. parent companies from USDIA survey. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 15. Character of work distribution of R&D performance by matched U.S. parent companies: USDIA survey and SIRD 2004

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
USDIA survey	1,012	163,497	129,422	34,075
SIRD	1,497	157,935	124,965	32,970
Character of work (SIRD)				
Basic research	457	5,951	5,192	759
Applied research	800	32,591	25,813	6,779
Development	1,408	119,393	93,960	25,432
		Percent distribution		
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.8	4.2	2.3
Applied research	na	20.6	20.7	20.6
Development	na	75.6	75.2	77.1

na = not applicable.

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 16. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21-23, 31-33, 42, 44-81	157,935	5,951	32,591	119,393
Manufacturing	31-33	124,965	5,192	25,813	93,960
Food	311	1,645	75	306	1,264
Beverage and tobacco products	312	68	D	D	D
Paper, printing, and support activities	322, 323	2,613	D	1,021	D
Petroleum and coal products	324	1,401	50	780	571
Chemicals	325	34,814	2,779	9,526	22,510
Basic chemicals	3251	1,778	209	563	1,006
Resin, synthetic rubber, fibers, and filament	3252	1,862	211	1,106	546
Pharmaceuticals and medicines	3254	28,679	2,279	7,013	19,388
Other chemicals	other 325	2,494	80	844	1,570
Plastics and rubber products	326	1,183	116	206	862
Nonmetallic mineral products	327	626	81	255	290
Primary metals	331	394	D	D	279
Fabricated metal products	332	925	18	154	753
Machinery	333	4,724	24	909	3,791
Computer and electronic products	334	41,515	1,103	7,323	33,089
Computers and peripheral equipment	3341	7,108	D	D	6,983
Communications equipment	3342	6,042	D	970	D
Semiconductor and other electronic components	3344	14,860	253	4,589	10,018
Navigational, measuring, electromedical, and control instruments	3345	12,615	542	1,583	10,490
Other computer and electronic products	other 334	890	1	D	D
Electrical equipment, appliances, and components	335	1,707	16	197	1,494
Transportation equipment	336	29,901	674	4,498	24,729
Motor vehicles, trailers, and parts	3361-63	13,595	D	D	11,257
Aerospace products and parts	3364	12,062	430	2,278	9,355
Other transportation equipment	other 336	4,244	D	D	4,118
Miscellaneous manufacturing	339	2,841	50	452	2,338
Medical equipment and supplies	3391	2,315	45	413	1,857
Other miscellaneous manufacturing	other 339	526	5	39	481
Other manufacturing	313-16, 321, 337	607	D	D	534
Nonmanufacturing	21-23, 42, 44-81	32,970	759	6,779	25,432
Mining, extraction, and support activities	21	602	D	99	D
Wholesale trade	42	299	D	D	D
Information	51	19,072	102	4,360	14,609
Publishing	511	15,123	D	D	12,172
Newspaper, periodical, book, and database	5111	121	*	D	D
Software	5112	15,002	D	D	D
Broadcasting and telecommunications	513	1,552	D	D	D
Other information	other 51	2,396	D	D	D
Finance, insurance, and real estate	52, 53	649	D	D	587
Professional, scientific, and technical services	54	9,795	372	1,198	8,225
Architectural, engineering, and related services	5413	1,212	D	D	755
Computer systems design and related services	5415	6,783	D	D	6,284
Scientific R&D services	5417	1,641	141	441	1,059

TABLE 16. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Other professional, scientific, and technical services	other 54	159	*	31	128
Health care services	621-23	35	*	D	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	2,518	D	D	1,299

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 17. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2004

(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	157,935	139,306	18,630
Manufacturing	31-33	124,965	107,277	17,688
Food	311	1,645	1,643	2
Beverage and tobacco products	312	68	68	0
Paper, printing, and support activities	322, 323	2,613	D	D
Petroleum and coal products	324	1,401	1,392	9
Chemicals	325	34,814	34,600	214
Basic chemicals	3251	1,778	D	D
Resin, synthetic rubber, fibers, and filament	3252	1,862	1,847	15
Pharmaceuticals and medicines	3254	28,679	28,661	19
Other chemicals	other 325	2,494	D	D
Plastics and rubber products	326	1,183	D	D
Nonmetallic mineral products	327	626	623	3
Primary metals	331	394	D	D
Fabricated metal products	332	925	889	36
Machinery	333	4,724	4,668	56
Computer and electronic products	334	41,515	34,495	7,019
Computers and peripheral equipment	3341	7,108	D	D
Communications equipment	3342	6,042	D	D
Semiconductor and other electronic components	3344	14,860	14,808	52
Navigational, measuring, electromedical, and control instruments	3345	12,615	5,653	6,961
Other computer and electronic products	other 334	890	D	D
Electrical equipment, appliances, and components	335	1,707	1,704	4
Transportation equipment	336	29,901	19,603	10,299
Motor vehicles, trailers, and parts	3361-63	13,595	13,536	60
Aerospace products and parts	3364	12,062	D	D
Other transportation equipment	other 336	4,244	D	D
Miscellaneous manufacturing	339	2,841	D	D
Medical equipment and supplies	3391	2,315	D	D
Other miscellaneous manufacturing	other 339	526	526	0
Other manufacturing	313-16, 321, 337	607	D	D
Nonmanufacturing	21-23, 42, 44-81	32,970	32,029	941
Mining, extraction, and support activities	21	602	D	D
Wholesale trade	42	299	299	0
Information	51	19,072	D	D
Publishing	511	15,123	D	D
Newspaper, periodical, book, and database	5111	121	121	0
Software	5112	15,002	D	D
Broadcasting and telecommunications	513	1,552	1,552	0
Other information	other 51	2,396	D	D
Finance, insurance, and real estate	52, 53	649	649	0
Professional, scientific, and technical services	54	9,795	D	D
Architectural, engineering, and related services	5413	1,212	D	D
Computer systems design and related services	5415	6,783	6,690	93
Scientific R&D services	5417	1,641	1,630	11

TABLE 17. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	159	159	0
Health care services	621-23	35	35	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	2,518	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 18. R&D performance by matched U.S. parent companies, by state:
SIRD 2004

(Millions of U.S. dollars)

State	R&D performance
All states	157,935
Alabama	598
Alaska	1
Arizona	1,906
Arkansas	87
California	36,265
Colorado	2,854
Connecticut	4,893
Delaware	894
District of Columbia	52
Florida	2,089
Georgia	1,157
Hawaii	30
Idaho	511
Illinois	6,549
Indiana	3,381
Iowa	635
Kansas	1,528
Kentucky	363
Louisiana	174
Maine	121
Maryland	1,630
Massachusetts	9,036
Michigan	13,497
Minnesota	3,787
Mississippi	71
Missouri	1,315
Montana	29
Nebraska	238
Nevada	217
New Hampshire	314
New Jersey	9,362
New Mexico	211
New York	5,917
North Carolina	3,215
North Dakota	336
Ohio	3,767
Oklahoma	206
Oregon	2,575
Pennsylvania	5,853
Rhode Island	1,178
South Carolina	752
South Dakota	25
Tennessee	1,034
Texas	7,492
Utah	570
Vermont	312
Virginia	2,102
Washington	8,777
West Virginia	93

TABLE 18. R&D performance by matched U.S. parent companies, by state:
SIRD 2004

(Millions of U.S. dollars)

State	R&D performance
Wisconsin	1,838
Wyoming	9
Undistributed ^a	8,089

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 19. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2004
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	4,148,336
Manufacturing	31–33	3,001,401
Food	311	235,305
Beverage and tobacco products	312	27,398
Paper, printing, and support activities	322, 323	140,268
Petroleum and coal products	324	494,710
Chemicals	325	401,739
Basic chemicals	3251	89,167
Resin, synthetic rubber, fibers, and filament	3252	47,456
Pharmaceuticals and medicines	3254	203,713
Other chemicals	other 325	61,403
Plastics and rubber products	326	51,653
Nonmetallic mineral products	327	30,373
Primary metals	331	71,692
Fabricated metal products	332	59,838
Machinery	333	120,618
Computer and electronic products	334	391,557
Computers and peripheral equipment	3341	102,121
Communications equipment	3342	47,520
Semiconductor and other electronic components	3344	136,706
Navigational, measuring, electromedical, and control instruments	3345	86,996
Other computer and electronic products	other 334	18,213
Electrical equipment, appliances, and components	335	67,703
Transportation equipment	336	789,319
Motor vehicles, trailers, and parts	3361–63	510,619
Aerospace products and parts	3364	215,750
Other transportation equipment	other 336	62,951
Miscellaneous manufacturing	339	49,801
Medical equipment and supplies	3391	35,840
Other miscellaneous manufacturing	other 339	13,960
Other manufacturing	313–16, 321, 337	69,428
Nonmanufacturing	21–23, 42, 44–81	1,146,935
Mining, extraction, and support activities	21	22,963
Wholesale trade	42	107,245
Information	51	350,314
Publishing	511	71,681
Newspaper, periodical, book, and database	5111	14,837
Software	5112	56,844
Broadcasting and telecommunications	513	205,711
Other information	other 51	72,923
Finance, insurance, and real estate	52, 53	288,186
Professional, scientific, and technical services	54	99,847
Architectural, engineering, and related services	5413	17,158
Computer systems design and related services	5415	62,516
Scientific R&D services	5417	7,577
Other professional, scientific, and technical services	other 54	12,596
Health care services	621–23	8,142
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	270,237

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 20. R&D performance by matched U.S. parent companies and SIRD sample companies, by character of work: SIRD 2004

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	8,743	203,656	151,525	52,131
Basic research	1,833	7,936	6,142	1,795
Applied research	4,049	43,063	31,316	11,747
Development	7,861	152,657	114,067	38,589
SIRD matched U.S. parent companies				
All R&D	1,497	157,935	124,965	32,970
Basic research	457	5,951	5,192	759
Applied research	800	32,591	25,813	6,779
Development	1,408	119,393	93,960	25,432
Matched as percent of SIRD sample (%)				
All R&D	17.1	77.5	82.5	63.2
Basic research	24.9	75.0	84.5	42.3
Applied research	19.8	75.7	82.4	57.7
Development	17.9	78.2	82.4	65.9

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 21. R&D performance by matched U.S. parent companies and SIRD sample companies, by source of funds: SIRD 2004

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	8,743	203,656	151,525	52,131
Company ^b	8,621	180,344	131,890	48,453
Federal government	702	23,313	19,635	3,678
SIRD matched U.S. parent companies				
All R&D	1,497	157,935	124,965	32,970
Company ^b	1,492	139,306	107,277	32,029
Federal government	132	18,630	17,688	941
		Matched as percent of SIRD sample (%)		
All R&D	17.1	77.6	82.5	63.2
Company ^b	17.3	77.2	81.3	66.1
Federal government	18.8	79.9	90.1	25.6

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 22. Employees in matched U.S. parent companies and SIRD sample companies: SIRD 2004

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	9,088	15,140	9,121	6,019
R&D (FTE) employees	8,771	946	659	287
SIRD matched U.S. parent companies				
All employees	1,505	10,186	6,586	3,601
R&D (FTE) employees	1,497	698	521	177
Matched as percent of SIRD sample (%)				
All employees	16.6	67.3	72.2	59.8
R&D (FTE) employees	17.1	73.8	79.1	61.7

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, matched data for U.S. parent companies have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 23. Summary BEA USDIA survey data for majority-owned foreign affiliates of matched U.S. parent companies, by selected host country: 2004

Host country	Matched U.S. parent companies ^a	MOFAs			
		Number	R&D performed (US\$millions)	Employees (1,000s)	
				All	R&D
All host countries	605	2,953	25,351	2,273	131
Brazil	72	83	343	156	4
Canada	162	198	2,644	200	9
China	71	95	575	117	5
France	152	210	1,805	141	8
Germany	204	304	4,020	253	21
India	32	36	113	26	1
Ireland	57	65	815	35	3
Israel	27	32	837	23	6
Italy	104	138	687	82	4
Japan	107	124	1,621	65	7
Mexico	70	81	D	174	2
Singapore	45	48	695	37	2
Sweden	46	54	1,451	42	8
United Kingdom	262	366	5,248	278	25
Other	328	1,119	D	644	26

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Matched U.S. parent companies that owned R&D-performing MOFAs; that is, matched parent companies that owned at least one MOFA with a non-zero value for R&D performed. Each matched parent company is counted once in the all-host countries total, and also counted once in each country in which it has a MOFA that performed R&D. Because a parent company may have R&D performing MOFAs in more than one country, the sum across countries exceeds total for all host countries.

NOTE: Data from USDIA survey (conducted by BEA) matched to data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau).

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 24. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2004

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries						
Sales ^c	1,505	4,148,336	1,526	4,291,558	2,950	922,387
R&D performed	1,497	157,935	1,012	163,497	2,953	25,351
Character of work (SIRD)						
Basic research	457	5,951	na	na	na	na
Applied research	800	32,591	na	na	na	na
Development	1,408	119,393	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,492	139,306	na	na	na	na
Federally funded R&D	132	18,630	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	75	16,170	NA	NA
R&D performed for themselves	na	na	1,005	143,372	2,845	20,892
R&D performed for foreign affiliates ^e	na	na	43	1,824	174	3,820
R&D performed for others	na	na	52	2,131	57	639
R&D performed by others ^f (SIRD)						
In the United States	415	8,367	na	na	na	na
Overseas	616	28,759	na	na	na	na
R&D performed by others ^g (USDIA survey)						
For U.S. parent companies	na	na	174	6,840	NA	NA
For MOFA's	na	na	NA	NA	69	1,073
Employees	1,505	10,186	1,525	10,385	2,945	2,273
R&D employees ^h	1,497	698	1,012	699	2,838	131
Manufacturing						
Sales ^c	1,145	3,001,401	1,120	2,887,043	2,648	834,667
R&D performed	1,140	124,965	774	129,422	2,651	22,821
Character of work (SIRD)						
Basic research	364	5,192	na	na	na	na
Applied research	642	25,813	na	na	na	na
Development	1,073	93,960	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,136	107,277	na	na	na	na
Federally funded R&D	103	17,688	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	56	16,003	NA	NA
R&D performed for themselves	na	na	772	111,842	2,563	19,501
R&D performed for foreign affiliates ^e	na	na	32	D	145	D
R&D performed for others	na	na	40	D	54	D
R&D performed by others ^f (SIRD)						
In the United States	317	7,390	na	na	na	na
Overseas	472	24,797	na	na	na	na
R&D performed by others ^g (USDIA survey)						
For U.S. parent companies	na	na	126	5,553	NA	NA
For MOFA's	na	na	NA	NA	67	D
Employees	1,145	6,586	1,119	6,632	2,643	2,096
R&D employees ^h	1,140	521	774	514	2,548	116

TABLE 24. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2004

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
Wholesale trade						
Sales ^c	20	107,245	84	422,418	61	12,357
R&D performed	20	299	57	4,881	61	330
Character of work (SIRD)						
Basic research	11	D	na	na	na	na
Applied research	11	D	na	na	na	na
Development	20	D	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	20	299	na	na	na	na
Federally funded R&D	0	0	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	3	11	NA	NA
R&D performed for themselves	na	na	54	4,684	57	D
R&D performed for foreign affiliates ^e	na	na	1	D	6	D
R&D performed for others	na	na	4	D	0	0
R&D performed by others ^f (SIRD)						
In the United States	0	0	na	na	na	na
Overseas	2	D	na	na	na	na
R&D performed by others ^g (USDIA survey)						
For U.S. parent companies	na	na	13	633	NA	NA
For MOFA's	na	na	NA	NA	0	0
Employees	20	82	84	501	61	33
R&D employees ^h	20	6	57	28	57	1
Nonmanufacturing, excluding wholesale trade						
Sales ^c	340	1,039,690	322	982,097	241	75,364
R&D performed	337	32,671	181	29,194	241	2,200
Character of work (SIRD)						
Basic research	82	D	na	na	na	na
Applied research	147	D	na	na	na	na
Development	315	D	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	336	31,730	na	na	na	na
Federally funded R&D	29	941	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	16	156	NA	NA
R&D performed for themselves	na	na	179	26,846	225	D
R&D performed for foreign affiliates ^e	na	na	10	879	23	D
R&D performed for others	na	na	8	1,313	3	D
R&D performed by others ^f (SIRD)						
In the United States	98	977	na	na	na	na
Overseas	142	D	na	na	na	na

TABLE 24. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2004

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	US\$millions,		US\$millions,		US\$millions,	
	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b
R&D performed by others ^g (USDIA survey)						
For U.S. parent companies	na	na	35	654	NA	NA
For MOFA's	na	na	NA	NA	2	D
Employees	340	3,519	322	3,253	241	145
R&D employees ^h	337	172	181	156	233	13

D = suppressed to avoid disclosure of confidential information; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Sales by U.S. parent companies include sales to MOFAs and to other parent companies; sales by MOFAs include sales to parent companies and to other MOFAs. An MNC-wide total for sales cannot be derived by adding parent company sales and MOFA sales because transactions among and within MNCs would be duplicated.

^d Includes company and other nonfederal sources.

^e For MOFAs, consists of R&D performed for other foreign affiliates or for U.S. parent companies.

^f R&D performed by others is company funded.

^g R&D performed by others is company funded. For U.S. parent companies, consists of R&D performed for parent companies by others in United States and overseas, including by foreign affiliates. For MOFAs, consists of R&D performed for MOFAs by U.S. parent companies and other U.S. or foreign companies.

^h In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry data for U.S. parent companies from SIRD are as classified by Census Bureau. Industry data for U.S. parent companies and MOFAs from USDIA survey are as classified by BEA. In SIRD, 1,505 parent companies were linked to USDIA survey; of these, 1,145 were classified in manufacturing industries, 20 were classified in wholesale trade industries, and 340 were classified in nonmanufacturing industries, excluding wholesale trade. In USDIA survey, 1,527 parent companies were linked to SIRD; of these, 1,120 were classified in manufacturing industries, 84 were classified in whole trade industries, and 323 were classified in nonmanufacturing industries, excluding wholesale trade. MOFA data from USDIA survey cover affiliates with a non-zero value for R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 25. Combined SIRD and BEA USDIA survey data on R&D performance and employees of matched U.S. parent companies and their majority-owned foreign affiliates: 2004

Characteristics	R&D performance		Employees			
	Companies ^a	Expenditures (US\$millions)	Companies ^a	All (1,000s)	Companies ^a	R&D ^b (1,000s)
U.S. parent companies (SIRD)						
All industries	1,497	157,935	1,505	10,186	1,497	698
Manufacturing	1,140	124,965	1,145	6,586	1,140	521
Nonmanufacturing	357	32,970	360	3,601	357	177
MOFAs (USDIA survey)						
All industries	2,953	25,351	2,945	2,273	2,838	131
Manufacturing	2,651	22,821	2,643	2,096	2,548	116
Nonmanufacturing	302	2,530	302	178	290	15
U.S. MNCs (parent companies + MOFAs)						
All industries	na	183,286	na	12,459	na	829
Manufacturing	na	147,786	na	8,682	na	637
Nonmanufacturing	na	35,500	na	3,779	na	192
MOFAs/U.S. MNCs (%)						
All industries	na	13.8	na	18.2	na	15.8
Manufacturing	na	15.4	na	24.1	na	18.2
Nonmanufacturing	na	7.1	na	4.7	na	7.8

na = not applicable.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. MOFA data cover R&D performing affiliates of matched U.S. parent companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 26. Summary SIRD data for matched majority-owned U.S. affiliates of foreign companies: 2005

Characteristic	R&D performance						Employees	
	Character of work			Source of funds				
	All R&D	Basic research	Applied research	Development	Company ^a	Federal government	All	R&D (FTE)
Companies (<i>n</i>) ^b	962	293	481	898	961	38	963	962
	US\$millions						Thousands	
All industries	29,963	1,016	6,138	22,808	28,579	1,384	1,924	119
Major sector ^c								
Manufacturing	23,300	919	4,300	18,082	D	D	1,490	91
Nonmanufacturing	6,662	97	1,839	4,727	D	D	435	28
Investing country ^d								
Canada	1,578	D	D	1,444	D	D	90	7
France	3,090	144	653	2,293	3,059	31	179	11
Germany	5,943	330	488	5,125	5,922	21	335	25
Japan	3,436	128	736	2,572	D	D	277	13
Netherlands	1,660	30	443	1,187	1,647	13	123	7
Switzerland	3,595	178	757	2,660	3,595	0	109	12
United Kingdom	5,610	81	1,676	3,853	D	D	336	20
Other	5,051	D	D	3,675	D	D	476	23

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

^b Companies in all industries with non-zero value for item.

^c Major sector classification based on SIRD data.

^d Investing country classification based on FDIUS survey data.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,010 companies from SIRD, majority owned (> 50%) by their foreign parent companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 962 had non-zero R&D expenditures. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation//National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 27. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2005

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries				
Sales	963	1,101,592	1,045	1,227,937
R&D performed	962	29,963	825	30,811
Character of work (SIRD)				
Basic research	293	1,016	na	na
Applied research	481	6,138	na	na
Development	898	22,808	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	961	28,579	na	na
Federally funded R&D	38	1,384	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	187	2,313	na	na
Overseas	163	2,417	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	963	1,924	1,032	2,062
R&D employees ^f	962	119	766	130
Manufacturing				
Sales	750	957,139	736	798,055
R&D performed	749	23,300	608	21,985
Character of work (SIRD)				
Basic research	229	919	na	na
Applied research	376	4,300	na	na
Development	701	18,082	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	748	D	na	na
Federally funded R&D	31	D	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	145	1,950	na	na
Overseas	128	2,187	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	750	1,490	727	1,467
R&D employees ^f	749	91	561	95
Wholesale trade				
Sales	64	24,177	156	351,839
R&D performed	64	459	123	5,955
Character of work (SIRD)				
Basic research	26	D	na	na
Applied research	39	D	na	na
Development	60	353	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	64	459	na	na
Federally funded R&D	0	0	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				

TABLE 27. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2005

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
In the United States	4	2	na	na
Overseas	4	7	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	64	30	154	271
R&D employees ^f	64	2	114	23
Nonmanufacturing, excluding wholesale trade				
Sales	149	120,276	153	78,043
R&D performed	149	6,203	94	2,871
Character of work (SIRD)				
Basic research	38	D	na	na
Applied research	66	D	na	na
Development	137	4,374	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	149	D	na	na
Federally funded R&D	7	D	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	38	360	na	na
Overseas	31	222	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	149	405	151	324
R&D employees ^f	149	26	91	12

D = suppressed to avoid disclosure of confidential information; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Includes company and other nonfederal sources.

^d R&D performed by others is company funded.

^e R&D performed by others is company funded. Includes others located in United States and overseas.

^f In SIRD, R&D employees are reported as full-time equivalent employment. In FDIUS survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,010 companies from SIRD, majority owned (> 50%) by their foreign parents companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 779 were classified in manufacturing industries, 75 were classified in wholesale trade industries, and 156 were classified in nonmanufacturing industries, excluding wholesale trade. In FDIUS survey, 1,070 majority-owned companies were linked to SIRD; of these, 746 were classified in manufacturing industries, 156 were classified in whole trade industries, and 168 were classified in nonmanufacturing industries, excluding wholesale trade. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 28. Character of work distribution of R&D performance by matched majority-owned U.S. affiliates of foreign companies: FDIUS survey and SIRD 2005

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
FDIUS survey	825	30,811	21,985	8,827
SIRD	962	29,963	23,300	6,662
Character of work (SIRD)				
Basic research	293	1,016	919	97
Applied research	481	6,138	4,300	1,839
Development	898	22,808	18,082	4,727
		Percent distribution		
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.4	3.9	1.5
Applied research	na	20.5	18.5	27.6
Development	na	76.1	77.6	71.0

na = not applicable.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 29. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21–23, 31–33, 42, 44–81	29,963	1,016	6,138	22,808
Manufacturing	31–33	23,300	919	4,300	18,082
Food	311	520	16	89	415
Beverage and tobacco products	312	D	*	D	D
Paper, printing, and support activities	322, 323	D	1	D	D
Petroleum and coal products	324	D	D	D	D
Chemicals	325	10,420	546	2,537	7,338
Basic chemicals	3251	599	52	123	424
Resin, synthetic rubber, fibers, and filament	3252	300	3	13	284
Pharmaceuticals and medicines	3254	8,840	409	2,332	6,099
Other chemicals	other 325	681	47	158	476
Plastics and rubber products	326	524	D	D	426
Nonmetallic mineral products	327	184	12	65	108
Primary metals	331	96	D	21	D
Fabricated metal products	332	184	5	16	163
Machinery	333	666	8	74	584
Computer and electronic products	334	5,197	224	626	4,347
Computers and peripheral equipment	3341	1,211	84	189	938
Communications equipment	3342	233	D	5	D
Semiconductor and other electronic components	3344	2,090	D	D	1,911
Navigational, measuring, electromedical, and control instruments	3345	1,496	5	292	1,198
Other computer and electronic products	other 334	169	D	D	D
Electrical equipment, appliances, and components	335	387	3	71	312
Transportation equipment	336	4,075	19	278	3,778
Motor vehicles, trailers, and parts	3361–63	3,646	D	D	D
Aerospace products and parts	3364	D	0	D	D
Other transportation equipment	other 336	D	D	D	D
Miscellaneous manufacturing	339	453	D	D	410
Medical equipment and supplies	3391	411	D	D	368
Other miscellaneous manufacturing	other 339	43	D	D	42
Other manufacturing	313–16, 321, 337	62	2	D	D
Nonmanufacturing	21–23, 42, 44–81	6,662	97	1,839	4,727
Mining, extraction, and support activities	21	290	D	D	181
Wholesale trade	42	459	D	D	353
Information	51	1,597	D	D	D
Publishing	511	792	1	D	D
Newspaper, periodical, book, and database	5111	D	0	D	D
Software	5112	D	1	D	D
Telecommunications	517	D	D	D	D
Wired and wireless (except satellite)					
telecommunications carriers	5171, 5172	D	D	D	D
Satellite telecommunications	5174	D	0	0	D
Other telecommunications	other 517	0	0	0	0
Internet service providers, web search portals, and data processing services	518	D	*	D	D
Internet service providers and web search portals	5181	D	0	D	0
Data processing, hosting, and related services	5182	D	*	6	D
Other information	other 51	D	D	D	D
Finance, insurance, and real estate	52, 53	D	D	D	D
Professional, scientific, and technical services	54	3,198	79	869	2,250
Architectural, engineering, and related services	5413	1,297	38	663	596
Computer systems design and related services	5415	1,095	D	D	D

TABLE 29. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Scientific R&D services	5417	560	D	D	410
Other professional, scientific, and technical services	other 54	245	D	D	D
Health care services	621-23	D	0	0	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	337	5	D	D

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 30. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	29,963	28,579	1,384
Manufacturing	31-33	23,300	D	D
Food	311	520	520	0
Beverage and tobacco products	312	D	D	0
Paper, printing, and support activities	322, 323	D	D	0
Petroleum and coal products	324	D	D	D
Chemicals	325	10,420	10,407	13
Basic chemicals	3251	599	D	D
Resin, synthetic rubber, fibers, and filament	3252	300	300	0
Pharmaceuticals and medicines	3254	8,840	D	D
Other chemicals	other 325	681	D	D
Plastics and rubber products	326	524	D	D
Nonmetallic mineral products	327	184	184	0
Primary metals	331	96	D	D
Fabricated metal products	332	184	D	D
Machinery	333	666	D	D
Computer and electronic products	334	5,197	5,134	64
Computers and peripheral equipment	3341	1,211	1,211	0
Communications equipment	3342	233	D	D
Semiconductor and other electronic components	3344	2,090	2,078	12
Navigational, measuring, electromedical, and control instruments	3345	1,496	D	D
Other computer and electronic products	other 334	169	169	0
Electrical equipment, appliances, and components	335	387	D	D
Transportation equipment	336	4,075	D	D
Motor vehicles, trailers, and parts	3361-63	3,646	D	D
Aerospace products and parts	3364	D	136	D
Other transportation equipment	other 336	D	D	D
Miscellaneous manufacturing	339	453	453	0
Medical equipment and supplies	3391	411	411	0
Other miscellaneous manufacturing	other 339	43	43	0
Other manufacturing	313-16, 321, 337	62	D	D
Nonmanufacturing	21-23, 42, 44-81	6,662	D	D
Mining, extraction, and support activities	21	290	D	D
Wholesale trade	42	459	459	0
Information	51	1,597	1,597	0
Publishing	511	792	792	0
Newspaper, periodical, book, and database	5111	D	D	0
Software	5112	D	D	0
Telecommunications	517	D	D	0
Wired and wireless (except satellite)				
telecommunications carriers	5171, 5172	D	D	0
Satellite telecommunications	5174	D	D	0
Other telecommunications	other 517	0	0	0
Internet service providers, web				
search portals, and data processing services	518	D	D	0
Internet service providers and web search portals	5181	D	D	0
Data processing, hosting, and related services	5182	D	D	0
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	D	D	0
Professional, scientific, and technical services	54	3,198	D	D
Architectural, engineering, and related services	5413	1,297	D	D
Computer systems design and related services	5415	1,095	1,095	0
Scientific R&D services	5417	560	D	D

TABLE 30. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	245	D	D
Health care services	621-23	D	D	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	337	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 31. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by selected investing country/region and industry: SIRD 2005
(Millions of U.S. dollars)

Investing country/region	All industries	Manufacturing	Wholesale trade	Information	Professional, scientific, and technical services	Other
All countries/regions	29,963	23,300	459	1,597	3,198	1,409
Canada	1,578	237	D	D	938	37
Europe	22,087	18,221	200	1,203	1,853	610
Belgium	297	286	D	0	D	D
Denmark	354	D	0	0	D	0
Finland	704	D	D	D	0	D
France	3,090	2,625	56	92	D	D
Germany	5,943	5,653	12	D	D	D
Ireland	151	D	D	D	D	0
Italy	222	222	0	0	0	0
Netherlands	1,660	1,566	D	D	D	D
Norway	65	D	0	0	D	0
Sweden	340	D	D	0	0	D
Switzerland	3,595	3,371	D	D	181	15
United Kingdom	5,610	3,568	99	135	1,287	522
Other	58	D	0	0	D	D
Latin America and other Western Hemisphere	1,503	975	D	D	D	D
Mexico	6	6	0	0	0	0
Other	1,498	970	D	D	D	D
Africa	34	D	0	D	0	0
Middle East	79	D	0	0	0	D
Israel	D	D	0	0	0	D
Other	D	D	0	0	0	0
Asia and Pacific	3,896	3,072	231	38	203	352
Australia	76	D	D	0	0	D
China	D	D	0	D	0	0
India	0	0	0	0	0	0
Japan	3,436	2,732	D	D	128	D
Singapore	D	D	0	0	D	0
South Korea	179	D	D	D	D	0
Taiwan	116	91	D	D	D	D
Other ^a	67	67	0	0	0	0
Other ^b	785	D	D	0	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes Hong Kong.

^b Includes affiliates whose immediate parent is located outside United States but whose ultimate owner is U.S. company.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry sector classification based on SIRD data. Investing country/region classification based on FDIUS survey data. Investing country is country of ultimate beneficial owner, the entity that ultimately owns or controls the U.S. affiliate.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 32. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2005
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
All states	29,963	1,578	3,090	5,943	3,436	1,660	3,595	5,610	5,051
Alabama	40	0	D	D	D	D	D	D	2
Alaska	0	0	0	0	0	0	0	0	0
Arizona	194	D	D	35	46	47	D	D	7
Arkansas	24	D	0	D	12	0	D	D	D
California	3,340	120	205	451	724	244	64	382	1,150
Colorado	343	D	D	D	6	100	D	10	221
Connecticut	1,228	0	86	D	D	D	D	22	D
Delaware	D	D	D	0	D	D	D	D	0
District of Columbia	5	0	0	D	D	0	0	D	D
Florida	225	25	D	D	D	3	14	9	D
Georgia	318	D	D	12	21	28	D	6	D
Hawaii	D	0	0	0	0	0	D	0	0
Idaho	10	0	0	0	0	D	D	4	D
Illinois	833	D	25	70	419	45	14	177	D
Indiana	465	5	D	110	D	D	D	D	9
Iowa	72	D	D	18	0	0	D	D	23
Kansas	128	D	D	17	0	D	D	D	53
Kentucky	56	0	D	12	D	D	D	D	2
Louisiana	37	D	D	D	0	D	D	0	13
Maine	33	D	D	D	0	0	D	D	D
Maryland	408	D	35	2	D	0	0	81	D
Massachusetts	1,294	234	98	95	128	D	180	181	D
Michigan	3,351	39	79	2,382	424	24	15	241	146
Minnesota	462	9	D	57	D	D	D	46	309
Mississippi	7	0	0	D	D	D	D	0	D
Missouri	283	D	30	79	29	D	D	D	108
Montana	0	0	0	0	0	0	0	0	0
Nebraska	71	D	D	0	4	0	D	D	D
Nevada	29	0	0	D	D	D	D	D	19
New Hampshire	789	D	D	12	D	0	D	D	D
New Jersey	5,213	D	D	227	434	191	D	387	262
New Mexico	9	D	D	D	0	D	0	0	D
New York	657	D	29	114	67	118	34	54	D
North Carolina	1,579	D	139	288	45	D	50	D	D
North Dakota	D	0	0	0	0	0	0	0	D
Ohio	689	D	15	99	327	79	78	49	D
Oklahoma	16	0	0	D	D	D	D	D	7
Oregon	215	0	D	D	3	D	D	2	D
Pennsylvania	2,073	76	147	209	9	25	26	1,317	264
Rhode Island	34	0	D	0	0	D	D	D	18
South Carolina	910	D	D	340	55	0	D	7	D
South Dakota	2	0	0	D	0	0	D	D	0
Tennessee	152	6	D	29	15	D	4	44	D
Texas	2,020	D	169	21	59	230	D	179	D
Utah	23	0	D	D	D	D	0	0	5
Vermont	12	0	0	D	0	D	3	0	0
Virginia	211	D	31	25	7	D	8	21	D
Washington	353	D	10	D	54	D	D	D	D

TABLE 32. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2005
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
West Virginia	8	0	D	D	0	0	D	D	0
Wisconsin	150	D	12	21	0	D	D	7	52
Wyoming	D	0	0	0	0	D	0	0	0
Undistributed ^a	1,013	37	132	28	269	1	109	124	312

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Investing country classification based on FDIUS data. State location based on SIRD data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 33. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by technology area: SIRD 2005

(Millions of U.S. dollars)

Technology area	R&D performance
All areas	29,963
Biotechnology	2,507
Materials	1,570
Software development	2,548
Other and undistributed	23,338

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 34. Company funds from matched majority-owned U.S. affiliates of foreign companies for R&D performed in the United States but outside of company facilities, by type of organization: SIRD 2005

(Millions of U.S. dollars)

Type of organization	Company-funded ^a R&D performed outside company facilities
All organizations	2,213
For-profit companies	2,017
Universities or colleges	72
Nonprofits other than universities or colleges	26
Other and undistributed	98

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 35. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2005

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	1,101,592
Manufacturing	31–33	957,139
Food	311	33,554
Beverage and tobacco products	312	2,797
Paper, printing, and support activities	322, 323	9,022
Petroleum and coal products	324	D
Chemicals	325	171,085
Basic chemicals	3251	39,177
Resin, synthetic rubber, fibers, and filament	3252	8,789
Pharmaceuticals and medicines	3254	97,249
Other chemicals	other 325	25,870
Plastics and rubber products	326	22,229
Nonmetallic mineral products	327	22,187
Primary metals	331	31,334
Fabricated metal products	332	17,690
Machinery	333	36,174
Computer and electronic products	334	119,609
Computers and peripheral equipment	3341	19,079
Communications equipment	3342	9,417
Semiconductor and other electronic components	3344	54,636
Navigational, measuring, electromedical, and control instruments	3345	26,307
Other computer and electronic products	other 334	10,169
Electrical equipment, appliances, and components	335	24,320
Transportation equipment	336	287,669
Motor vehicles, trailers, and parts	3361–63	275,922
Aerospace products and parts	3364	4,369
Other transportation equipment	other 336	7,377
Miscellaneous manufacturing	339	11,093
Medical equipment and supplies	3391	7,448
Other miscellaneous manufacturing	other 339	3,645
Other manufacturing	313–16, 321, 337	D
Nonmanufacturing	21–23, 42, 44–81	144,453
Mining, extraction, and support activities	21	8,005
Wholesale trade	42	24,177
Information	51	20,718
Publishing	511	12,899
Newspaper, periodical, book, and database	5111	D
Software	5112	D
Telecommunications	517	6,837
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	D
Other telecommunications	other 517	0
Internet service providers, web		
search portals, and data processing services	518	D
Internet service providers and web search portals	5181	D
Data processing, hosting, and related services	5182	D
Other information	other 51	D
Finance, insurance, and real estate	52, 53	7,389
Professional, scientific, and technical services	54	31,943
Architectural, engineering, and related services	5413	10,815
Computer systems design and related services	5415	9,151
Scientific R&D services	5417	957

TABLE 35. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2005

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	11,021
Health care services	621-23	8,926
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	43,295

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 36. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by character of work: SIRD 2005

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	9,720	217,915	160,456	57,460
Basic research	2,011	8,468	6,619	1,850
Applied research	4,447	43,022	32,531	10,492
Development	8,790	166,425	121,306	45,119
SIRD matched majority-owned U.S. affiliates				
All R&D	962	29,963	23,300	6,662
Basic research	293	1,016	919	97
Applied research	481	6,138	4,300	1,839
Development	898	22,808	18,082	4,727
Matched as percent of SIRD sample (%)				
All R&D	9.9	13.7	14.5	11.6
Basic research	14.6	12.0	13.9	5.2
Applied research	10.8	14.3	13.2	17.5
Development	10.2	13.7	14.9	10.5

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity, only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 37. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by source of funds: SIRD 2005

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	9,720	217,915	160,456	57,460
Company ^b	9,561	192,718	140,192	52,526
Federal government	823	25,198	20,264	4,934
SIRD matched majority-owned U.S. affiliates				
All R&D	962	29,963	23,300	6,662
Company ^b	961	28,579	D	D
Federal government	38	1,384	D	D
Matched as percent of SIRD sample (%)				
All R&D	9.9	13.7	14.5	11.6
Company ^b	10.1	14.8	D	D
Federal government	4.6	5.5	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. Majority-owned classification based on FDIUS data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 38. Employees in matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies: SIRD 2005

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,085	15,487	8,961	6,526
R&D (FTE) employees	9,723	972	661	311
SIRD matched majority-owned U.S. affiliates				
All employees	963	1,924	1,490	435
R&D (FTE) employees	962	119	91	28
Matched as percent of SIRD sample (%)				
All employees	9.5	12.4	16.6	6.7
R&D (FTE) employees	9.9	12.2	13.7	9.0

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 39. Summary SIRD data for matched U.S. parent companies: 2005

Characteristic	Companies ^a	All industries	Manufacturing	Nonmanufacturing
		(US\$millions)		
All R&D performance	1,499	164,487	131,604	32,883
Character of work				
Basic research	435	5,814	5,170	645
Applied research	795	30,665	26,108	4,557
Development	1,401	128,008	100,326	27,681
Source of funds				
Company ^b	1,496	144,917	112,934	31,983
Federal government	127	19,570	18,670	900
		Employees (1,000s)		
All employees	1,514	10,605	6,651	3,954
R&D (FTE) employees	1,496	706	522	184

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,531 companies in SIRD were matched to U.S. parent companies from USDIA survey. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 40. Character of work distribution of R&D performance by matched U.S. parent companies: USDIA survey and SIRD 2005

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
USDIA survey	1,055	174,010	141,999	32,011
SIRD	1,499	164,487	131,604	32,883
Character of work (SIRD)				
Basic research	435	5,814	5,170	645
Applied research	795	30,665	26,108	4,557
Development	1,401	128,008	100,326	27,681
		Percent distribution		
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.5	3.9	2.0
Applied research	na	18.6	19.8	13.9
Development	na	77.8	76.2	84.2

na = not applicable.

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 41. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21-23, 31-33, 42, 44-81	164,487	5,814	30,665	128,008
Manufacturing	31-33	131,604	5,170	26,108	100,326
Food	311	2,151	91	379	1,681
Beverage and tobacco products	312	114	D	D	D
Paper, printing, and support activities	322, 323	3,397	77	967	2,352
Petroleum and coal products	324	1,525	D	D	D
Chemicals	325	34,646	2,527	8,363	23,756
Basic chemicals	3251	1,547	134	494	918
Resin, synthetic rubber, fibers, and filament	3252	2,101	186	1,058	857
Pharmaceuticals and medicines	3254	28,222	2,153	5,924	20,145
Other chemicals	other 325	2,777	54	887	1,837
Plastics and rubber products	326	1,096	82	126	887
Nonmetallic mineral products	327	730	74	244	411
Primary metals	331	385	D	D	315
Fabricated metal products	332	695	9	103	584
Machinery	333	6,712	46	1,244	5,423
Computer and electronic products	334	42,426	1,223	8,207	32,996
Computers and peripheral equipment	3341	5,801	D	D	5,396
Communications equipment	3342	7,579	D	D	5,851
Semiconductor and other electronic components	3344	14,355	548	4,445	9,362
Navigational, measuring, electromedical, and control instruments	3345	13,947	410	1,817	11,720
Other computer and electronic products	other 334	744	0	76	667
Electrical equipment, appliances, and components	335	1,287	38	192	1,058
Transportation equipment	336	32,377	736	4,623	27,019
Motor vehicles, trailers, and parts	3361-63	14,201	D	D	12,033
Aerospace products and parts	3364	13,484	459	2,529	10,496
Other transportation equipment	other 336	4,692	D	D	4,490
Miscellaneous manufacturing	339	3,277	163	580	2,534
Medical equipment and supplies	3391	2,895	159	556	2,180
Other miscellaneous manufacturing	other 339	382	4	24	355
Other manufacturing	313-16, 321, 337	785	23	84	679
Nonmanufacturing	21-23, 42, 44-81	32,883	645	4,557	27,681
Mining, extraction, and support activities	21	D	D	50	D
Wholesale trade	42	578	D	D	441
Information	51	18,072	D	D	15,719
Publishing	511	13,829	D	D	12,250
Newspaper, periodical, book, and database	5111	419	0	D	D
Software	5112	13,410	D	D	D
Telecommunications	517	D	D	D	D
Wired and wireless (except satellite)					
telecommunications carriers	5171, 5172	D	D	D	D
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	D	D	0	D
Internet service providers, web search portals, and data processing services	518	2,042	0	D	D
Internet service providers and web search portals	5181	808	0	D	D
Data processing, hosting, and related services	5182	1,234	0	D	D
Other information	other 51	D	D	D	D
Finance, insurance, and real estate	52, 53	639	D	D	567
Professional, scientific, and technical services	54	10,113	304	1,247	8,563
Architectural, engineering, and related services	5413	2,088	D	D	1,593
Computer systems design and related services	5415	6,357	D	D	5,882

TABLE 41. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Scientific R&D services	5417	1,563	122	451	989
Other professional, scientific, and technical services	other 54	105	0	7	98
Health care services	621-23	D	D	D	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	3,157	D	D	2,143

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 42. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21–23, 31–33, 42, 44–81	164,487	144,917	19,570
Manufacturing	31–33	131,604	112,934	18,670
Food	311	2,151	2,144	6
Beverage and tobacco products	312	114	114	0
Paper, printing, and support activities	322, 323	3,397	D	D
Petroleum and coal products	324	1,525	D	D
Chemicals	325	34,646	34,589	58
Basic chemicals	3251	1,547	D	D
Resin, synthetic rubber, fibers, and filament	3252	2,101	D	D
Pharmaceuticals and medicines	3254	28,222	28,215	6
Other chemicals	other 325	2,777	2,771	6
Plastics and rubber products	326	1,096	D	D
Nonmetallic mineral products	327	730	725	5
Primary metals	331	385	363	22
Fabricated metal products	332	695	D	D
Machinery	333	6,712	6,642	70
Computer and electronic products	334	42,426	34,993	7,433
Computers and peripheral equipment	3341	5,801	D	D
Communications equipment	3342	7,579	D	D
Semiconductor and other electronic components	3344	14,355	14,338	16
Navigational, measuring, electromedical, and control instruments	3345	13,947	6,563	7,384
Other computer and electronic products	other 334	744	D	D
Electrical equipment, appliances, and components	335	1,287	D	D
Transportation equipment	336	32,377	21,371	11,006
Motor vehicles, trailers, and parts	3361–63	14,201	14,115	86
Aerospace products and parts	3364	13,484	D	D
Other transportation equipment	other 336	4,692	D	D
Miscellaneous manufacturing	339	3,277	3,276	1
Medical equipment and supplies	3391	2,895	2,894	1
Other miscellaneous manufacturing	other 339	382	382	0
Other manufacturing	313–16, 321, 337	785	D	D
Nonmanufacturing	21–23, 42, 44–81	32,883	31,983	900
Mining, extraction, and support activities	21	D	D	0
Wholesale trade	42	578	D	D
Information	51	18,072	D	D
Publishing	511	13,829	13,825	4
Newspaper, periodical, book, and database	5111	419	419	0
Software	5112	13,410	13,406	4
Telecommunications	517	D	D	0
Wired and wireless (except satellite)				
telecommunications carriers	5171, 5172	D	D	0
Satellite telecommunications	5174	0	0	0
Other telecommunications	other 517	D	D	0
Internet service providers, web search portals, and data processing services				
Internet service providers and web search portals	518	2,042	D	D
Data processing, hosting, and related services	5181	808	808	0
Data processing, hosting, and related services	5182	1,234	D	D
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	639	639	0
Professional, scientific, and technical services	54	10,113	D	D
Architectural, engineering, and related services	5413	2,088	1,394	693
Computer systems design and related services	5415	6,357	D	D
Scientific R&D services	5417	1,563	1,550	13

TABLE 42. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	105	105	0
Health care services	621-23	D	D	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	3,157	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 43. R&D performance by matched U.S. parent companies, by state: SIRD 2005
(Millions of U.S. dollars)

State	R&D performance
All states	164,487
Alabama	642
Alaska	2
Arizona	2,232
Arkansas	90
California	37,532
Colorado	2,840
Connecticut	6,023
Delaware	909
District of Columbia	80
Florida	2,536
Georgia	1,155
Hawaii	59
Idaho	490
Illinois	7,661
Indiana	3,662
Iowa	691
Kansas	1,716
Kentucky	446
Louisiana	165
Maine	226
Maryland	1,462
Massachusetts	8,721
Michigan	14,618
Minnesota	4,664
Mississippi	92
Missouri	1,659
Montana	22
Nebraska	206
Nevada	167
New Hampshire	324
New Jersey	11,329
New Mexico	181
New York	5,743
North Carolina	3,258
North Dakota	40
Ohio	4,325
Oklahoma	212
Oregon	2,748
Pennsylvania	6,128
Rhode Island	1,253
South Carolina	1,168
South Dakota	11
Tennessee	572
Texas	9,016
Utah	521
Vermont	239
Virginia	2,170
Washington	7,938

TABLE 43. R&D performance by matched U.S. parent companies, by state: SIRD 2005
(Millions of U.S. dollars)

State	R&D performance
West Virginia	93
Wisconsin	1,823
Wyoming	16
Undistributed ^a	4,611

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development;
USDIA = U.S. Direct Investment Abroad.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 44. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2005
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	4,528,738
Manufacturing	31–33	3,251,926
Food	311	296,611
Beverage and tobacco products	312	33,097
Paper, printing, and support activities	322, 323	129,660
Petroleum and coal products	324	528,214
Chemicals	325	495,930
Basic chemicals	3251	87,712
Resin, synthetic rubber, fibers, and filament	3252	116,693
Pharmaceuticals and medicines	3254	218,093
Other chemicals	other 325	73,433
Plastics and rubber products	326	52,357
Nonmetallic mineral products	327	34,666
Primary metals	331	83,173
Fabricated metal products	332	53,451
Machinery	333	167,570
Computer and electronic products	334	399,446
Computers and peripheral equipment	3341	91,934
Communications equipment	3342	49,843
Semiconductor and other electronic components	3344	143,655
Navigational, measuring, electromedical, and control instruments	3345	102,098
Other computer and electronic products	other 334	11,916
Electrical equipment, appliances, and components	335	58,754
Transportation equipment	336	800,887
Motor vehicles, trailers, and parts	3361–63	522,938
Aerospace products and parts	3364	210,272
Other transportation equipment	other 336	67,677
Miscellaneous manufacturing	339	46,904
Medical equipment and supplies	3391	35,180
Other miscellaneous manufacturing	other 339	11,724
Other manufacturing	313–16, 321, 337	71,207
Nonmanufacturing	21–23, 42, 44–81	1,276,812
Mining, extraction, and support activities	21	D
Wholesale trade	42	170,812
Information	51	377,606
Publishing	511	79,879
Newspaper, periodical, book, and database	5111	22,737
Software	5112	57,142
Telecommunications	517	230,396
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	0
Other telecommunications	other 517	D
Internet service providers, web search portals, and data processing services	518	D
Internet service providers and web search portals	5181	D
Data processing, hosting, and related services	5182	16,099
Other information	other 51	D
Finance, insurance, and real estate	52, 53	228,513
Professional, scientific, and technical services	54	103,150
Architectural, engineering, and related services	5413	21,443
Computer systems design and related services	5415	62,032
Scientific R&D services	5417	4,159

TABLE 44. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2005

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	15,516
Health care services	621–23	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	368,061

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 45. R&D performance by matched U.S. parent companies and SIRD sample companies, by character of work: SIRD 2005

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	9,720	217,915	160,456	57,460
Basic research	2,011	8,468	6,619	1,850
Applied research	4,447	43,022	32,531	10,492
Development	8,790	166,425	121,306	45,119
SIRD matched U.S. parent companies				
All R&D	1,499	164,487	131,604	32,883
Basic research	435	5,814	5,170	645
Applied research	795	30,665	26,108	4,557
Development	1,401	128,008	100,326	27,681
Matched as percent of SIRD sample (%)				
All R&D	15.4	75.5	82.0	57.2
Basic research	21.6	68.7	78.1	34.9
Applied research	17.9	71.3	80.3	43.4
Development	15.9	76.9	82.7	61.4

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 50. Combined SIRD and BEA USDIA survey data on R&D performance and employees of matched U.S. parent companies and their majority-owned foreign affiliates: 2005

Characteristics	R&D performance		Employees			
	Companies ^a	Expenditures (US\$millions)	Companies ^a	All (1,000s)	Companies ^a	R&D ^b (1,000s)
U.S. parent companies (SIRD)						
All industries	1,499	164,487	1,514	10,605	1,496	706
Manufacturing	1,133	131,604	1,143	6,651	1,131	522
Nonmanufacturing	366	32,883	371	3,954	365	184
MOFAs (USDIA survey)						
All industries	3,213	26,771	3,213	2,552	NA	NA
Manufacturing	2,862	24,427	2,862	2,143	NA	NA
Nonmanufacturing	351	2,343	351	409	NA	NA
U.S. MNCs (parent companies + MOFAs)						
All industries	na	191,258	na	13,157	na	NA
Manufacturing	na	156,031	na	8,794	na	NA
Nonmanufacturing	na	35,226	na	4,363	na	NA
MOFAs/U.S. MNCs (%)						
All industries	na	14.0	na	19.4	na	NA
Manufacturing	na	15.7	na	24.4	na	NA
Nonmanufacturing	na	6.7	na	9.4	na	NA

na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. MOFA data cover R&D performing affiliates of matched U.S. parent companies.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 46. R&D performance by matched U.S. parent companies and SIRD sample companies, by source of funds: SIRD 2005

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	9,720	217,915	160,456	57,460
Company ^b	9,561	192,718	140,192	52,526
Federal government	823	25,198	20,264	4,934
SIRD matched U.S. parent companies				
All R&D	1,499	164,487	131,604	32,883
Company ^b	1,496	144,917	112,934	31,983
Federal government	127	19,570	18,670	900
Matched as percent of SIRD sample (%)				
All R&D	15.4	75.5	82.0	57.2
Company ^b	15.6	75.2	80.6	60.9
Federal government	15.4	77.7	92.1	18.2

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, matched data for U.S. parent companies have not been weighted, so they do not represent universe of all such companies. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 47. Employees in matched U.S. parent companies and SIRD sample companies: SIRD 2005

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,085	15,487	8,961	6,526
R&D (FTE) employees	9,723	972	661	311
SIRD matched U.S. parent companies				
All employees	1,514	10,605	6,651	3,954
R&D (FTE) employees	1,496	706	522	184
Matched as percent of SIRD sample (%)				
All employees	15.0	68.5	74.2	60.6
R&D (FTE) employees	15.4	72.6	79.0	59.2

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by NSF/SRS and U.S. Census Bureau) matched to USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, matched data for U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 51. Summary SIRD data for matched majority-owned U.S. affiliates of foreign companies: 2006

Characteristic	R&D performance						Employees	
	Character of work			Source of funds				
	All R&D	Basic research	Applied research	Development	Company ^a	Federal government	All	R&D (FTE)
Companies (<i>n</i>) ^b	977	338	526	910	976	38	986	977
	US\$millions						Thousands	
All industries	32,924	1,025	6,707	25,191	31,291	1,633	2,028	127
Major sector ^c								
Manufacturing	28,115	949	6,136	21,031	26,505	1,610	1,555	103
Nonmanufacturing	4,809	77	572	4,161	4,786	23	474	24
Investing country ^d								
Canada	1,581	27	104	1,450	D	D	95	7
France	3,466	134	588	2,744	3,446	20	190	13
Germany	6,360	277	800	5,282	6,336	24	382	27
Japan	4,386	143	919	3,324	4,383	3	324	15
Netherlands	1,565	71	509	985	1,558	7	128	6
Switzerland	4,063	197	818	3,048	4,063	0	96	13
United Kingdom	6,094	86	1,458	4,550	D	D	307	21
Other	5,409	91	1,511	3,807	D	D	507	26

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

^b Companies in all industries with non-zero value for item.

^c Major sector classification based on SIRD data.

^d Investing country classification based on FDIUS survey data.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,041 companies from SIRD, majority owned (> 50%) by their foreign parent companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 977 had non-zero R&D expenditures. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 48. Summary BEA USDIA survey data for majority-owned foreign affiliates of matched U.S. parent companies, by selected host country: 2005

Host country	Matched U.S. parent companies ^a	MOFAs			
		Number	R&D performed (US\$millions)	Employees (1,000s)	
				All	R&D
All host countries	604	3,213	26,771	2,552	NA
Brazil	84	96	393	156	NA
Canada	188	220	2,396	246	NA
China	80	111	636	135	NA
France	165	243	2,213	179	NA
Germany	214	331	4,557	301	NA
India	35	44	327	37	NA
Ireland	52	64	740	28	NA
Israel	26	32	679	20	NA
Italy	108	147	531	74	NA
Japan	113	136	1,618	65	NA
Mexico	72	83	D	154	NA
Singapore	48	55	574	45	NA
Sweden	51	63	1,636	55	NA
United Kingdom	269	386	5,159	316	NA
Other	333	1,202	D	742	NA

D = suppressed to avoid disclosure of confidential information; NA = not available.

BEA = Bureau of Economic Analysis; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Matched U.S. parent companies that owned R&D-performing MOFAs; that is, matched parent companies that owned at least one MOFA with a non-zero value for R&D performed. Each matched parent company is counted once in the all-host countries total, and also counted once in each country in which it has a MOFA that performed R&D. Because a parent company may have R&D performing MOFAs in more than one country, the sum across countries exceeds total for all host countries.

NOTE: Data from USDIA survey (conducted by BEA) matched to data for SIRD (cosponsored by National Science Foundation and U.S. Census Bureau).

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 49. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2005

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries						
Sales ^c	1,513	4,528,738	1,527	4,794,869	3,206	1,069,943
R&D performed	1,499	164,487	1,055	174,010	3,213	26,771
Character of work (SIRD)						
Basic research	435	5,814	na	na	na	na
Applied research	795	30,665	na	na	na	na
Development	1,401	128,008	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,496	144,917	na	na	na	na
Federally funded R&D	127	19,570	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	404	7,430	na	na	na	na
Overseas	611	23,460	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,514	10,605	1,525	10,971	3,170	2,552
R&D employees ^h	1,496	706	NA	NA	NA	NA
Manufacturing						
Sales ^c	1,142	3,251,926	1,134	3,317,181	2,855	971,986
R&D performed	1,133	131,604	820	141,999	2,862	24,427
Character of work (SIRD)						
Basic research	341	5,170	na	na	na	na
Applied research	631	26,108	na	na	na	na
Development	1,062	100,326	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,131	112,934	na	na	na	na
Federally funded R&D	99	18,670	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	304	6,621	na	na	na	na
Overseas	466	19,495	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,143	6,651	1,132	6,891	2,820	2,143
R&D employees ^h	1,131	522	NA	NA	NA	NA
Wholesale trade						
Sales ^c	40	170,812	86	514,884	78	18,544

TABLE 49. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2005

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
R&D performed	40	578	62	4,602	78	316
Character of work (SIRD)						
Basic research	11	D	na	na	na	na
Applied research	17	D	na	na	na	na
Development	36	441	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	40	D	na	na	na	na
Federally funded R&D	1	D	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	6	4	na	na	na	na
Overseas	11	56	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	40	106	86	580	78	32
R&D employees ^h	39	8	NA	NA	NA	NA
Nonmanufacturing, excluding wholesale trade						
Sales ^c	331	1,106,000	307	962,804	273	79,414
R&D performed	326	32,305	173	27,409	273	2,027
Character of work (SIRD)						
Basic research	83	D	na	na	na	na
Applied research	147	D	na	na	na	na
Development	303	27,241	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	325	D	na	na	na	na
Federally funded R&D	27	D	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	94	805	na	na	na	na
Overseas	134	3,909	na	na	na	na
R&D performed by others ^g (USDIA survey)						

TABLE 49. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2005

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	US\$millions,		US\$millions,		US\$millions,	
	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	331	3,848	307	3,500	272	377
R&D employees ^h	326	176	NA	NA	NA	NA

D = suppressed to avoid disclosure of confidential information; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Sales by U.S. parent companies include sales to MOFAs and to other parent companies; sales by MOFAs include sales to parent companies and to other MOFAs. An MNC-wide total for sales cannot be derived by adding parent company sales and MOFA sales because transactions among and within MNCs would be duplicated.

^d Includes company and other nonfederal sources.

^e For MOFAs, consists of R&D performed for other foreign affiliates or for U.S. parent companies.

^f R&D performed by others is company funded.

^g R&D performed by others is company funded. For U.S. parent companies, consists of R&D performed for parent companies by others in United States and overseas, including by foreign affiliates. For MOFAs, consists of R&D performed for MOFAs by U.S. parent companies and other U.S. or foreign companies.

^h In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry data for U.S. parent companies from SIRD are as classified by Census Bureau. Industry data for U.S. parent companies and MOFAs from USDIA survey are as classified by BEA. In SIRD, 1,531 parent companies were linked to USDIA survey; of these, 1,151 were classified in manufacturing industries, 41 were classified in wholesale trade industries, and 339 were classified in nonmanufacturing industries, excluding wholesale trade. In USDIA survey, 1,529 parent companies were linked to SIRD; of these, 859 were classified in manufacturing industries, 86 were classified in whole trade industries, and 584 were classified in nonmanufacturing industries, excluding wholesale trade. MOFA data from USDIA survey cover affiliates with a non-zero value for R&D.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 52. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2006

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries				
Sales	982	1,263,407	1,107	1,360,253
R&D performed	977	32,924	886	34,474
Character of work (SIRD)				
Basic research	338	1,025	na	na
Applied research	526	6,707	na	na
Development	910	25,191	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	976	31,291	na	na
Federally funded R&D	38	1,633	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	183	2,747	na	na
Overseas	155	1,531	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	986	2,028	1,099	2,157
R&D employees ^f	977	127	814	128
Manufacturing				
Sales	760	1,088,107	789	882,756
R&D performed	756	28,115	655	25,448
Character of work (SIRD)				
Basic research	261	949	na	na
Applied research	413	6,136	na	na
Development	705	21,031	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	756	26,505	na	na
Federally funded R&D	29	1,610	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	139	2,465	na	na
Overseas	120	1,332	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	760	1,555	786	1,510
R&D employees ^f	756	103	597	94
Wholesale trade				
Sales	67	38,146	163	378,649
R&D performed	65	256	129	5,762
Character of work (SIRD)				
Basic research	31	5	na	na
Applied research	42	43	na	na
Development	60	207	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	64	256	na	na
Federally funded R&D	2	*	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				

TABLE 52. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2006

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
In the United States	7	9	na	na
Overseas	4	39	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	67	46	161	309
R&D employees ^f	65	2	117	21
Nonmanufacturing, excluding wholesale trade				
Sales	155	137,154	155	98,849
R&D performed	156	4,553	102	3,265
Character of work (SIRD)				
Basic research	46	72	na	na
Applied research	71	528	na	na
Development	145	3,953	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	156	4,531	na	na
Federally funded R&D	7	23	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	NA	NA
R&D performed for themselves	na	na	NA	NA
R&D performed for others	na	na	NA	NA
R&D performed by others ^d (SIRD)				
In the United States	37	273	na	na
Overseas	31	160	na	na
R&D performed by others ^e (FDIUS survey)				
Employees	159	428	152	337
R&D employees ^f	156	22	100	14

* = amount < \$500,000 or < 500 employees; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Includes company and other nonfederal sources.

^d R&D performed by others is company funded.

^e R&D performed by others is company funded. Includes others located in United States and overseas.

^f In SIRD, R&D employees are reported as full-time equivalent employment. In FDIUS survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,041 companies from SIRD, majority owned (> 50%) by their foreign parents companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 796 were classified in manufacturing industries, 76 were classified in wholesale trade industries, and 169 were classified in nonmanufacturing industries, excluding wholesale trade. In FDIUS survey, 1,125 majority-owned companies were linked to SIRD; of these, 799 were classified in manufacturing industries, 163 were classified in whole trade industries, and 163 were classified in nonmanufacturing industries, excluding wholesale trade. Majority-owned classification based on FDIUS survey data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 53. Character of work distribution of R&D performance by matched majority-owned U.S. affiliates of foreign companies: FDIUS survey and SIRD 2006

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
FDIUS survey	886	34,474	25,448	9,027
SIRD	977	32,924	28,115	4,809
Character of work (SIRD)				
Basic research	338	1,025	949	77
Applied research	526	6,707	6,136	572
Development	910	25,191	21,031	4,161
Percent distribution				
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.1	3.4	1.6
Applied research	na	20.4	21.8	11.9
Development	na	76.5	74.8	86.5

na = not applicable.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 54. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21-23, 31-33, 42, 44-81	32,924	1,025	6,707	25,191
Manufacturing	31-33	28,115	949	6,136	21,031
Food	311	523	59	113	351
Beverage and tobacco products	312	D	*	D	2
Paper, printing, and support activities	322, 323	D	*	D	D
Petroleum and coal products	324	D	D	D	D
Chemicals	325	11,420	479	2,914	8,027
Basic chemicals	3251	462	37	71	355
Resin, synthetic rubber, fibers, and filament	3252	76	1	10	65
Pharmaceuticals and medicines	3254	10,236	380	2,656	7,201
Other chemicals	other 325	646	61	178	407
Plastics and rubber products	326	671	95	55	521
Nonmetallic mineral products	327	193	10	65	118
Primary metals	331	89	1	28	61
Fabricated metal products	332	238	4	30	204
Machinery	333	879	11	94	773
Computer and electronic products	334	7,794	155	1,785	5,854
Computers and peripheral equipment	3341	1,308	75	D	D
Communications equipment	3342	853	2	D	D
Semiconductor and other electronic components	3344	2,127	48	449	1,630
Navigational, measuring, electromedical, and control instruments	3345	3,253	27	414	2,812
Other computer and electronic products	other 334	252	2	8	241
Electrical equipment, appliances, and components	335	323	3	56	264
Transportation equipment	336	4,666	72	297	4,297
Motor vehicles, trailers, and parts	3361-63	4,314	D	290	D
Aerospace products and parts	3364	280	D	D	D
Other transportation equipment	other 336	71	D	D	D
Miscellaneous manufacturing	339	595	25	152	419
Medical equipment and supplies	3391	540	25	137	378
Other miscellaneous manufacturing	other 339	55	*	15	40
Other manufacturing	313-16, 321, 337	67	D	D	D
Nonmanufacturing	21-23, 42, 44-81	4,809	77	572	4,161
Mining, extraction, and support activities	21	315	1	D	D
Wholesale trade	42	256	5	43	207
Information	51	940	1	60	879
Publishing	511	918	D	D	872
Newspaper, periodical, book, and database	5111	D	D	D	D
Software	5112	D	D	39	D
Telecommunications	517	5	D	D	D
Wired and wireless (except satellite)					
telecommunications carriers	5171, 5172	5	D	D	D
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	0	0	0	0
Internet service providers, web search portals, and data processing services	518	D	0	D	D
Internet service providers and web search portals	5181	D	0	D	D
Data processing, hosting, and related services	5182	0	0	0	0
Other information	other 51	D	D	D	D
Finance, insurance, and real estate	52, 53	D	0	0	D
Professional, scientific, and technical services	54	2,289	61	324	1,904
Architectural, engineering, and related services	5413	D	D	D	D
Computer systems design and related services	5415	1,090	D	D	1,007

TABLE 54. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Scientific R&D services	5417	777	29	220	528
Other professional, scientific, and technical services	other 54	D	D	7	D
Health care services	621-23	D	0	0	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	387	9	D	D

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 55. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	32,924	31,291	1,633
Manufacturing	31-33	28,115	26,505	1,610
Food	311	523	523	0
Beverage and tobacco products	312	D	D	0
Paper, printing, and support activities	322, 323	D	D	0
Petroleum and coal products	324	D	D	D
Chemicals	325	11,420	11,409	11
Basic chemicals	3251	462	D	D
Resin, synthetic rubber, fibers, and filament	3252	76	76	0
Pharmaceuticals and medicines	3254	10,236	D	D
Other chemicals	other 325	646	646	*
Plastics and rubber products	326	671	D	D
Nonmetallic mineral products	327	193	D	D
Primary metals	331	89	D	D
Fabricated metal products	332	238	D	D
Machinery	333	879	878	1
Computer and electronic products	334	7,794	D	D
Computers and peripheral equipment	3341	1,308	1,308	0
Communications equipment	3342	853	D	D
Semiconductor and other electronic components	3344	2,127	2,113	14
Navigational, measuring, electromedical, and control instruments	3345	3,253	D	D
Other computer and electronic products	other 334	252	252	0
Electrical equipment, appliances, and components	335	323	D	D
Transportation equipment	336	4,666	D	D
Motor vehicles, trailers, and parts	3361-63	4,314	D	D
Aerospace products and parts	3364	280	D	D
Other transportation equipment	other 336	71	71	0
Miscellaneous manufacturing	339	595	595	0
Medical equipment and supplies	3391	540	540	0
Other miscellaneous manufacturing	other 339	55	55	0
Other manufacturing	313-16, 321, 337	67	D	D
Nonmanufacturing	21-23, 42, 44-81	4,809	4,786	23
Mining, extraction, and support activities	21	315	D	D
Wholesale trade	42	256	256	*
Information	51	940	940	0
Publishing	511	918	918	0
Newspaper, periodical, book, and database	5111	D	D	0
Software	5112	D	D	0
Telecommunications	517	5	5	0
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	5	5	0
Satellite telecommunications	5174	0	0	0
Other telecommunications	other 517	0	0	0
Internet service providers, web search portals, and data processing services	518	D	D	0
Internet service providers and web search portals	5181	D	D	0
Data processing, hosting, and related services	5182	0	0	0
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	D	D	0
Professional, scientific, and technical services	54	2,289	D	D
Architectural, engineering, and related services	5413	D	D	0
Computer systems design and related services	5415	1,090	D	D
Scientific R&D services	5417	777	776	1

TABLE 55. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	D	236	D
Health care services	621-23	D	D	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	387	D	D

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 56. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by selected investing country/region and industry: SIRD 2006
(Millions of U.S. dollars)

Investing country/region	All industries	Manufacturing	Wholesale trade	Information	Professional, scientific, and technical services	Other
All countries/regions	32,924	28,115	256	940	2,289	1,324
Canada	1,581	302	D	329	906	D
Europe	23,804	21,756	85	365	924	674
Belgium	327	317	D	0	D	D
Denmark	340	D	0	0	D	0
Finland	682	D	0	0	0	D
France	3,466	2,766	D	186	388	D
Germany	6,360	6,186	41	D	D	14
Ireland	204	D	0	D	23	0
Italy	261	D	D	0	0	D
Netherlands	1,565	1,517	0	0	21	28
Norway	32	D	D	0	D	0
Sweden	301	286	D	0	0	D
Switzerland	4,063	3,838	16	D	193	D
United Kingdom	6,094	5,344	4	66	238	443
Other	107	95	D	0	D	D
Latin America and other Western Hemisphere	1,678	1,131	D	D	D	D
Mexico	7	D	0	0	0	D
Other	1,671	D	D	D	D	D
Africa	35	D	0	D	0	0
Middle East	114	75	D	D	D	D
Israel	64	D	0	D	D	D
Other	50	D	D	D	0	0
Asia and Pacific	4,866	3,998	D	221	D	D
Australia	55	45	D	0	D	D
China	D	0	0	D	0	0
India	D	D	0	0	0	0
Japan	4,386	3,604	D	D	188	D
Singapore	63	60	0	0	3	0
South Korea	224	D	0	D	D	0
Taiwan	53	D	D	D	D	D
Other ^a	D	D	D	0	0	0
Other ^b	846	D	D	D	D	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes Hong Kong.

^b Includes affiliates whose immediate parent is located outside United States but whose ultimate owner is U.S. company.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry sector classification based on SIRD data. Investing country/region classification based on FDIUS survey data. Investing country is country of ultimate beneficial owner, entity that ultimately owns or controls U.S. affiliate.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 57. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2006
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
All states	32,924	1,581	3,466	6,360	4,386	1,565	4,063	6,094	5,409
Alabama	70	0	4	31	16	D	D	2	D
Alaska	D	0	0	0	0	D	0	0	0
Arizona	221	23	D	38	50	49	D	14	D
Arkansas	24	D	D	D	15	0	D	4	*
California	3,734	136	254	424	892	196	79	503	1,250
Colorado	592	19	0	2	7	208	D	24	D
Connecticut	1,399	0	62	D	D	165	0	24	D
Delaware	D	D	0	0	D	0	6	D	0
District of Columbia	9	0	0	D	D	0	0	D	D
Florida	232	19	7	136	4	17	11	11	27
Georgia	434	*	5	36	27	20	1	4	342
Hawaii	11	0	0	D	0	0	D	0	0
Idaho	11	0	0	D	0	0	D	5	D
Illinois	992	7	28	113	571	41	18	142	72
Indiana	455	5	D	115	15	0	D	262	D
Iowa	91	D	14	29	D	0	19	4	D
Kansas	181	6	40	19	0	D	D	D	D
Kentucky	84	7	5	14	5	4	19	13	17
Louisiana	23	0	D	D	0	D	2	0	12
Maine	27	0	0	6	0	0	D	D	D
Maryland	404	D	32	5	D	0	D	55	D
Massachusetts	1,292	238	117	125	122	D	D	171	D
Michigan	3,492	69	147	2,288	575	25	14	281	93
Minnesota	452	9	D	44	28	D	D	42	D
Mississippi	6	0	0	*	3	2	D	0	D
Missouri	243	D	39	29	40	0	5	2	D
Montana	*	0	0	0	0	0	0	D	D
Nebraska	69	57	D	0	D	0	D	D	D
Nevada	31	0	0	0	1	0	0	3	28
New Hampshire	1,022	D	D	D	5	0	0	D	D
New Jersey	3,772	24	D	363	503	61	1,177	422	D
New Mexico	11	D	D	8	0	0	0	0	D
New York	603	D	37	132	47	55	35	61	D
North Carolina	1,573	88	132	354	70	7	30	D	D
North Dakota	D	0	0	0	D	0	0	0	D
Ohio	929	5	19	137	532	82	62	55	37
Oklahoma	22	0	0	D	D	0	D	3	15
Oregon	161	0	19	89	3	D	2	2	D
Pennsylvania	2,737	75	533	321	40	19	10	1,487	253
Rhode Island	65	0	3	0	3	D	D	8	D
South Carolina	594	0	D	44	26	0	29	12	D
South Dakota	2	0	0	0	0	0	D	D	0
Tennessee	224	3	D	D	21	2	3	46	34
Texas	2,195	D	151	37	103	298	D	169	D
Utah	33	0	6	13	6	0	0	D	D
Vermont	4	0	0	D	0	D	D	0	0
Virginia	294	D	90	37	3	D	15	28	D
Washington	421	D	17	D	68	93	D	18	D

TABLE 57. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2006
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
West Virginia	8	0	D	D	0	0	5	0	D
Wisconsin	159	30	11	41	D	11	4	6	D
Wyoming	4	0	0	0	0	D	0	0	D
Undistributed ^a	3,035	50	88	117	302	80	2,059	70	268

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Investing country classification based on FDIUS survey data. State location based on SIRD data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 58. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by technology area: SIRD 2006

(Millions of U.S. dollars)

Technology area	R&D performance
All areas	32,924
Biotechnology	2,858
Materials	1,622
Software development	2,853
Other and undistributed	25,590

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 59. Company funds from matched majority-owned U.S. affiliates of foreign companies for R&D performed in the United States but outside of company facilities, by type of organization: SIRD 2006

(Millions of U.S. dollars)

Type of organization	Company-funded ^a R&D performed outside company facilities
All organizations	2,647
For-profit companies	2,535
Universities or colleges	79
Nonprofits other than universities or colleges	14
Other and undistributed	19

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/Division of Science Resources Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 60. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2006

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	1,263,407
Manufacturing	31–33	1,088,107
Food	311	39,783
Beverage and tobacco products	312	5,683
Paper, printing, and support activities	322, 323	5,963
Petroleum and coal products	324	D
Chemicals	325	182,398
Basic chemicals	3251	45,676
Resin, synthetic rubber, fibers, and filament	3252	8,401
Pharmaceuticals and medicines	3254	97,889
Other chemicals	other 325	30,432
Plastics and rubber products	326	35,525
Nonmetallic mineral products	327	20,369
Primary metals	331	32,437
Fabricated metal products	332	19,737
Machinery	333	52,176
Computer and electronic products	334	166,268
Computers and peripheral equipment	3341	32,004
Communications equipment	3342	12,113
Semiconductor and other electronic components	3344	75,182
Navigational, measuring, electromedical, and control instruments	3345	35,415
Other computer and electronic products	other 334	11,554
Electrical equipment, appliances, and components	335	21,387
Transportation equipment	336	310,055
Motor vehicles, trailers, and parts	3361–63	295,860
Aerospace products and parts	3364	4,366
Other transportation equipment	other 336	9,829
Miscellaneous manufacturing	339	13,862
Medical equipment and supplies	3391	9,610
Other miscellaneous manufacturing	other 339	4,252
Other manufacturing	313–16, 321, 337	D
Nonmanufacturing	21–23, 42, 44–81	175,300
Mining, extraction, and support activities	21	20,591
Wholesale trade	42	38,146
Information	51	22,058
Publishing	511	20,440
Newspaper, periodical, book, and database	5111	D
Software	5112	D
Telecommunications	517	D
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	0
Other telecommunications	other 517	0
Internet service providers, web search portals, and data processing services	518	D
Internet service providers and web search portals	5181	D
Data processing, hosting, and related services	5182	0
Other information	other 51	D
Finance, insurance, and real estate	52, 53	4,123
Professional, scientific, and technical services	54	32,899
Architectural, engineering, and related services	5413	D
Computer systems design and related services	5415	9,750
Scientific R&D services	5417	9,162

TABLE 60. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2006

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	D
Health care services	621-23	9,688
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	47,794

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 61. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by character of work: SIRD 2006

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,137	235,036	171,716	63,320
Basic research	2,192	8,151	6,181	1,970
Applied research	4,740	46,590	35,325	11,265
Development	9,184	180,295	130,211	50,085
SIRD matched majority-owned U.S. affiliates				
All R&D	977	32,924	28,115	4,809
Basic research	338	1,025	949	77
Applied research	526	6,707	6,136	572
Development	910	25,191	21,031	4,161
Matched as percent of SIRD sample (%)				
All R&D	9.6	14.0	16.4	7.6
Basic research	15.4	12.6	15.4	3.9
Applied research	11.1	14.4	17.4	5.1
Development	9.9	14.0	16.2	8.3

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity, only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 62. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by source of funds: SIRD 2006

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,137	235,036	171,716	63,320
Company ^b	9,975	208,601	151,581	57,021
Federal government	859	26,435	20,136	6,299
SIRD matched majority-owned U.S. affiliates				
All R&D	977	32,924	28,115	4,809
Company ^b	976	31,291	26,505	4,786
Federal government	38	1,633	1,610	23
Matched as percent of SIRD sample (%)				
All R&D	9.6	14.0	16.4	7.6
Company ^b	9.8	15.0	17.5	8.4
Federal government	4.4	6.2	8.0	0.4

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. Majority-owned classification based on FDIUS data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 63. Employees in matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies: SIRD 2006

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,614	15,904	9,058	6,846
R&D (FTE) employees	10,137	973	653	320
SIRD matched majority-owned U.S. affiliates				
All employees	986	2,028	1,555	474
R&D (FTE) employees	977	127	103	24
		Matched as percent of SIRD sample (%)		
All employees	9.3	12.8	17.2	6.9
R&D (FTE) employees	9.6	13.1	15.8	7.5

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 64. Summary SIRD data for matched U.S. parent companies: 2006

Characteristic	Companies ^a	All industries	Manufacturing	Nonmanufacturing
		(US\$millions)		
All R&D performance	1,546	177,905	138,145	39,759
Character of work				
Basic research	474	6,060	5,150	909
Applied research	846	33,279	27,979	5,300
Development	1,448	138,566	105,016	33,550
Source of funds				
Company ^b	1,543	157,748	121,040	36,708
Federal government	131	20,157	17,105	3,052
		Employees (1,000s)		
All employees	1,561	11,281	6,694	4,588
R&D (FTE) employees	1,546	704	505	198

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,596 companies in SIRD were matched to U.S. parent companies from USDIA survey. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 65. Character of work distribution of R&D performance by matched U.S. parent companies: USDIA survey and SIRD 2006

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
USDIA survey	1,101	183,383	145,174	38,209
SIRD	1,546	177,905	138,145	39,759
Character of work (SIRD)				
Basic research	474	6,060	5,150	909
Applied research	846	33,279	27,979	5,300
Development	1,448	138,566	105,016	33,550
Percent distribution				
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	3.4	3.7	2.3
Applied research	na	18.7	20.3	13.3
Development	na	77.9	76.0	84.4

na = not applicable.

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 66. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21–23, 31–33, 42, 44–81	177,905	6,060	33,279	138,566
Manufacturing	31–33	138,145	5,150	27,979	105,016
Food	311	2,191	132	436	1,624
Beverage and tobacco products	312	116	1	74	42
Paper, printing, and support activities	322, 323	3,373	68	715	2,590
Petroleum and coal products	324	1,385	75	1,153	157
Chemicals	325	36,645	2,279	8,514	25,852
Basic chemicals	3251	1,474	134	422	918
Resin, synthetic rubber, fibers, and filament	3252	1,898	173	1,120	605
Pharmaceuticals and medicines	3254	30,686	1,928	6,329	22,428
Other chemicals	other 325	2,587	44	642	1,901
Plastics and rubber products	326	1,328	118	151	1,060
Nonmetallic mineral products	327	786	78	269	439
Primary metals	331	398	4	45	349
Fabricated metal products	332	556	5	109	442
Machinery	333	7,676	29	1,269	6,378
Computer and electronic products	334	45,650	875	8,956	35,819
Computers and peripheral equipment	3341	6,007	18	741	5,248
Communications equipment	3342	8,694	D	D	6,020
Semiconductor and other electronic components	3344	15,574	472	4,138	10,963
Navigational, measuring, electromedical, and control instruments	3345	14,712	176	1,576	12,960
Other computer and electronic products	other 334	664	D	D	628
Electrical equipment, appliances, and components	335	1,265	35	205	1,025
Transportation equipment	336	33,013	1,319	5,458	26,236
Motor vehicles, trailers, and parts	3361–63	13,949	D	D	11,913
Aerospace products and parts	3364	14,990	558	3,109	11,322
Other transportation equipment	other 336	4,074	D	D	3,001
Miscellaneous manufacturing	339	2,951	116	540	2,295
Medical equipment and supplies	3391	2,358	111	500	1,747
Other miscellaneous manufacturing	other 339	592	4	40	548
Other manufacturing	313–16, 321, 337	812	18	86	708
Nonmanufacturing	21–23, 42, 44–81	39,759	909	5,300	33,550
Mining, extraction, and support activities	21	732	43	217	472
Wholesale trade	42	359	3	50	306
Information	51	21,004	137	2,078	18,788
Publishing	511	16,223	40	1,708	14,474
Newspaper, periodical, book, and database	5111	763	*	6	756
Software	5112	15,460	40	1,702	13,718
Telecommunications	517	1,648	D	D	1,503
Wired and wireless (except satellite)					
telecommunications carriers	5171, 5172	1,350	D	D	1,249
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	298	D	D	254
Internet service providers, web search portals, and data processing services	518	2,980	D	D	2,658
Internet service providers and web search portals	5181	D	0	D	D
Data processing, hosting, and related services	5182	D	D	D	D
Other information	other 51	154	*	*	153
Finance, insurance, and real estate	52, 53	693	D	D	623
Professional, scientific, and technical services	54	13,653	498	2,111	11,044
Architectural, engineering, and related services	5413	2,410	D	D	2,121
Computer systems design and related services	5415	7,203	D	D	6,695
Scientific R&D services	5417	3,916	339	1,444	2,133

TABLE 66. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Other professional, scientific, and technical services	other 54	124	1	28	95
Health care services	621-23	9	1	3	5
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	3,311	D	D	2,312

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 67. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21–23, 31–33, 42, 44–81	177,905	157,748	20,157
Manufacturing	31–33	138,145	121,040	17,105
Food	311	2,191	2,188	3
Beverage and tobacco products	312	116	116	0
Paper, printing, and support activities	322, 323	3,373	3,360	12
Petroleum and coal products	324	1,385	D	D
Chemicals	325	36,645	36,571	73
Basic chemicals	3251	1,474	1,442	32
Resin, synthetic rubber, fibers, and filament	3252	1,898	1,887	11
Pharmaceuticals and medicines	3254	30,686	30,665	21
Other chemicals	other 325	2,587	2,577	9
Plastics and rubber products	326	1,328	D	D
Nonmetallic mineral products	327	786	784	3
Primary metals	331	398	D	D
Fabricated metal products	332	556	512	44
Machinery	333	7,676	7,621	55
Computer and electronic products	334	45,650	38,584	7,067
Computers and peripheral equipment	3341	6,007	6,006	1
Communications equipment	3342	8,694	D	D
Semiconductor and other electronic components	3344	15,574	D	D
Navigational, measuring, electromedical, and control instruments	3345	14,712	7,928	6,783
Other computer and electronic products	other 334	664	D	D
Electrical equipment, appliances, and components	335	1,265	1,263	2
Transportation equipment	336	33,013	23,192	9,821
Motor vehicles, trailers, and parts	3361–63	13,949	13,862	87
Aerospace products and parts	3364	14,990	D	D
Other transportation equipment	other 336	4,074	D	D
Miscellaneous manufacturing	339	2,951	2,947	4
Medical equipment and supplies	3391	2,358	D	D
Other miscellaneous manufacturing	other 339	592	D	D
Other manufacturing	313–16, 321, 337	812	D	D
Nonmanufacturing	21–23, 42, 44–81	39,759	36,708	3,052
Mining, extraction, and support activities	21	732	D	D
Wholesale trade	42	359	D	D
Information	51	21,004	D	D
Publishing	511	16,223	16,221	2
Newspaper, periodical, book, and database	5111	763	763	0
Software	5112	15,460	15,458	2
Telecommunications	517	1,648	D	D
Wired and wireless (except satellite)				
telecommunications carriers	5171, 5172	1,350	D	D
Satellite telecommunications	5174	0	0	0
Other telecommunications	other 517	298	298	0
Internet service providers, web search portals, and data processing services	518	2,980	D	D
Internet service providers and web search portals	5181	D	D	0
Data processing, hosting, and related services	5182	D	D	D
Other information	other 51	154	154	0
Finance, insurance, and real estate	52, 53	693	693	0
Professional, scientific, and technical services	54	13,653	10,701	2,952
Architectural, engineering, and related services	5413	2,410	D	D
Computer systems design and related services	5415	7,203	D	D
Scientific R&D services	5417	3,916	D	D

TABLE 67. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	124	124	0
Health care services	621-23	9	D	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	3,311	3,304	7

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 68. R&D performance by matched U.S. parent companies, by state:
SIRD 2006

(Millions of U.S. dollars)

State	R&D performance
All states	177,905
Alabama	972
Alaska	4
Arizona	2,832
Arkansas	142
California	41,574
Colorado	3,210
Connecticut	6,359
Delaware	917
District of Columbia	112
Florida	2,523
Georgia	1,280
Hawaii	51
Idaho	479
Illinois	8,105
Indiana	3,879
Iowa	738
Kansas	1,729
Kentucky	604
Louisiana	201
Maine	133
Maryland	1,208
Massachusetts	10,694
Michigan	13,716
Minnesota	4,956
Mississippi	98
Missouri	1,737
Montana	29
Nebraska	267
Nevada	246
New Hampshire	420
New Jersey	10,893
New Mexico	271
New York	6,727
North Carolina	3,500
North Dakota	70
Ohio	4,546
Oklahoma	250
Oregon	2,878
Pennsylvania	7,745
Rhode Island	1,197
South Carolina	965
South Dakota	18
Tennessee	797
Texas	9,563
Utah	533
Vermont	265
Virginia	2,418
Washington	9,450

TABLE 68. R&D performance by matched U.S. parent companies, by state:
SIRD 2006

(Millions of U.S. dollars)

State	R&D performance
West Virginia	78
Wisconsin	1,987
Wyoming	8
Undistributed ^a	4,529

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 69. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2006
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21-23, 31-33, 42, 44-81	4,975,913
Manufacturing	31-33	3,352,418
Food	311	299,109
Beverage and tobacco products	312	34,685
Paper, printing, and support activities	322, 323	204,134
Petroleum and coal products	324	455,282
Chemicals	325	474,465
Basic chemicals	3251	97,031
Resin, synthetic rubber, fibers, and filament	3252	76,361
Pharmaceuticals and medicines	3254	221,843
Other chemicals	other 325	79,230
Plastics and rubber products	326	69,901
Nonmetallic mineral products	327	34,435
Primary metals	331	86,447
Fabricated metal products	332	48,000
Machinery	333	209,635
Computer and electronic products	334	426,076
Computers and peripheral equipment	3341	101,920
Communications equipment	3342	55,166
Semiconductor and other electronic components	3344	144,438
Navigational, measuring, electromedical, and control instruments	3345	110,135
Other computer and electronic products	other 334	14,417
Electrical equipment, appliances, and components	335	57,639
Transportation equipment	336	836,044
Motor vehicles, trailers, and parts	3361-63	531,810
Aerospace products and parts	3364	229,672
Other transportation equipment	other 336	74,562
Miscellaneous manufacturing	339	46,106
Medical equipment and supplies	3391	30,914
Other miscellaneous manufacturing	other 339	15,192
Other manufacturing	313-16, 321, 337	70,460
Nonmanufacturing	21-23, 42, 44-81	1,623,496
Mining, extraction, and support activities	21	150,956
Wholesale trade	42	30,805
Information	51	449,833
Publishing	511	97,706
Newspaper, periodical, book, and database	5111	28,632
Software	5112	69,073
Telecommunications	517	271,723
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	198,970
Satellite telecommunications	5174	0
Other telecommunications	other 517	72,753
Internet service providers, web search portals, and data processing services	518	D
Internet service providers and web search portals	5181	D
Data processing, hosting, and related services	5182	21,473
Other information	other 51	D
Finance, insurance, and real estate	52, 53	254,839
Professional, scientific, and technical services	54	295,193
Architectural, engineering, and related services	5413	28,245
Computer systems design and related services	5415	237,362
Scientific R&D services	5417	12,974

TABLE 69. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2006

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	16,612
Health care services	621-23	6,826
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	435,043

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 70. R&D performance by matched U.S. parent companies and SIRD sample companies, by character of work: SIRD 2006

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,137	235,036	171,716	63,320
Basic research	2,192	8,151	6,181	1,970
Applied research	4,740	46,590	35,325	11,265
Development	9,184	180,295	130,211	50,085
SIRD matched U.S. parent companies				
All R&D	1,546	177,905	138,145	39,759
Basic research	474	6,060	5,150	909
Applied research	846	33,279	27,979	5,300
Development	1,448	138,566	105,016	33,550
Matched as percent of SIRD sample (%)				
All R&D	15.3	75.7	80.4	62.8
Basic research	21.6	74.3	83.3	46.1
Applied research	17.8	71.4	79.2	47.0
Development	15.8	76.9	80.7	67.0

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 71. R&D performance by matched U.S. parent companies and SIRD sample companies, by source of funds: SIRD 2006

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,137	235,036	171,716	63,320
Company ^b	9,975	208,601	151,581	57,021
Federal government	859	26,435	20,136	6,299
SIRD matched U.S. parent companies				
All R&D	1,546	177,905	138,145	39,759
Company ^b	1,543	157,748	121,040	36,708
Federal government	131	20,157	17,105	3,052
		Matched as percent of SIRD sample (%)		
All R&D	15.3	75.7	80.4	62.8
Company ^b	15.5	75.6	79.9	64.4
Federal government	15.3	76.3	84.9	48.5

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 72. Employees in matched U.S. parent companies and SIRD sample companies: SIRD 2006

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,614	15,904	9,058	6,846
R&D (FTE) employees	10,137	973	653	320
SIRD matched U.S. parent companies				
All employees	1,561	11,281	6,694	4,588
R&D (FTE) employees	1,546	704	505	198
Matched as percent of SIRD sample (%)				
All employees	14.7	70.9	73.9	67.0
R&D (FTE) employees	15.3	72.4	77.3	61.9

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 73. Summary BEA USDIA survey data for majority-owned foreign affiliates of matched U.S. parent companies, by selected host country: 2006

Host country	Matched U.S. parent companies ^a	MOFAs			
		Number	R&D performed (US\$millions)	Employees (1,000s)	
				All	R&D
All host countries	627	3,542	28,576	2,704	NA
Brazil	79	94	567	149	NA
Canada	198	241	2,401	254	NA
China	95	143	751	158	NA
France	179	262	1,452	174	NA
Germany	223	364	4,848	295	NA
India	40	49	337	50	NA
Ireland	57	72	1,049	31	NA
Israel	24	31	839	26	NA
Italy	123	169	680	88	NA
Japan	121	144	1,782	75	NA
Mexico	79	103	D	152	NA
Singapore	54	60	834	46	NA
Sweden	57	67	1,524	49	NA
United Kingdom	284	428	5,107	315	NA
Other	351	1,315	D	842	NA

D = suppressed to avoid disclosure of confidential information; NA = not available.

BEA = Bureau of Economic Analysis; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Matched U.S. parent companies that owned R&D-performing MOFAs; that is, matched parent companies that owned at least one MOFA with a non-zero value for R&D performed. Each matched parent company is counted once in the all-host countries total, and also counted once in each country in which it has a MOFA that performed R&D. Because a parent company may have R&D performing MOFAs in more than one country, the sum across countries exceeds total for all host countries.

NOTE: Data from USDIA survey (conducted by BEA) matched to SIRD (cosponsored by National Science Foundation and U.S. Census Bureau).

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 74. Summary SIRD and USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2006

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries						
Sales ^c	1,557	4,975,913	1,595	5,075,755	3,531	1,233,284
R&D performed	1,546	177,905	1,101	183,383	3,542	28,576
Character of work (SIRD)						
Basic research	474	6,060	na	na	na	na
Applied research	846	33,279	na	na	na	na
Development	1,448	138,566	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,543	157,748	na	na	na	na
Federally funded R&D	131	20,157	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	405	7,958	na	na	na	na
Overseas	609	26,406	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,561	11,281	1,594	11,630	3,481	2,710
R&D employees ^h	1,546	704	NA	NA	NA	NA
Manufacturing						
Sales ^c	1,160	3,352,418	1,158	3,370,308	3,129	1,112,765
R&D performed	1,156	138,145	824	145,174	3,140	25,702
Character of work (SIRD)						
Basic research	368	5,150	na	na	na	na
Applied research	669	27,979	na	na	na	na
Development	1,082	105,016	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,153	121,040	na	na	na	na
Federally funded R&D	98	17,105	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	293	6,934	na	na	na	na
Overseas	457	20,975	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,163	6,694	1,157	6,826	3,084	2,252
R&D employees ^h	1,156	505	NA	NA	NA	NA

TABLE 74. Summary SIRD and USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2006

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
Wholesale trade						
Sales ^c	40	30,805	99	549,698	99	26,038
R&D performed	40	359	70	5,502	99	293
Character of work (SIRD)						
Basic research	8	3	na	na	na	na
Applied research	20	50	na	na	na	na
Development	33	306	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	40	D	na	na	na	na
Federally funded R&D	D	D	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	9	10	na	na	na	na
Overseas	10	113	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	40	42	99	601	97	38
R&D employees ^h	40	2	NA	NA	NA	NA
Nonmanufacturing, excluding wholesale trade						
Sales ^c	357	1,592,690	338	1,155,748	303	94,481
R&D performed	350	39,401	207	32,707	303	2,580
Character of work (SIRD)						
Basic research	98	907	na	na	na	na
Applied research	157	5,250	na	na	na	na
Development	333	33,244	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	350	D	na	na	na	na
Federally funded R&D	32	D	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	103	1,013	na	na	na	na
Overseas	142	5,317	na	na	na	na

TABLE 74. Summary SIRD and USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2006

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	US\$millions,		US\$millions,		US\$millions,	
	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b
R&D performed by others ^d (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	358	4,546	338	4,203	300	420
R&D employees ^h	350	196	NA	NA	NA	NA

D = suppressed to avoid disclosure of confidential information; na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Sales by U.S. parent companies include sales to MOFAs and to other parent companies; sales by MOFAs include sales to parent companies and to other MOFAs. An MNC-wide total for sales cannot be derived by adding parent company sales and MOFA sales because transactions among and within MNCs would be duplicated.

^d Includes company and other nonfederal sources.

^e For MOFAs, consists of R&D performed for other foreign affiliates or for U.S. parent companies.

^f R&D performed by others is company funded.

^g R&D performed by others is company funded. For U.S. parent companies, consists of R&D performed for parent companies by others in United States and overseas, including by foreign affiliates. For MOFAs, consists of R&D performed for MOFAs by U.S. parent companies and other U.S. or foreign companies.

^h In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry data for U.S. parent companies from SIRD are as classified by Census Bureau. Industry data for U.S. parent companies and MOFAs from USDIA survey are as classified by BEA. In SIRD, 1,531 parent companies were linked to USDIA survey; of these, 1,151 were classified in manufacturing industries, 41 were classified in wholesale trade industries, and 339 were classified in nonmanufacturing industries, excluding wholesale trade. In USDIA survey, 1,529 parent companies were linked to SIRD; of these, 859 were classified in manufacturing industries, 86 were classified in whole trade industries, and 584 were classified in nonmanufacturing industries, excluding wholesale trade. MOFA data from USDIA survey cover affiliates with a non-zero value for R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 75. Combined SIRD and USDIA survey data on R&D performance and employees of matched U.S. parent companies and their majority-owned foreign affiliates: 2006

Characteristics	R&D performance		Employees			
	Companies ^a	Expenditures (US\$millions)	Companies ^a	All (1,000s)	Companies ^a	R&D ^b (1,000s)
U.S. parent companies (SIRD)						
All industries	1,546	177,905	1,561	11,281	1,546	704
Manufacturing	1,156	138,145	1,163	6,694	1,156	505
Nonmanufacturing	390	39,759	398	4,588	390	198
MOFAs (USDIA survey)						
All industries	3,542	28,576	3,481	2,710	NA	NA
Manufacturing	3,140	25,702	3,084	2,252	NA	NA
Nonmanufacturing	402	2,873	397	459	NA	NA
U.S. MNCs (parent companies + MOFAs)						
All industries	na	206,481	na	13,991	na	NA
Manufacturing	na	163,847	na	8,946	na	NA
Nonmanufacturing	na	42,632	na	5,047	na	NA
MOFAs/U.S. MNCs (%)						
All industries	na	13.8	na	19.4	na	NA
Manufacturing	na	15.7	na	25.2	na	NA
Nonmanufacturing	na	6.7	na	9.1	na	NA

na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. MOFA data cover R&D performing affiliates of matched U.S. parent companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 76. Summary SIRD data for matched majority-owned U.S. affiliates of foreign companies: 2007

Characteristic	R&D performance						Employees	
	Character of work			Source of funds				
	All R&D	Basic research	Applied research	Development	Company ^a	Federal government	All	R&D (FTE)
Companies (<i>n</i>) ^b	967	311	519	896	966	38	976	967
	US\$millions						Thousands	
All industries	37,323	1,631	7,409	28,282	35,699	1,624	2,124	137
Major sector ^c								
Manufacturing	29,167	1,528	6,028	21,611	27,556	1,611	1,621	109
Nonmanufacturing	8,156	104	1,381	6,671	8,143	13	503	28
Investing country ^d								
Canada	1,887	13	125	1,749	1,886	*	100	7
France	5,442	160	952	4,330	5,419	23	208	15
Germany	6,000	378	751	4,870	5,978	21	317	30
Japan	4,530	150	598	3,782	4,529	*	380	16
Netherlands	1,569	123	545	901	D	D	128	5
Switzerland	5,790	352	1,362	4,076	5,790	0	98	15
United Kingdom	6,307	279	1,867	4,161	D	D	315	19
Other	5,799	176	1,209	4,414	D	D	578	31

* = amount < \$500,000 or < 500 employees; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

^b Companies in all industries with non-zero value for item.

^c Major sector classification based on SIRD data.

^d Investing country classification based on FDIUS data.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,028 companies from SIRD, majority owned (> 50%) by their foreign parent companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 967 had non-zero R&D expenditures. Majority-owned classification based on FDIUS survey data. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 77. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2007

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries				
Sales	969	1,389,097	1,091	1,467,630
R&D performed	967	37,323	886	39,288
Character of work (SIRD)				
Basic research	311	1,631	na	na
Applied research	519	7,409	na	na
Development	896	28,282	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	966	35,699	na	na
Federally funded R&D	38	1,624	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	28	D
R&D performed for themselves	na	na	839	31,030
R&D performed for others	na	na	92	D
R&D performed by others ^d (SIRD)				
In the United States	205	3,452	na	na
Overseas	157	2,727	na	na
R&D performed by others ^e (FDIUS survey)	na	na	50	1,747
Employees	976	2,124	1,083	2,176
R&D employees ^f	967	137	820	128
Manufacturing				
Sales	758	1,180,062	758	878,911
R&D performed	754	29,167	645	29,392
Character of work (SIRD)				
Basic research	248	1,528	na	na
Applied research	417	6,028	na	na
Development	703	21,611	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	754	27,556	na	na
Federally funded R&D	28	1,611	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	21	D
R&D performed for themselves	na	na	629	24,794
R&D performed for others	na	na	43	D
R&D performed by others ^d (SIRD)				
In the United States	156	3,099	na	na
Overseas	119	2,427	na	na
R&D performed by others ^e (FDIUS survey)	na	na	39	1,530
Employees	759	1,621	758	1,418
R&D employees ^f	754	109	598	90
Wholesale trade				
Sales	68	52,155	187	494,027
R&D performed	67	408	147	6,455
Character of work (SIRD)				
Basic research	27	11	na	na
Applied research	35	64	na	na
Development	64	334	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	66	408	na	na
Federally funded R&D	D	*	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	5	48
R&D performed for themselves	na	na	123	3,424
R&D performed for others	na	na	37	2,983
R&D performed by others ^d (SIRD)				

TABLE 77. Summary SIRD and FDIUS survey data for matched majority-owned U.S. affiliates of foreign companies: 2007

Sector and characteristic	NSF/Census SIRD		BEA FDIUS survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
In the United States	7	6	na	na
Overseas	6	48	na	na
R&D performed by others ^e (FDIUS survey)	na	na	7	D
Employees	68	58	185	393
R&D employees ^f	67	2	131	24
Nonmanufacturing, excluding wholesale trade				
Sales	143	156,880	146	94,692
R&D performed	146	7,748	94	3,441
Character of work (SIRD)				
Basic research	36	93	na	na
Applied research	67	1,318	na	na
Development	129	6,337	na	na
Source of funding (SIRD)				
Company-funded R&D ^c	146	7,735	na	na
Federally funded R&D	9	13	na	na
Source of funding (FDIUS survey)				
R&D performed for federal government	na	na	2	D
R&D performed for themselves	na	na	87	2,812
R&D performed for others	na	na	12	D
R&D performed by others ^d (SIRD)				
In the United States	42	347	na	na
Overseas	32	252	na	na
R&D performed by others ^e (FDIUS survey)	na	na	4	D
Employees	149	445	140	364
R&D employees ^f	146	26	91	14

* = amount < \$500,000 or < 500 employees; D = suppressed to avoid disclosure of confidential information; na = not applicable.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Includes company and other nonfederal sources.

^d R&D performed by others is company funded.

^e R&D performed by others is company funded. Includes others located in United States and overseas.

^f In SIRD, R&D employees are reported as full-time equivalent employment. In FDIUS survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,028 companies from SIRD, majority owned (> 50%) by their foreign parents companies, were matched to records for U.S. affiliates from BEA FDIUS survey. Of these, 800 were classified in manufacturing industries, 74 were classified in wholesale trade industries, and 154 were classified in nonmanufacturing industries, excluding wholesale trade. In FDIUS survey, 1,108 majority-owned companies were linked to SIRD; of these, 763 were classified in manufacturing industries, 188 were classified in whole trade industries, and 157 were classified in nonmanufacturing industries, excluding wholesale trade. Majority-owned classification based on FDIUS survey data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 78. Character of work distribution of R&D performance by matched majority-owned U.S. affiliates of foreign companies: FDIUS survey and SIRD 2007

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
FDIUS survey	886	39,288	29,392	9,896
SIRD	967	37,323	29,167	8,156
Character of work (SIRD)				
Basic research	311	1,631	1,528	104
Applied research	519	7,409	6,028	1,381
Development	896	28,282	21,611	6,671
Percent distribution				
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	4.4	5.2	1.3
Applied research	na	19.9	20.7	16.9
Development	na	75.8	74.1	81.8

na = not applicable.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 79. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21-23, 31-33, 42, 44-81	37,323	1,631	7,409	28,282
Manufacturing	31-33	29,167	1,528	6,028	21,611
Food	311	451	60	98	294
Beverage and tobacco products	312	82	D	D	D
Paper, printing, and support activities	322, 323	76	D	D	65
Petroleum and coal products	324	D	D	D	77
Chemicals	325	13,515	655	2,865	9,995
Basic chemicals	3251	537	41	144	351
Resin, synthetic rubber, fibers, and filament	3252	90	3	17	70
Pharmaceuticals and medicines	3254	12,071	482	2,520	9,069
Other chemicals	other 325	817	128	184	505
Plastics and rubber products	326	517	56	53	407
Nonmetallic mineral products	327	225	14	58	153
Primary metals	331	197	2	50	145
Fabricated metal products	332	287	6	57	224
Machinery	333	1,064	13	112	939
Computer and electronic products	334	6,574	541	1,516	4,517
Computers and peripheral equipment	3341	1,386	108	193	1,085
Communications equipment	3342	494	D	D	D
Semiconductor and other electronic components	3344	912	22	186	705
Navigational, measuring, electromedical, and control instruments	3345	3,494	382	768	2,344
Other computer and electronic products	other 334	287	D	D	D
Electrical equipment, appliances, and components	335	497	5	96	396
Transportation equipment	336	3,859	60	391	3,408
Motor vehicles, trailers, and parts	3361-63	3,349	18	267	3,064
Aerospace products and parts	3364	450	D	D	D
Other transportation equipment	other 336	60	D	D	D
Miscellaneous manufacturing	339	1,028	20	126	881
Medical equipment and supplies	3391	970	20	117	834
Other miscellaneous manufacturing	other 339	57	*	10	47
Other manufacturing	313-16, 321, 337	D	D	D	D
Nonmanufacturing	21-23, 42, 44-81	8,156	104	1,381	6,671
Mining, extraction, and support activities	21	363	*	D	D
Wholesale trade	42	408	11	64	334
Information	51	1,593	2	53	1,538
Publishing	511	D	2	D	D
Newspaper, periodical, book, and database	5111	D	*	*	D
Software	5112	D	2	D	D
Telecommunications	517	4	*	*	4
Wired and wireless (except satellite)					
telecommunications carriers	5171, 5172	4	*	*	4
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	0	0	0	0
Internet service providers, web					
search portals, and data processing services	518	0	0	0	0
Internet service providers and web search portals	5181	0	0	0	0
Data processing, hosting, and related services	5182	0	0	0	0
Other information	other 51	D	*	D	D
Finance, insurance, and real estate	52, 53	17	*	*	16
Professional, scientific, and technical services	54	4,931	80	1,090	3,761
Architectural, engineering, and related services	5413	177	2	102	72
Computer systems design and related services	5415	3,115	D	D	D

TABLE 79. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and character of work: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Scientific R&D services	5417	1,423	D	731	D
Other professional, scientific, and technical services	other 54	215	1	D	D
Health care services	621-23	D	0	0	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	D	11	D	D

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 80. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	37,323	35,699	1,624
Manufacturing	31-33	29,167	27,556	1,611
Food	311	451	451	0
Beverage and tobacco products	312	82	82	0
Paper, printing, and support activities	322, 323	76	76	0
Petroleum and coal products	324	D	D	1
Chemicals	325	13,515	13,495	19
Basic chemicals	3251	537	537	*
Resin, synthetic rubber, fibers, and filament	3252	90	90	0
Pharmaceuticals and medicines	3254	12,071	12,052	19
Other chemicals	other 325	817	817	*
Plastics and rubber products	326	517	517	0
Nonmetallic mineral products	327	225	225	*
Primary metals	331	197	197	0
Fabricated metal products	332	287	D	D
Machinery	333	1,064	1,060	4
Computer and electronic products	334	6,574	D	D
Computers and peripheral equipment	3341	1,386	1,386	*
Communications equipment	3342	494	494	0
Semiconductor and other electronic components	3344	912	910	2
Navigational, measuring, electromedical, and control instruments	3345	3,494	D	D
Other computer and electronic products	other 334	287	287	0
Electrical equipment, appliances, and components	335	497	497	*
Transportation equipment	336	3,859	D	D
Motor vehicles, trailers, and parts	3361-63	3,349	3,343	6
Aerospace products and parts	3364	450	D	D
Other transportation equipment	other 336	60	60	0
Miscellaneous manufacturing	339	1,028	1,028	0
Medical equipment and supplies	3391	970	970	0
Other miscellaneous manufacturing	other 339	57	57	0
Other manufacturing	313-16, 321, 337	D	D	0
Nonmanufacturing	21-23, 42, 44-81	8,156	8,143	13
Mining, extraction, and support activities	21	363	363	1
Wholesale trade	42	408	408	*
Information	51	1,593	1,592	1
Publishing	511	D	D	1
Newspaper, periodical, book, and database	5111	D	D	0
Software	5112	D	D	1
Telecommunications	517	4	4	0
Wired and wireless (except satellite)				
telecommunications carriers	5171, 5172	4	4	0
Satellite telecommunications	5174	0	0	0
Other telecommunications	other 517	0	0	0
Internet service providers, web				
search portals, and data processing services	518	0	0	0
Internet service providers and web search portals	5181	0	0	0
Data processing, hosting, and related services	5182	0	0	0
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	17	17	0
Professional, scientific, and technical services	54	4,931	4,929	2
Architectural, engineering, and related services	5413	177	176	*
Computer systems design and related services	5415	3,115	3,115	*
Scientific R&D services	5417	1,423	1,423	1

TABLE 80. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by industry and source of funds: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	215	215	*
Health care services	621–23	D	D	0
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	D	D	9

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 81. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by selected investing country/region and industry: SIRD 2007

(Millions of U.S. dollars)

Investing country/region	All industries	Manufacturing	Wholesale trade	Information	Professional, scientific, and technical services	Other
All countries/regions	37,323	29,167	408	1,593	4,931	1,224
Canada	1,887	325	D	D	935	D
Europe	27,390	22,480	109	501	3,600	699
Belgium	297	269	7	0	D	D
Denmark	430	D	0	0	D	0
Finland	399	386	0	0	0	13
France	5,442	2,646	D	96	2,557	D
Germany	6,000	5,789	39	D	5	D
Ireland	266	D	5	5	D	0
Italy	251	D	*	0	0	D
Netherlands	1,569	1,515	D	0	13	D
Norway	39	21	0	0	19	0
Sweden	412	376	D	D	0	0
Switzerland	5,790	5,069	5	2	694	20
United Kingdom	6,307	5,365	7	D	266	D
Other	188	D	D	D	0	D
Latin America and other						
Western Hemisphere	1,736	1,172	3	4	D	D
Mexico	4	4	0	0	0	0
Other	1,732	1,168	3	4	D	D
Africa	D	D	0	0	0	0
Middle East	147	D	D	4	0	0
Israel	67	67	0	0	0	0
Other	80	D	D	4	0	0
Asia and Pacific	5,059	4,020	205	D	D	D
Australia	84	69	0	0	7	8
China	0	0	0	0	0	0
India	4	4	0	0	0	0
Japan	4,530	3,544	D	D	D	D
Singapore	78	78	1	0	0	0
South Korea	231	D	D	0	0	0
Taiwan	36	D	D	2	D	0
Other ^a	95	95	0	0	0	0
Other ^b	D	D	D	D	1	3

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes Hong Kong.

^b Includes affiliates whose immediate parent is located outside United States but whose ultimate owner is U.S. company.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry sector classification based on SIRD data. Investing country/region classification based on FDIUS survey data. Investing country is country of ultimate beneficial owner, entity that ultimately owns or controls U.S. affiliate.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 82. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2007
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
All states	37,323	1,887	5,442	6,000	4,530	1,569	5,790	6,307	5,799
Alabama	64	0	4	12	21	*	8	2	18
Alaska	3	0	0	0	0	2	0	1	0
Arizona	237	47	D	45	38	D	1	20	16
Arkansas	29	0	*	D	12	0	0	4	D
California	5,347	203	236	398	1,041	147	D	432	D
Colorado	513	14	1	D	7	205	4	20	D
Connecticut	1,583	0	66	1,305	2	D	4	33	D
Delaware	D	0	0	0	D	0	5	D	0
District of Columbia	1	0	0	0	0	0	0	1	*
Florida	358	2	21	D	2	38	7	98	D
Georgia	269	1	3	23	25	19	3	32	163
Hawaii	D	0	0	D	0	0	D	0	0
Idaho	15	0	0	*	0	0	D	D	D
Illinois	1,232	12	33	110	752	43	11	186	85
Indiana	483	7	9	58	20	0	5	375	8
Iowa	101	*	D	36	2	0	D	4	D
Kansas	305	D	D	23	0	3	1	*	157
Kentucky	88	0	6	22	18	D	17	7	D
Louisiana	43	0	0	D	0	D	1	0	D
Maine	20	0	0	1	0	0	0	4	15
Maryland	483	D	D	5	78	0	*	218	94
Massachusetts	1,797	288	125	43	124	D	741	140	D
Michigan	2,512	40	84	1,805	359	31	14	50	130
Minnesota	622	12	2	53	D	1	D	33	D
Mississippi	7	0	0	D	2	2	*	2	D
Missouri	192	D	44	48	31	0	5	19	D
Montana	D	0	0	0	0	0	0	0	D
Nebraska	73	D	*	0	4	0	D	*	D
Nevada	30	0	0	0	D	0	0	2	D
New Hampshire	D	0	7	23	10	D	0	D	D
New Jersey	4,851	27	D	411	505	D	2,254	392	D
New Mexico	8	1	1	D	0	0	0	0	D
New York	763	331	36	45	84	D	32	59	D
North Carolina	1,813	D	124	506	66	8	73	D	D
North Dakota	31	0	0	0	0	0	0	*	31
Ohio	1,119	D	47	132	572	D	130	53	D
Oklahoma	28	0	0	1	*	*	3	3	21
Oregon	212	0	23	116	5	3	3	1	61
Pennsylvania	2,804	58	590	345	62	14	11	1,462	262
Rhode Island	92	0	*	0	3	D	1	9	D
South Carolina	448	0	D	46	12	0	1	10	D
South Dakota	1	0	0	0	0	0	1	*	0
Tennessee	235	2	D	76	16	3	2	59	D
Texas	2,345	D	171	39	92	D	D	193	D
Utah	52	0	5	D	9	1	0	*	D
Vermont	17	0	0	0	D	D	D	0	0
Virginia	303	D	D	18	5	D	13	27	74
Washington	527	D	10	D	70	D	23	106	154

TABLE 82. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by state and selected investing country: SIRD 2007
(Millions of U.S. dollars)

State	All countries	Canada	France	Germany	Japan	Netherlands	Switzerland	United Kingdom	Other
West Virginia	18	D	2	D	0	0	5	6	D
Wisconsin	194	D	37	32	D	21	4	5	58
Wyoming	5	0	0	0	0	5	0	0	0
Undistributed ^a	3,585	15	2,157	47	417	0	9	94	848

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Investing country classification based on FDIUS survey data. State location based on SIRD data.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 83. R&D performance by matched majority-owned U.S. affiliates of foreign companies, by technology area: SIRD 2007

(Millions of U.S. dollars)

Technology area	R&D performance
All areas	37,323
Biotechnology	3,767
Materials	2,141
Software development	2,739
Other and undistributed	28,676

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 84. Company funds from matched majority-owned U.S. affiliates of foreign companies for R&D performed in the United States but outside of company facilities, by type of organization: SIRD 2007

(Millions of U.S. dollars)

Type of organization	Company-funded ^a R&D performed outside company facilities
All organizations	3,334
For-profit companies	3,097
Universities or colleges	77
Nonprofits other than universities or colleges	16
Other and undistributed	145

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 85. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2007

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	1,389,097
Manufacturing	31–33	1,180,062
Food	311	42,071
Beverage and tobacco products	312	12,612
Paper, printing, and support activities	322, 323	D
Petroleum and coal products	324	D
Chemicals	325	237,701
Basic chemicals	3251	64,814
Resin, synthetic rubber, fibers, and filament	3252	15,600
Pharmaceuticals and medicines	3254	111,745
Other chemicals	other 325	45,542
Plastics and rubber products	326	31,062
Nonmetallic mineral products	327	20,057
Primary metals	331	37,078
Fabricated metal products	332	22,936
Machinery	333	51,656
Computer and electronic products	334	166,674
Computers and peripheral equipment	3341	32,499
Communications equipment	3342	10,156
Semiconductor and other electronic components	3344	48,576
Navigational, measuring, electromedical, and control instruments	3345	60,170
Other computer and electronic products	other 334	15,274
Electrical equipment, appliances, and components	335	26,110
Transportation equipment	336	298,511
Motor vehicles, trailers, and parts	3361–63	280,332
Aerospace products and parts	3364	10,222
Other transportation equipment	other 336	7,958
Miscellaneous manufacturing	339	20,352
Medical equipment and supplies	3391	16,402
Other miscellaneous manufacturing	other 339	3,950
Other manufacturing	313–16, 321, 337	4,377
Nonmanufacturing	21–23, 42, 44–81	209,035
Mining, extraction, and support activities	21	12,400
Wholesale trade	42	52,155
Information	51	40,144
Publishing	511	D
Newspaper, periodical, book, and database	5111	D
Software	5112	12,425
Telecommunications	517	D
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	D
Satellite telecommunications	5174	0
Other telecommunications	other 517	0
Internet service providers, web search portals, and data processing services	518	0
Internet service providers and web search portals	5181	0
Data processing, hosting, and related services	5182	0
Other information	other 51	D
Finance, insurance, and real estate	52, 53	3,439
Professional, scientific, and technical services	54	38,888
Architectural, engineering, and related services	5413	D
Computer systems design and related services	5415	16,208
Scientific R&D services	5417	7,313

TABLE 85. Domestic net sales by matched majority-owned U.S. affiliates of foreign companies, by industry: SIRD 2007

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	D
Health care services	621-23	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 86. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by character of work: SIRD 2007

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,367	255,806	184,935	70,870
Basic research	1,978	10,867	9,462	1,405
Applied research	4,698	51,761	37,893	13,868
Development	9,318	193,177	137,580	55,598
SIRD matched majority-owned U.S. affiliates				
All R&D	967	37,323	29,167	8,156
Basic research	311	1,631	1,528	104
Applied research	519	7,409	6,028	1,381
Development	896	28,282	21,611	6,671
Matched as percent of SIRD sample (%)				
All R&D	9.3	14.6	15.8	11.5
Basic research	15.7	15.0	16.1	7.4
Applied research	11.0	14.3	15.9	10.0
Development	9.6	14.6	15.7	12.0

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity, only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 87. R&D performance by matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies, by source of funds: SIRD 2007

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,367	255,806	184,935	70,870
Company ^b	10,227	226,832	162,536	64,296
Federal government	838	28,974	22,400	6,574
SIRD matched majority-owned U.S. affiliates				
All R&D	967	37,323	29,167	8,156
Company ^b	966	35,699	27,556	8,143
Federal government	38	1,624	1,611	13
Matched as percent of SIRD sample (%)				
All R&D	9.3	14.6	15.8	11.5
Company ^b	9.4	15.7	17.0	12.7
Federal government	4.5	5.6	7.2	0.2

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS survey data. Majority-owned classification based on FDIUS data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 88. Employees in matched majority-owned U.S. affiliates of foreign companies and SIRD sample companies: SIRD 2007

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,827	16,306	8,988	7,318
R&D (FTE) employees	10,369	1,016	687	329
SIRD matched majority-owned U.S. affiliates				
All employees	976	2,124	1,621	503
R&D (FTE) employees	967	137	109	28
		Matched as percent of SIRD sample (%)		
All employees	9.0	13.0	18.0	6.9
R&D (FTE) employees	9.3	13.5	15.9	8.5

BEA = Bureau of Economic Analysis; FDIUS = Foreign Direct Investment in the United States; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from FDIUS survey (conducted by BEA). Majority-owned classification based on FDIUS data. SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. U.S. affiliate data were matched to data for companies included in SIRD sample. Data presented in this table cover only affiliates included in sample; that is, matched U.S. affiliate data have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 89. Summary SIRD data for matched U.S. parent companies: 2007

Characteristic	Companies ^a	All industries	Manufacturing	Nonmanufacturing
		(US\$millions)		
All R&D performance	1,512	192,410	147,054	45,356
Character of work				
Basic research	443	8,649	8,007	641
Applied research	817	37,422	30,122	7,301
Development	1,401	146,339	108,925	37,414
Source of funds				
Company ^b	1,510	168,557	126,912	41,645
Federal government	137	23,853	20,142	3,711
		Employees (1,000s)		
All employees	1,530	11,236	6,627	4,609
R&D (FTE) employees	1,512	742	534	208

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by NSF and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. A total of 1,586 companies in SIRD were matched to U.S. parent companies from USDIA survey. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 90. Character of work distribution of R&D performance by matched U.S. parent companies: USDIA survey and SIRD 2007

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
All R&D performance				
USDIA survey	1,078	197,979	154,779	43,200
SIRD	1,512	192,410	147,054	45,356
Character of work (SIRD)				
Basic research	443	8,649	8,007	641
Applied research	817	37,422	30,122	7,301
Development	1,401	146,339	108,925	37,414
		Percent distribution		
All R&D performance (SIRD)	na	100.0	100.0	100.0
Basic research	na	4.5	5.4	1.4
Applied research	na	19.4	20.5	16.1
Development	na	76.1	74.1	82.5

na = not applicable.

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Detail may not add to total because of rounding.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 91. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
All industries	21–23, 31–33, 42, 44–81	192,410	8,649	37,422	146,339
Manufacturing	31–33	147,054	8,007	30,122	108,925
Food	311	2,241	135	447	1,660
Beverage and tobacco products	312	130	1	75	54
Paper, printing, and support activities	322, 323	3,610	67	562	2,981
Petroleum and coal products	324	1,622	167	1,267	188
Chemicals	325	38,998	3,382	8,750	26,865
Basic chemicals	3251	2,624	228	1,195	1,201
Resin, synthetic rubber, fibers, and filament	3252	849	86	385	378
Pharmaceuticals and medicines	3254	32,763	2,979	6,229	23,555
Other chemicals	other 325	2,762	89	942	1,731
Plastics and rubber products	326	1,250	76	165	1,009
Nonmetallic mineral products	327	878	80	254	544
Primary metals	331	575	41	162	372
Fabricated metal products	332	620	8	114	498
Machinery	333	7,923	35	1,148	6,740
Computer and electronic products	334	48,903	2,607	11,028	35,268
Computers and peripheral equipment	3341	5,101	53	455	4,593
Communications equipment	3342	8,811	D	D	6,411
Semiconductor and other electronic components	3344	15,747	391	4,332	11,024
Navigational, measuring, electromedical, and control instruments	3345	18,600	1,927	4,008	12,665
Other computer and electronic products	other 334	645	D	D	575
Electrical equipment, appliances, and components	335	1,377	31	230	1,116
Transportation equipment	336	34,334	1,226	5,155	27,953
Motor vehicles, trailers, and parts	3361–63	13,259	D	D	11,414
Aerospace products and parts	3364	16,399	472	3,263	12,663
Other transportation equipment	other 336	4,677	D	D	3,876
Miscellaneous manufacturing	339	3,615	134	610	2,871
Medical equipment and supplies	3391	3,008	130	557	2,321
Other miscellaneous manufacturing	other 339	607	4	52	550
Other manufacturing	313–16, 321, 337	976	16	155	804
Nonmanufacturing	21–23, 42, 44–81	45,356	641	7,301	37,414
Mining, extraction, and support activities	21	914	31	279	605
Wholesale trade	42	435	24	94	317
Information	51	23,527	D	D	21,075
Publishing	511	17,260	39	1,973	15,248
Newspaper, periodical, book, and database	5111	652	*	1	651
Software	5112	16,608	39	1,972	14,597
Telecommunications	517	D	D	D	D
Wired and wireless (except satellite) telecommunications carriers	5171, 5172	2,070	D	D	D
Satellite telecommunications	5174	0	0	0	0
Other telecommunications	other 517	D	D	D	D
Internet service providers, web search portals, and data processing services	518	3,438	0	D	D
Internet service providers and web search portals	5181	D	0	5	D
Data processing, hosting, and related services	5182	D	0	D	D
Other information	other 51	D	0	0	D
Finance, insurance, and real estate	52, 53	943	31	56	857
Professional, scientific, and technical services	54	17,145	412	4,457	12,275
Architectural, engineering, and related services	5413	2,447	D	D	2,155
Computer systems design and related services	5415	9,541	D	D	8,462

TABLE 91. R&D performance by matched U.S. parent companies, by industry and character of work: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Character of work		
			Basic research	Applied research	Development
Scientific R&D services	5417	4,955	26	3,417	1,513
Other professional, scientific, and technical services	other 54	202	2	53	146
Health care services	621-23	8	1	3	4
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	2,385	D	D	2,282

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 92. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2007

(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
All industries	21-23, 31-33, 42, 44-81	192,410	168,557	23,853
Manufacturing	31-33	147,054	126,912	20,142
Food	311	2,241	2,239	2
Beverage and tobacco products	312	130	130	0
Paper, printing, and support activities	322, 323	3,610	D	D
Petroleum and coal products	324	1,622	1,620	1
Chemicals	325	38,998	38,927	71
Basic chemicals	3251	2,624	2,598	25
Resin, synthetic rubber, fibers, and filament	3252	849	838	12
Pharmaceuticals and medicines	3254	32,763	32,741	22
Other chemicals	other 325	2,762	2,750	12
Plastics and rubber products	326	1,250	1,242	8
Nonmetallic mineral products	327	878	876	2
Primary metals	331	575	565	10
Fabricated metal products	332	620	D	D
Machinery	333	7,923	7,878	46
Computer and electronic products	334	48,903	40,084	8,819
Computers and peripheral equipment	3341	5,101	D	D
Communications equipment	3342	8,811	D	D
Semiconductor and other electronic components	3344	15,747	D	D
Navigational, measuring, electromedical, and control instruments	3345	18,600	10,050	8,550
Other computer and electronic products	other 334	645	645	0
Electrical equipment, appliances, and components	335	1,377	1,365	12
Transportation equipment	336	34,334	23,221	11,113
Motor vehicles, trailers, and parts	3361-63	13,259	D	D
Aerospace products and parts	3364	16,399	8,789	7,610
Other transportation equipment	other 336	4,677	D	D
Miscellaneous manufacturing	339	3,615	3,615	*
Medical equipment and supplies	3391	3,008	3,008	*
Other miscellaneous manufacturing	other 339	607	607	0
Other manufacturing	313-16, 321, 337	976	975	*
Nonmanufacturing	21-23, 42, 44-81	45,356	41,645	3,711
Mining, extraction, and support activities	21	914	D	D
Wholesale trade	42	435	435	0
Information	51	23,527	D	D
Publishing	511	17,260	17,258	3
Newspaper, periodical, book, and database	5111	652	652	0
Software	5112	16,608	16,606	3
Telecommunications	517	D	2,593	D
Wired and wireless (except satellite)				
telecommunications carriers	5171, 5172	2,070	D	D
Satellite telecommunications	5174	0	0	0
Other telecommunications	other 517	D	D	0
Internet service providers, web				
search portals, and data processing services	518	3,438	D	D
Internet service providers and web search portals	5181	D	D	0
Data processing, hosting, and related services	5182	D	D	D
Other information	other 51	D	D	0
Finance, insurance, and real estate	52, 53	943	943	0
Professional, scientific, and technical services	54	17,145	13,676	3,468
Architectural, engineering, and related services	5413	2,447	D	D
Computer systems design and related services	5415	9,541	D	D
Scientific R&D services	5417	4,955	D	D

TABLE 92. R&D performance by matched U.S. parent companies, by industry and source of funds: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	All R&D performance	Source of funds	
			Company ^a	Federal government
Other professional, scientific, and technical services	other 54	202	202	0
Health care services	621-23	8	7	*
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	2,385	D	D

* = amount < \$500,000; D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 93. R&D performance by matched U.S. parent companies, by state: SIRD
2007

(Millions of U.S. dollars)

State	R&D performance
All states	192,410
Alabama	991
Alaska	10
Arizona	2,764
Arkansas	162
California	43,453
Colorado	3,800
Connecticut	7,212
Delaware	858
District of Columbia	189
Florida	2,817
Georgia	1,451
Hawaii	100
Idaho	543
Illinois	8,291
Indiana	3,943
Iowa	810
Kansas	792
Kentucky	599
Louisiana	144
Maine	123
Maryland	1,264
Massachusetts	13,939
Michigan	13,193
Minnesota	4,615
Mississippi	126
Missouri	1,717
Montana	27
Nebraska	268
Nevada	229
New Hampshire	1,376
New Jersey	12,746
New Mexico	287
New York	6,833
North Carolina	4,536
North Dakota	71
Ohio	4,573
Oklahoma	285
Oregon	2,795
Pennsylvania	7,943
Rhode Island	255
South Carolina	923
South Dakota	20
Tennessee	852
Texas	10,016
Utah	606
Vermont	306
Virginia	2,663
Washington	10,413

TABLE 93. R&D performance by matched U.S. parent companies, by state: SIRD 2007

(Millions of U.S. dollars)

State	R&D performance
West Virginia	123
Wisconsin	2,057
Wyoming	8
Undistributed ^a	8,293

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Could not be distributed among table categories.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 94. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2007
(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
All industries	21–23, 31–33, 42, 44–81	5,169,746
Manufacturing	31–33	3,505,508
Food	311	332,774
Beverage and tobacco products	312	38,244
Paper, printing, and support activities	322, 323	174,700
Petroleum and coal products	324	509,086
Chemicals	325	483,815
Basic chemicals	3251	131,953
Resin, synthetic rubber, fibers, and filament	3252	36,378
Pharmaceuticals and medicines	3254	224,177
Other chemicals	other 325	91,307
Plastics and rubber products	326	67,753
Nonmetallic mineral products	327	32,071
Primary metals	331	101,503
Fabricated metal products	332	46,653
Machinery	333	199,444
Computer and electronic products	334	466,456
Computers and peripheral equipment	3341	98,374
Communications equipment	3342	57,938
Semiconductor and other electronic components	3344	117,828
Navigational, measuring, electromedical, and control instruments	3345	177,306
Other computer and electronic products	other 334	15,010
Electrical equipment, appliances, and components	335	58,931
Transportation equipment	336	782,835
Motor vehicles, trailers, and parts	3361–63	475,817
Aerospace products and parts	3364	237,820
Other transportation equipment	other 336	69,198
Miscellaneous manufacturing	339	143,381
Medical equipment and supplies	3391	128,003
Other miscellaneous manufacturing	other 339	15,379
Other manufacturing	313–16, 321, 337	67,861
Nonmanufacturing	21–23, 42, 44–81	1,664,238
Mining, extraction, and support activities	21	142,088
Wholesale trade	42	46,955
Information	51	521,586
Publishing	511	102,077
Newspaper, periodical, book, and database	5111	24,509
Software	5112	77,568
Telecommunications	517	338,681
Wired and wireless (except satellite)		
telecommunications carriers	5171, 5172	258,606
Satellite telecommunications	5174	0
Other telecommunications	other 517	80,075
Internet service providers, web search portals, and data processing services	518	D
Internet service providers and web search portals	5181	D
Data processing, hosting, and related services	5182	19,489
Other information	other 51	D
Finance, insurance, and real estate	52, 53	318,814
Professional, scientific, and technical services	54	222,170
Architectural, engineering, and related services	5413	27,241
Computer systems design and related services	5415	168,130
Scientific R&D services	5417	14,971

TABLE 94. Domestic net sales by matched U.S. parent companies, by industry: SIRD 2007

(Millions of U.S. dollars)

Industry	NAICS codes	Domestic net sales
Other professional, scientific, and technical services	other 54	11,828
Health care services	621–23	D
Other nonmanufacturing	22, 23, 44, 45, 48, 49, 55, 56, 61, 624, 71, 72, 81	D

D = suppressed to avoid disclosure of confidential information.

BEA = Bureau of Economic Analysis; NAICS = North American Industry Classification System; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 95. R&D performance by matched U.S. parent companies and SIRD sample companies, by character of work: SIRD 2007

Character of work	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,367	255,806	184,935	70,870
Basic research	1,978	10,867	9,462	1,405
Applied research	4,698	51,761	37,893	13,868
Development	9,318	193,177	137,580	55,598
SIRD matched U.S. parent companies				
All R&D	1,512	192,410	147,054	45,356
Basic research	443	8,649	8,007	641
Applied research	817	37,422	30,122	7,301
Development	1,401	146,339	108,925	37,414
Matched as percent of SIRD sample (%)				
All R&D	14.6	75.2	79.5	64.0
Basic research	22.4	79.6	84.6	45.6
Applied research	17.4	72.3	79.5	52.6
Development	15.0	75.8	79.2	67.3

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 96. R&D performance by matched U.S. parent companies and SIRD sample companies, by source of funds: SIRD 2007

Source of funds	Companies ^a	R&D performance (US\$millions)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All R&D	10,367	255,806	184,935	70,870
Company ^b	10,227	226,832	162,536	64,296
Federal government	838	28,974	22,400	6,574
SIRD matched U.S. parent companies				
All R&D	1,512	192,410	147,054	45,356
Company ^b	1,510	168,557	126,912	41,645
Federal government	137	23,853	20,142	3,711
Matched as percent of SIRD sample (%)				
All R&D	14.6	75.2	79.5	64.0
Company ^b	14.8	74.3	78.1	64.8
Federal government	16.3	82.3	89.9	56.4

BEA = Bureau of Economic Analysis; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

^b Includes company and other nonfederal sources.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, data for matched U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 97. Employees in matched U.S. parent companies and SIRD sample companies: SIRD 2007

Characteristic	Companies ^a	Employees (1,000s)		
		All industries	Manufacturing	Nonmanufacturing
SIRD sample companies				
All employees	10,827	16,306	8,988	7,318
R&D (FTE) employees	10,369	1,016	687	329
SIRD matched U.S. parent companies				
All employees	1,530	11,236	6,627	4,609
R&D (FTE) employees	1,512	742	534	208
Matched as percent of SIRD sample (%)				
All employees	14.1	68.9	73.7	63.0
R&D (FTE) employees	14.6	73.0	77.7	63.2

BEA = Bureau of Economic Analysis; FTE = full-time equivalent; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies in all industries reporting non-zero value for item.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. SIRD is a sample survey, with sample stratified by size and industry. Estimates for total U.S. industrial R&D activity published elsewhere are computed by weighting data in SIRD sample to universe totals. Data for SIRD sample companies in this table do not cover total U.S. industrial R&D activity; data cover only companies included in SIRD sample. Data for U.S. parent companies were matched to data for companies included in SIRD sample. Data presented in this table cover only parent companies included in sample; that is, matched data for U.S. parent companies have not been weighted, so they do not represent universe of all such companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 98. Summary BEA USDIA survey data for majority-owned foreign affiliates of matched U.S. parent companies, by selected host country: 2007

Host country	Matched U.S. parent companies ^a	MOFAs			
		Number	R&D performed (US\$millions)	Employees (1,000s)	
				All	R&D
All host countries	587	3,589	32,762	2,669	NA
Brazil	78	96	598	143	NA
Canada	201	249	2,478	219	NA
China	105	173	1,146	189	NA
France	166	250	1,445	150	NA
Germany	219	370	6,216	302	NA
India	48	60	353	70	NA
Ireland	53	72	1,503	35	NA
Israel	27	34	934	28	NA
Italy	116	157	563	76	NA
Japan	123	148	1,739	75	NA
Mexico	81	104	290	130	NA
Singapore	57	62	547	40	NA
Sweden	60	71	1,584	46	NA
United Kingdom	268	412	5,659	278	NA
Other	350	1,331	7,707	888	NA

NA = not available.

BEA = Bureau of Economic Analysis; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Matched U.S. parent companies that owned R&D-performing MOFAs; that is, matched parent companies that owned at least one MOFA with a non-zero value for R&D performed. Each matched parent company is counted once in the all-host countries total, and also counted once in each country in which it has a MOFA that performed R&D. Because a parent company may have R&D performing MOFAs in more than one country, the sum across countries exceeds total for all host countries.

NOTE: Data from USDIA survey (conducted by BEA) matched to data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau).

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

TABLE 99. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2007

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
All industries						
Sales ^c	1,527	5,169,746	1,540	5,279,250	3,573	1,283,649
R&D performed	1,512	192,410	1,078	197,979	3,589	32,762
Character of work (SIRD)						
Basic research	443	8,649	na	na	na	na
Applied research	817	37,422	na	na	na	na
Development	1,401	146,339	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,510	168,557	na	na	na	na
Federally funded R&D	137	23,853	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	435	9,997	na	na	na	na
Overseas	647	41,829	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,530	11,236	1,539	11,478	3,514	2,669
R&D employees ^h	1,512	742	NA	NA	NA	NA
Manufacturing						
Sales ^c	1,156	3,505,508	1,121	3,421,534	3,141	1,144,475
R&D performed	1,147	147,054	815	155,210	3,157	28,555
Character of work (SIRD)						
Basic research	353	8,007	na	na	na	na
Applied research	660	30,122	na	na	na	na
Development	1,064	108,925	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	1,145	126,912	na	na	na	na
Federally funded R&D	110	20,142	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	322	8,374	na	na	na	na
Overseas	480	32,696	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	1,158	6,627	1,120	6,670	3,091	2,184
R&D employees ^h	1,147	534	NA	NA	NA	NA

TABLE 99. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2007

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b	Companies ^a	US\$millions, employees (1,000s) ^b
Wholesale trade						
Sales ^c	48	46,955	100	606,701	99	35,909
R&D performed	47	435	69	6,083	99	257
Character of work (SIRD)						
Basic research	8	24	na	na	na	na
Applied research	19	94	na	na	na	na
Development	40	317	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	47	435	na	na	na	na
Federally funded R&D	0	0	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	9	3	na	na	na	na
Overseas	17	169	na	na	na	na
R&D performed by others ^g (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	48	78	100	661	97	69
R&D employees ^h	47	2	NA	NA	NA	NA
Nonmanufacturing, excluding wholesale trade						
Sales ^c	323	1,617,283	319	1,251,016	333	103,265
R&D performed	318	44,921	194	36,686	333	3,950
Character of work (SIRD)						
Basic research	82	617	na	na	na	na
Applied research	138	7,207	na	na	na	na
Development	297	37,097	na	na	na	na
Source of funding (SIRD)						
Company-funded R&D ^d	318	41,210	na	na	na	na
Federally funded R&D	27	3,711	na	na	na	na
Source of funding (USDIA survey)						
R&D performed for federal government	na	na	NA	NA	NA	NA
R&D performed for themselves	na	na	NA	NA	NA	NA
R&D performed for foreign affiliates ^e	na	na	NA	NA	NA	NA
R&D performed for others	na	na	NA	NA	NA	NA
R&D performed by others ^f (SIRD)						
In the United States	104	1,620	na	na	na	na
Overseas	150	8,964	na	na	na	na

TABLE 99. Summary SIRD and BEA USDIA survey data for matched U.S. parent companies and their majority-owned foreign affiliates: 2007

Characteristic	U.S. parent companies				MOFAs	
	NSF/Census SIRD		BEA USDIA survey		BEA USDIA survey	
	US\$millions,		US\$millions,		US\$millions,	
	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b	Companies ^a	employees (1,000s) ^b
R&D performed by others ^d (USDIA survey)						
U.S. parent companies	na	na	NA	NA	NA	NA
MOFA's	na	na	NA	NA	NA	NA
Employees	324	4,531	319	4,147	326	416
R&D employees ^h	318	205	NA	NA	NA	NA

na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; NSF = National Science Foundation; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b Counts of employees are in the 1,000s; all other values are in millions of U.S. dollars.

^c Sales by U.S. parent companies include sales to MOFAs and to other parent companies; sales by MOFAs include sales to parent companies and to other MOFAs. An MNC-wide total for sales cannot be derived by adding parent company sales and MOFA sales because transactions among and within MNCs would be duplicated.

^d Includes company and other nonfederal sources.

^e For MOFAs, consists of R&D performed for other foreign affiliates or for U.S. parent companies.

^f R&D performed by others is company funded.

^g R&D performed by others is company funded. For U.S. parent companies, consists of R&D performed for parent companies by others in United States and overseas, including by foreign affiliates. For MOFAs, consists of R&D performed for MOFAs by U.S. parent companies and other U.S. or foreign companies.

^h In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. Industry data for U.S. parent companies from SIRD are as classified by Census Bureau. Industry data for U.S. parent companies and MOFAs from USDIA survey are as classified by BEA. In SIRD, 1,586 parent companies were linked to USDIA survey; of these, 1,199 were classified in manufacturing industries, 53 were classified in wholesale trade industries, and 334 were classified in nonmanufacturing industries, excluding wholesale trade. In USDIA survey, 1,540 parent companies were linked to SIRD; of these, 1,121 were classified in manufacturing industries, 100 were classified in whole trade industries, and 319 were classified in nonmanufacturing industries, excluding wholesale trade. MOFA data from USDIA survey cover affiliates with a non-zero value for R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004-07.

TABLE 100. Combined SIRD and BEA USDIA survey data on R&D performance and employees of matched U.S. parent companies and their majority-owned foreign affiliates: 2007

Characteristics	R&D performance		Employees			
	Companies ^a	Expenditures (US\$millions)	Companies ^a	All (1,000s)	Companies ^a	R&D ^b (1,000s)
U.S. parent companies (SIRD)						
All industries	1,512	192,410	1,530	11,236	1,512	742
Manufacturing	1,147	147,054	1,158	6,627	1,147	534
Nonmanufacturing	365	45,356	372	4,609	365	208
MOFAs (USDIA survey)						
All industries	3,589	32,762	3,514	2,669	NA	NA
Manufacturing	3,157	28,555	3,091	2,184	NA	NA
Nonmanufacturing	432	4,207	423	485	NA	NA
U.S. MNCs						
All industries	na	225,172	na	13,905	na	NA
Manufacturing	na	175,609	na	8,811	na	NA
Nonmanufacturing	na	49,563	na	5,094	na	NA
MOFAs/U.S. MNCs (%)						
All industries	na	14.5	na	19.2	na	NA
Manufacturing	na	16.3	na	24.8	na	NA
Nonmanufacturing	na	8.5	na	9.5	na	NA

na = not applicable; NA = not available.

BEA = Bureau of Economic Analysis; MNC = multinational company; MOFA = majority-owned foreign affiliate; SIRD = Survey of Industrial Research and Development; USDIA = U.S. Direct Investment Abroad.

^a Companies reporting non-zero value for item.

^b In SIRD, R&D employees are reported as full-time equivalent employment. In USDIA survey, R&D employees are reported as full- and part-time employees who devote a majority of their time to R&D.

NOTES: Data from SIRD (cosponsored by National Science Foundation and U.S. Census Bureau) matched to data from USDIA survey (conducted by BEA). SIRD data presented are aggregations of unweighted microdata. MOFA data cover R&D performing affiliates of matched U.S. parent companies.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

Appendix. Technical Notes

Scope of Linked Surveys

The three surveys included in this project are the National Science Foundation (NSF)/U.S. Census Bureau's (Census's) Survey of Industrial Research and Development (SIRD) and the Bureau of Economic Analysis's (BEA's) surveys of Foreign Direct Investment in the United States (FDIUS) and U.S. Direct Investment Abroad (USDIA). These surveys cover for-profit companies on a fully consolidated domestic (U.S.) basis and use comparable definitions and accounting guidance for research and development expenditures. Certain measurement differences in other variables do not significantly impair the comparability of the data. For example, R&D employment data from SIRD are based on full-time equivalents (FTEs), whereas R&D employment data from the FDIUS and USDIA surveys are based on counts of full-time and part-time employees who devote the majority of their time to R&D activities (see "Definitions"). Another difference between the surveys is that the NSF/Census data are collected on a calendar-year basis, whereas the BEA data are collected on a (company) fiscal year basis.

Differences in industry classification, however, remain to be investigated. The NSF/Census data classify companies based on industry distribution of payroll, whereas BEA data classify companies based on sales by industry. In this publication, tabulations with industrial sector or industry-specific data present information from a given survey source as indicated in appropriate tables.

SIRD

SIRD is a nationally representative sample of all for-profit companies with five or more employees, publicly or privately held, that performed R&D within the 50 United States and the District of Columbia. The primary focus of the survey is U.S. industry as a performer of R&D rather than as a source of funds. The reporting unit is the company, defined as a business organization of one or more establishments under common ownership or control.

SIRD statistics include total R&D, the portion of the total financed by the federal government, and the portion financed by the companies themselves or by other nonfederal sources, such as state and local governments or other industrial firms under contract or subcontract. Total R&D is also separated into the types of costs, including wages and fringe benefits of R&D staff, materials and supplies, depreciation, and other costs. Other statistics include R&D financed by domestic firms but performed outside the 50 U.S. states and the District of Columbia, R&D performed by organizations outside the firm, R&D performed in collaboration with other organizations, and the funds spent to perform energy-related R&D. It also provides information on R&D-performing firms, including domestic net sales, number of employees, number of R&D-performing scientists and engineers, geographic location where the R&D was performed, and R&D funds spent per R&D-performing scientist and engineer. For SIRD survey forms see "Questionnaire(s)" at <http://www.nsf.gov/statistics/srvyindustry/>. For SIRD methodology and sample information see the "Technical Notes" section in the 2004, 2005, and 2006–07 reports for *Research and Development in Industry* (2004, <http://www.nsf.gov/statistics/nsf09301/>; 2005, <http://www.nsf.gov/statistics/nsf10319/>; and 2006–07, <http://www.nsf.gov/statistics/nsf11301/>).

BEA surveys

BEA conducts the FDIUS and USDIA surveys annually and conducts more comprehensive FDIUS and USDIA benchmark surveys every 5 years. For FDIUS, 2004, 2005, and 2006 were annual survey years and 2007 was a benchmark year. For USDIA, 2004 was a benchmark year and 2005–07 were annual survey years. These surveys provide financial and operating data, including total R&D expenditures and R&D employment. The FDIUS survey covers U.S. (i.e., U.S.-located) affiliates of foreign multinational corporations, whereas the USDIA survey covers U.S. parent companies and their foreign affiliates. U.S. affiliates and U.S. parent companies must file on a fully consolidated domestic (U.S.) basis. For the purpose

of the BEA international surveys, the United States includes the District of Columbia, Puerto Rico, and other U.S. territories and possessions. For methodology details on BEA surveys see http://www.bea.gov/methodologies/index.htm#international_meth.

Link Methodology

General Observations

The linked data resulted from matching SIRD separately to the two BEA surveys (FDIUS and USDIA surveys) for a given survey year. (No linking was performed across years.) SIRD companies were matched to majority-owned U.S. affiliates from the FDIUS survey (tables 1–13 [year 2004], 26–38 [2005], 51–63 [2006], and 76–88 [2007]) and were then separately matched to parent companies of U.S. multinational companies (MNCs) from the USDIA survey (tables 14–25 [2004], 39–50 [2005], 64–75 [2006], and 89–100 [2007]). BEA matched data cover majority-owned, nonbank U.S. affiliates and parent companies of U.S. MNCs. The link between any two surveys was performed in two basic steps.

The first step was a computer match of the BEA records to Census's Business Register (BR), a database covering all U.S. businesses with paid employees. The BR includes companies and their establishments, and it contains records of company names, addresses, and other identifying information, as well as key economic data obtained from Census surveys and administrative records. The computer match was made using Employer Identification Numbers (EINs) that are reported in BEA surveys and included in the BR. EINs are used by companies and their establishments when they file federal and state payroll and income taxes.[1]

For companies that did not link in the computer match of EINs, other identification information, such as names and addresses, was used to link U.S. affiliates and U.S. parent companies to BR companies.

The second step was to link BEA identification codes (IDs) that were matched to the BR and link them to the SIRD using Census IDs obtained from the BR and used in SIRD processing. Additional steps were required to verify the matches, evaluate the accuracy of the matched data, and tabulate the matched data. The link also allowed identifying corrections or updates based on cross-survey information. Table A1 provides a summary of company counts.

TABLE A1. Summary of company counts

Company counts	2004	2005	2006	2007
Published SIRD (U.S.-located for-profit companies)				
Companies in frame	1.9 million	1.9 million	1.8 million	1.9 million
Consolidated companies in sample	31,916	31,847	31,913	31,766
Unweighted number of company respondents with non-zero R&D performance	8,000	8,980	9,379	9,491
FDIUS survey (U.S. affiliates)				
Consolidated U.S. affiliates	15,776	16,281	15,855	17,613
U.S. affiliates matched to Business Register	7,265	7,409	7,192	8,275
U.S. affiliates matched to SIRD	1,073	1,087	1,128	1,115
Unique SIRD companies matched to FDIUS	994	1,010	1,041	1,028
With non-zero R&D performance	907	962	977	967
USDIA survey (parent companies of U.S. MNCs)				
Consolidated U.S. parent companies	3,483	3,331	3,317	3,350
U.S. parent companies matched to Business Register	3,199	3,133	3,103	3,091
U.S. parent companies matched to SIRD	1,527	1,557	1,648	1,695
Unique SIRD companies matched to USDIA	1,505	1,531	1,596	1,586
With non-zero R&D performance	1,497	1,499	1,546	1,512

FDIUS = Foreign Direct Investment in the United States; SIRD = Survey of Industrial Research and Development; MNC = multinational company; USDIA = U.S. Direct Investment Abroad.

NOTES: Link consisted of matching data across surveys for a given year. No linking was performed across years. Year-to-year variation in this table may reflect a combination of factors: changes in the multinational status of companies (e.g., acquisition or divestiture by a parent company), changes in R&D-active status (e.g., a company may be an R&D performer in one year but not the next), or changes in coverage (e.g., a company not captured by a given survey in one year because of size thresholds or other reasons [hence not matched], but sampled and matched in another year). See coverage and related information for each survey in "Scope of Linked Surveys." Data in this table were extracted from flowcharts developed as part of this project. These flowcharts are available upon request from the author.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, U.S. Bureau of Economic Analysis, and U.S. Census Bureau. R&D Data Link Project, 2004–07.

2004

SIRD-FDIUS match

FDIUS-BR. The 2004 BEA FDIUS file contained information on 15,776 consolidated U.S. affiliates. Editing resulted in 12,942 U.S. affiliates, which were then matched to the BR using EINs. This resulted in 7,204 U.S. affiliates that were initially matched to the BR and 5,738 that were unmatched. U.S. affiliates that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using the name and address information for the BEA affiliate. This process resulted in an increase to 7,265 U.S. affiliates matched to the BR. The Census ID was merged onto the FDIUS file for these matched IDs.

FDIUS-SIRD. The 7,265 U.S. affiliates matched to the BR were in turn matched with 32,065 individual SIRD records using the Census ID available in the two files.[2] This process resulted in three subsets: 1,073 affiliates matched to the SIRD file, 6,208 affiliates not in the SIRD file (all but 370 affiliates had no R&D expenditures), and 31,071 SIRD records not in the FDIUS file. Information on the 370 U.S. affiliates that performed R&D and were not included in the SIRD file was used to improve SIRD sampling, but these affiliates were otherwise excluded from the data tables of the link project. The 1,073 matched affiliates included 994 unique companies in the SIRD file and 1,057 unique companies in the FDIUS

file as a result of differences in consolidation patterns. Of the 994 companies in the SIRD file, 907 had non-zero R&D performance in 2004.

SIRD-USDIA match

USDIA-BR. There were 3,483 consolidated U.S. parent companies from the BEA USDIA survey. This count was reduced to 3,395 after editing, and these companies were then matched to the BR. This resulted in 3,114 U.S. parent companies that were initially matched to the BR and 281 that were unmatched. U.S. parent companies that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using name and address information for the BEA parent company. This process resulted in an increase to 3,199 BEA parent companies matched to the BR. The Census ID was merged onto the USDIA file for these matched parent companies.

USDIA-SIRD. The 3,199 U.S. parent companies matched to the BR were in turn matched with 32,065 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,527 U.S. parent companies matched to the SIRD file, 1,672 U.S. parent companies not included in the SIRD file (all but 116 had no R&D expenditures), and 30,560 SIRD companies not in the USDIA survey file. Information on the 116 U.S. parent companies that were R&D performers not included in the SIRD file was used to improve SIRD sampling, but these companies were otherwise excluded from the data tables of the link project. The 1,527 matched U.S. parent companies included 1,505 SIRD companies due to differences in consolidation patterns. Of the 1,505 companies in the SIRD file, 1,497 had non-zero R&D performance in 2004.

2005

SIRD-FDIUS match

FDIUS-BR. The 2005 BEA FDIUS file contained information on 16,281 consolidated U.S. affiliates. Editing resulted in 13,039 U.S. affiliates, which were then matched to the BR using EINs. This resulted in 7,263 U.S. affiliates that were initially matched to the BR and 5,776 that were unmatched. U.S. affiliates that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR using the name and address information for the BEA affiliate. This process resulted in an increase to 7,409 U.S. affiliates matched to the BR. The Census ID was then merged onto the FDIUS file for these matched IDs.

FDIUS-SIRD. The 7,409 U.S. affiliates matched to the BR were in turn matched with 32,057 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,087 affiliates matched to the SIRD file, 6,339 affiliates not in the SIRD file (all but 405 affiliates had no R&D expenditures), and 31,047 SIRD records not in the FDIUS file. Information on the 405 U.S. affiliates that performed R&D and were not included in the SIRD files was used to improve SIRD sampling, but these affiliates were otherwise excluded from the data tables of the link project. The 1,087 matched affiliates included 1,010 unique SIRD companies and 1,070 unique companies in the FDIUS file as a result of differences in consolidation patterns. Of the 1,010 companies in the SIRD file, 962 had non-zero R&D performance in 2005.

SIRD-USDIA match

USDIA-BR. There were 3,331 consolidated U.S. parent companies from the BEA USDIA survey. This count was reduced to 3,266 after editing, and these companies were then matched to the BR. This resulted in 3,005 U.S. parent companies that were matched to the BR and 261 that were unmatched. U.S. parent companies that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using name and address information for the BEA parent company. This process resulted in an increase to 3,133 BEA parent companies matched to the BR. The Census ID was merged onto the USDIA file for these matched parent companies.

USDIA-SIRD. The 3,133 U.S. parent companies matched to the BR were in turn matched with 32,057 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,557 U.S. parent companies matched to SIRD; 1,604 U.S. parent companies not included in the SIRD file (all but 114 had no R&D expenditures), and 30,526 SIRD companies not in the USDIA file. Information on the 114 U.S. parent companies that were R&D performers that not included in the SIRD file was used to improve SIRD sampling, but these companies were otherwise excluded from the data tables of the link project. The 1,557 matched U.S. parent companies included 1,531 SIRD companies due to differences in consolidation patterns. Of the 1,531 companies in the SIRD file, 1,499 had non-zero R&D performance in 2005.

2006

SIRD-FDIUS match

FDIUS-BR. The 2006 BEA FDIUS file contained information on 15,855 consolidated U.S. affiliates. Editing resulted in 12,218 U.S. affiliates, which were then matched to the BR using EINs. This resulted in 7,161 U.S. affiliates that were initially matched to the BR and 5,057 that were unmatched. U.S. affiliates that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR using the name and address information for the BEA affiliate. This process resulted in an increase to 7,192 U.S. affiliates matched to the BR. The Census ID was then merged onto the FDIUS file for these matched IDs.

FDIUS-SIRD. The 7,192 affiliates matched to the BR were in turn matched with 31,992 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,128 affiliates matched to the SIRD file, 6,067 affiliates not in the SIRD file (all but 319 affiliates had no R&D expenditures), and 30,951 SIRD records not in the FDIUS file. Information on the 319 U.S. affiliates that performed R&D and were not included in the SIRD file was used to improve SIRD sampling, but these affiliates were otherwise excluded from the data tables of the link project. The 1,128 matched affiliates included 1,041 unique companies in the SIRD file and 1,125 unique companies in the FDIUS file as a result of differences in consolidation patterns. Of the 1,041 companies in the SIRD file, 977 had non-zero R&D performance in 2006.

SIRD-USDIA match

USDIA-BR. There were 3,317 consolidated U.S. parent companies from the BEA USDIA survey. This count was reduced to 3,250 after editing, and these companies were then matched to the BR. This resulted in 2,988 U.S. parent companies that were initially matched to the BR and 262 that were unmatched. U.S. parent companies that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using name and address information for the BEA parent company. This process resulted in an increase to 3,103 BEA parent companies matched to the BR. The Census ID was merged onto the BEA file for these matched parent companies.

USDIA-SIRD. The 3,103 U.S. parent companies matched to the BR were in turn matched with 31,992 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,648 U.S. parent companies matched to the SIRD file, 1,504 U.S. parent companies not included in the SIRD file (all but 58 had no R&D expenditures), and 30,396 SIRD companies not in the USDIA survey file. Information on the 58 U.S. parent companies that were R&D performers and were not included in the SIRD file was used to improve SIRD sampling, but these companies were otherwise excluded from the data tables of the link project. The 1,648 matched U.S. parent companies included 1,596 SIRD companies due to differences in consolidation patterns. Of the 1,596 companies in the SIRD file, 1,546 had non-zero R&D performance in 2006.

2007

SIRD-FDIUS match

FDIUS-BR. The 2007 BEA FDIUS file contained information on 17,613 consolidated U.S. affiliates. Editing resulted in 14,195 records, which were then matched to the BR using EINs. This resulted in 8,220 U.S. affiliates that were initially matched to the BR and 5,975 that were unmatched. U.S. affiliates that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using name and address information for the BEA affiliate. This process resulted in an increase to 8,275 U.S. affiliates matched to the BR. The Census ID was then merged onto the BEA file for these matched IDs.

FDIUS-SIRD. The 8,275 U.S. affiliates matched to the BR were in turn matched with 31,881 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,115 affiliates matched to the SIRD file, 7,167 affiliates not in the SIRD file (all but 425 affiliates had no R&D expenditures), and 30,853 SIRD records not in the FDIUS file. Information on the 425 U.S. affiliates that performed R&D and were not included in the SIRD file was used to improve SIRD sampling, but these affiliates were otherwise excluded from the data tables of the link project. The 1,115 matched affiliates included 1,028 unique companies in the SIRD file and 1,108 unique companies in the FDIUS file as a result of differences in consolidation patterns. Of the 1,028 companies in the SIRD file, 967 had non-zero R&D performance in 2007.

SIRD-USDIA match

USDIA-BR. There were 3,350 consolidated U.S. parent companies from the BEA USDIA survey. This count was reduced to 3,285 after editing, and these companies were then matched to the BR. This resulted in 3,026 U.S. parent companies that were initially matched to the BR and 259 that were unmatched. U.S. parent companies that did not match initially to the BR and that had more than \$1 billion in sales or had non-zero R&D expenditures were manually searched for in the BR by using name and address information for the BEA parent company. This process resulted in an increase to 3,091 BEA parent companies matched to the BR. The Census ID was merged onto the USDIA file for these matched parent companies.

USDIA-SIRD. The 3,091 U.S. parent companies matched to the BR were in turn matched with 31,881 individual SIRD records using the Census ID available in the two files. This process resulted in three subsets: 1,695 U.S. parent companies matched to the SIRD file, 1,551 U.S. parent companies not included in the SIRD file (all but 68 had no R&D expenditures), and 30,295 SIRD companies not included in the USDIA file. Information on the 68 U.S. parent companies that were R&D performers not included in the SIRD file was used to improve SIRD sampling, but these companies were otherwise excluded from the data tables of the link project. The 1,695 matched U.S. parent companies included 1,586 SIRD companies due to differences in consolidation patterns. Of the 1,586 companies in the SIRD file, 1,512 had non-zero R&D performance in 2007.

Validity Checks and Data Adjustments

At various points in the link process, Census, with input from NSF and BEA, reviewed or validated outputs prior to proceeding to the next step. Checks were made to confirm matches to the Census BR at the EIN level. For example, the BR match was examined in terms of names associated with matched EINs and the degree to which total employment from the BR and the BEA file agreed (e.g., within 5%, 10%, or 25%). The SIRD match was assessed by examining reported (or imputed) sales, R&D expenditures, total employment, and R&D employment for matched IDs.

Data discrepancies across surveys for matched companies were sorted by size to select cases to investigate and were discussed by analysts from the respective surveys. These cases were then corrected or determined to be unsolvable. Discrepancies with differences of \$100

million in R&D expenditures, \$5 billion in sales, 15,000 in total employment, and/or 2,000 in R&D employment were examined. Records that fell outside of the discrepancy review criteria were not investigated and were left as is. The criteria levels were set based on an examination of all discrepancies. A determination was made by NSF, BEA, and Census that these levels would have the largest impact on improving the quality of the matched data. Pre-correction and post-correction summary files, along with flowcharts documenting status of matched and unmatched records, were examined by project staff and assessed at interagency meetings.

Among the reasons for data discrepancies in matched companies across surveys were reporting errors and differences in company consolidation or composition. Some discrepancies occurred among matched records that had imputed data items in at least one of the linked surveys. Where available, reported data were used in lieu of imputed data for purposes of the link.

Data Comparability

General Observations

Matched R&D data from SIRD differ from total U.S. industry R&D data from SIRD, as published elsewhere by NSF, because linked data are subsets based on ownership categories obtained through links to the BEA surveys. Further, estimates for total U.S. industrial R&D activity are computed by weighting SIRD sample data to universe totals. Data from the link project are not weighted. Thus matched data presented here are obtained from simple aggregations of sample microdata, cover only matched companies, and do not represent the universe of all R&D-performing parent companies or U.S. affiliates. Lastly, matched data reflect updates and adjustments performed only for the purposes of the link project.

Data for matched parent companies of U.S. MNCs and matched U.S. affiliates (U.S.-located foreign owned companies) should not be summed to attempt a U.S. R&D aggregate related to MNCs because some companies both are parent companies of overseas affiliates and are themselves owned by a foreign parent company.

Data on majority-owned foreign affiliates (MOFAs) are limited to companies owned by matched R&D-performing parent companies. These data thus exclude MOFAs of unmatched U.S. parent companies and MOFAs that perform R&D but whose parent companies do not perform R&D in the United States. In 2004 a total of \$0.5 billion of R&D was performed by MOFAs whose parent companies did not perform R&D in the United States.

The earlier pilot study of the R&D link project explored methodological issues. It also resulted in limited data for survey years 1997 and 1999 released in 2005 (see "Data Availability"). These matched data are generally comparable in terms of methodology with the 2004 match.

Comparisons with Full Survey Data

2004

SIRD-reported R&D performed by matched parent companies in 2004 accounted for 96% of U.S. parent company R&D published by BEA in the 2004 USDIA survey. R&D performed overseas by MOFAs of matched parent companies accounted for 98% of MOFA R&D published by BEA in the latter survey. SIRD-reported R&D by matched U.S. affiliates accounted for 96% of R&D published by BEA in the 2004 FDIUS survey.

2005

SIRD-reported R&D performed by matched parent companies in 2005 accounted for 93% of U.S. parent company R&D published by BEA in the 2005 USDIA survey. R&D performed overseas by MOFAs of matched parent companies accounted for 97% of MOFA R&D

published by BEA in the latter survey. SIRD-reported R&D by matched U.S. affiliates accounted for 96% of R&D published by BEA in the 2005 FDIUS survey.

2006

SIRD-reported R&D performed by matched parent companies in 2006 accounted for 97% of U.S. parent company R&D published by BEA in the 2006 USDIA survey. R&D performed overseas by MOFAs of matched parent companies accounted for 97% of MOFA R&D published by BEA in the latter survey. SIRD-reported R&D by matched U.S. affiliates accounted for 95% of R&D published by BEA in the 2006 FDIUS survey.

2007

SIRD-reported R&D performed by matched parent companies in 2007 accounted for 95% of U.S. parent company R&D published by BEA in the 2007 USDIA survey. R&D performed overseas by MOFAs of matched parent companies accounted for 95% of MOFA R&D published by BEA in the latter survey. SIRD-reported R&D by matched U.S. affiliates accounted for 91% of R&D published by BEA in the 2007 FDIUS survey.

Definitions

General

Affiliate: A company or business enterprise located in one country but owned or controlled (in terms of 10% or more of voting securities or equivalent) by a person (in the broad legal sense, including a company) in another country; may be either incorporated or unincorporated.

Foreign direct investment (FDI): Ownership or control of 10% or more of the voting securities (or equivalent) of a business located outside the home country.

Foreign parent company: The foreign entity, or the first entity outside the United States in a foreign chain of ownership, which has direct investment in a U.S. business enterprise.

Investing country: Country of ultimate beneficial owner, entity that ultimately owns or controls U.S. affiliate.

Majority-owned affiliate: Company owned or controlled to the extent of more than 50% of the voting securities (or equivalent) by its parent company.

Multinational company (MNC): A parent company and its foreign affiliates.

U.S. affiliate: Company located in the United States but owned by a foreign parent company.

U.S. parent company: An entity (individual, branch, partnership, or corporation) that is located in the United States and that owns or controls at least 10% of the voting securities, or equivalent, of a foreign business enterprise.

SIRD Survey

Employment, full-time-equivalent (FTE) R&D scientists and engineers: Number of people who were employed in the 50 U.S. states and the District of Columbia by R&D-performing companies and who were engaged in scientific or engineering work at a level that required knowledge, gained either formally or by experience, of engineering or of the physical, biological, mathematical, statistical, or computer sciences equivalent to at least that acquired through completion of a 4-year college program with a major in one of those fields. FTE employees refer to those who were assigned full time to R&D, plus a prorated number of employees who worked on R&D only part of the time. FTEs are measured with reference to January following the survey year.

Employment, total: Number of people employed in the 50 U.S. states and the District of Columbia by R&D-performing companies in all activities during the pay period that included

the 12th of March of the study year (March 12 is the date most employers use when paying first-quarter employment taxes to the Internal Revenue Service).

Net sales and receipts: Dollar values for goods sold or services rendered by R&D-performing companies to customers outside the company, including the federal government, less such items as returns, allowances, freight, charges, and excise taxes. Domestic intracompany transfers and sales by foreign subsidiaries were excluded, but transfers to foreign subsidiaries and export sales to foreign companies were included.

R&D: R&D is the planned, systematic pursuit of new knowledge or understanding toward general application (*basic research*); the acquisition of knowledge or understanding to meet a specific, recognized need (*applied research*); or the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (*development*). Specifically excluded from R&D are quality control, routine product testing, market research, sales promotion, sales service, and other nontechnological activities; routine technical services; and research in the social sciences or psychology.

Funds for R&D, total: The cost of R&D performed within the company in its own laboratories or in other company-owned or company-operated facilities in the 50 U.S. states and the District of Columbia, including expenses for wages and salaries, fringe benefits for R&D personnel, materials and supplies, property and other taxes, maintenance and repairs, depreciation, and an appropriate share of overhead. Capital expenditures and the cost of R&D contracted to outside organizations are excluded.

FDIUS and USDIA Surveys

R&D: R&D includes activities carried on by persons trained, either formally or by experience, in engineering; the physical sciences, such as chemistry and physics; the biological sciences, such as medicine; the mathematical and statistical sciences; and computer science. R&D includes these activities if the purpose is to do one or more of the following: the planned systematic pursuit of new knowledge or understanding toward general application (*basic research*); the acquisition of knowledge or understanding to meet a specific, recognized need (*applied research*); and the application of knowledge or understanding toward the production or improvement of a product, service, process, or method (*development*).

R&D expenditures: These expenditures refer to all costs incurred to support R&D performed whether assigned to separate R&D organizational units of the company or carried out by company laboratories and technical groups not a part of an R&D organization. Costs include wages, salaries, and related costs; materials and supplies consumed; depreciation on R&D property and equipment; cost of computer software used in R&D activities; utilities; travel costs and professional dues; property taxes and other taxes (except income taxes) incurred on account of the R&D organization or the facilities they use; insurance expenses; maintenance and repair, including maintenance of buildings and grounds; company overhead, including personnel, accounting, procurement and inventory, and salaries of research executives not on the payroll of the R&D organization. R&D expenditures exclude capital expenditures, expenditures for tests and evaluations once a prototype becomes a production model, patent expenses, and income taxes and interest. They also exclude expenditures for quality control; routine product testing; market research; sales promotion, sales service, and other nontechnological activities; routine technical services; research in the social sciences or psychology; geological and geophysical exploration activities; and advertising programs to promote or demonstrate new products or processes.

R&D employees: Scientists, engineers, and other professional and technical employees, including managers, engaged in scientific or engineering R&D work at a level that requires knowledge of physical or life sciences, engineering, mathematics, statistics, or computer

science at least equivalent to that acquired through completion of a 4-year college course with a major in one of these fields (i.e., training may be either formal or by experience).

Data Availability

Linked data are available at <http://www.nsf.gov/statistics/rdlink/>. Selected data from this project covering 1997 and 1999 data are available from *Research and Development Data Link Project: Final Report (2005)* <http://www.census.gov/mcd/RDD/rddatalink.pdf> and from the following NSF reports on this project: InfoBrief 07-310 at <http://www.nsf.gov/statistics/infbrief/nsf07310/>, and InfoBrief 12-332 at <http://www.nsf.gov/statistics/infbrief/nsf12332/>.

Total U.S. industry R&D data for SIRD are available at <http://www.nsf.gov/statistics/industry/>. Full data from BEA international surveys are available at <http://www.bea.gov/international/index.htm#omc>.

Notes

[1] The Census Bureau also maintains a separate non-employer database. Non-employers also have EINs since, for example, proprietors and other self-employed individuals obtain an EIN for income tax reporting purposes. Some companies may switch between employer and non-employer status over time.

[2] Several consolidated companies in the SIRD sample were associated with more than one record. Therefore, the number of individual SIRD records is greater than the number of consolidated companies reported in table A1.

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