

TABLE 53-B

R&D paid for by the company and others and performed by the company outside of the United States, by selected location, industry, and company size: 2019 (part B)

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total outside United States	Argentina	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed
All industries	21-23, 31-33, 42-81	104,464	402	1,493	117	1,022	2,373 i	2,032	8,195	396	9,846	24	4,090	838	274	2,376	1,451	1,775	380	780	5,974	369 i	229 i	143	3,720 i
Manufacturing industries	31-33	64,351	172	1,101	51	841	1,449 i	1,113	5,923	263	4,483	16	2,722	811	201	1,563	1,097	972	281	612	3,894	226	73	114	2,318 i
Food	311	835	3	58 i	*	23	11	39	105 i	2	16	2	5	2	3	22	2	*	8	5	0-32	0-17	3	3	82-168 i
Beverage and tobacco products	312	674	1	7	1	21	24	5	45	0	8	1	28	0	0	28	0	0	0-17	0-9	0	16	2	0	0
Textile, apparel, and leather products	313-16	157	*	0-14	*	0-14	5	2	18	16	*	0	2	*	4	*	2	1	0	5	0	0	0	0	* i
Wood products	321	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper	322	101	0	7	0	*	1	0	3	0	0	0	0	0	0	*	12	0	0	*	0	*	0	0	* i
Printing and related support activities	323	9 i	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	* i
Petroleum and coal products	324	171-176	*	0-20	0	0	0	0-25	17	0	1	0	1	*	0	2	0-10	0	0-17	0	0	0-17	0	0	* i
Chemicals	325	18,568	133	449	31	172	265	316	1,043	76	400 i	9	1,219	10	108	259	137	84	34	186	276	112	52	37	14 i
Basic chemicals	3251	742	3	24	1	8	5	5	70	1	10	3	14	1	*	61	1	4	2	5	0-63	0-32	3	0-24	* i
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	523	1	16	*	0-16	3	0-6	34	0-6	7	*	27	*	0-102	0-11	10	1	0-13	0-56	0	0-32	0	0-24	0-1 i
Pesticide, fertilizer, and other agricultural chemicals	3253	450	11	72	*	2	3	0-6	2	0-6	0-27	0-7	1	*	1-103	9	8	*	0-13	61	0	0	0	0	0-1 i
Pharmaceuticals and medicines	3254	15,868	115	309	29	144	243	305	803	70	350 i	0-7	1,139	6	6-25	108	114	79	19	65	214	81 i	26-50	13-38 i	14 i
Soap, cleaning compound, and toilet preparation	3256	757	3	27	*	5	12	2	106	1	9 i	*	33	3	*	73	2	*	2	2	*	0-25	0-24	0-24	0
Paint, coating, adhesive, and other chemicals	3255, 3259	227	*	1	*	0-16	*	0-6	27	0-6	0-27	0-7	3	*	0	0-11	2	*	0	0-56	0-63	0	0-24	*	0-1 i
Plastics and rubber products	326	503	3	25 i	0	26	2	2	66	*	3 i	*	24	1	*	1	4	0	5	0	9	0	0	0	27 i
Nonmetallic mineral products	327	192 i	0	0	0	3 i	0	0	13 i	0	1 i	0	31	0	0	0	48 i	10 i	0	0	21 i	0	*	0	0
Primary metals	331	76	0	4	0	*	*	15	5	0	0	0	0	0	0	*	0	1	0	0	0	0	0	0	13 i
Fabricated metal products	332	278	1	1	*	4	1	3	22	0	5	*	60	1	11	1	0	1	*	13	1	2	*	0	* i
Machinery	333	4,251	3	96	2	36	* i	35	396	4	384	* i	190	5	10	59	146	111 i	4	27	363	2 i	8	1	11 i
Agricultural implement	33311	857	3	76	2	21	*	2	36	0	100	0	*	1	3	*	0	0	0	*	0	0	*	0	0

TABLE 53-B

R&D paid for by the company and others and performed by the company outside of the United States, by selected location, industry, and company size: 2019 (part B)

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total outside United States	Argentina	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed
Military armored vehicle, tank, and tank component	336992	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other transportation	other 336	234	0	1 i	0	*	0	2 i	0-11 i	3 i	0-15 i	0	0	0	0	0	*	0-29	0-25 i	0	0	*	* i	* i	3 i
Furniture and related products	337	35	0	0	0	2	0	0	2	1	1	0	0	*	0	0	0	*	0	0	0	0	0	0	1 i
Miscellaneous	339	3,482 - 3,488	3-23	31	15	9-23	72	99-124	351	33 i	171	1	188	4	6	89	20-31	13	3	24-33	131-163	50-67 i	1	1	0-219 i
Medical equipment and supplies	3391	3,069	4	30	11	10	51	100	310	3	138	1	188	4	3	85	21	12	3	25	132	51 i	1	1	0-159 i
Other miscellaneous manufacturing	3399	413-419	0-20 i	*	4 i	0-14 i	20 i	0-25	41 i	30 i	33	0	*	0	3	3	0-10	1	0	0-9 i	0-32	0-17 i	0	* i	0-185
Nonmanufacturing industries	21-23, 42-81	40,113	230 i	393 i	66	181	924 i	919	2,272	133	5,364	9	1,369 i	26	73	813 i	354 i	804	99	169	2,080	143 i	156 i	29	1,402 i
Mining, quarrying, oil and gas extraction, and support activities	21	589	0-5	0-138	0	* i	0-20	0-238	14	0	0-393	*	0-393 i	0	0	0-214	0	0	*	0	0	0-107	0	0-10	0-59 i
Utilities	22	9	0	*	0	*	0	0-2	*	0	0	*	0	0	0-2	0	0	0	*	0	0	0	*	0	0
Wholesale trade	42	113	0	0	0	0	0	0	0-28	0-28	0	0	0-28 i	0-13	0	0	0	0	0	0	0	0	0	0	0-28 i
Electronic shopping and electronic auctions	454111-12	69-4,198 i	0-5 i	0-138 i	1 i	0-17 i	0-20 i	0-238 i	0-285 i	0-48 i	0-462 i	0-8 i	0-468 i	0-13 i	0-14 i	0-214 i	0-162 i	0-19 i	0-82 i	1 i	0-182 i	0-107 i	0-40 i	0-10 i	0
Transportation and warehousing	48-49	62	0	*	0	0	0	1	8	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Information	51	19,051	67	104	37	75	71	450	1,173	57	3,231	1-9	237-349	0-13	37	297	65	520	0-82	114	1,346	25	27-36	11-20	29-53
Publishing	511	6,949	11	0-35	0-35	0-12	9	0-237	690	17	1,446	1	84	0-13	15	59	26	0-237	0-82	79	468	8	4	9	16-29
Newspaper, periodical, book, and directory publishers	5111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Software publishers	5112	6,949	11	0-35	0-35	0-12	9	0-237	690	17	1,446	1	84	0-13	15	59	26	0-237	0-82	79	468	8	4	9	16-29
Telecommunications	517	124	0	0	0	0-12	5	0-28	10	0-28	10	0	0-28	0	0	*	0	0	0-28	0	19	*	0	0	* i
Data processing, hosting, and related services	518	5,891	53	31	1	64	57	148	347	0-41	1,530	1 i	44	0-13	20	0-205	0-40	0-205 i	0-82 i	34	403	15	24	3	8 i
Other information	other 51	6,087	3	37-74	0-37	0-12	1	36-303	126	0-41	245	0-8	80-222	0-13	2	32-239	0-40	78-521	0-82	1	456	1	0-9	0-9	0-29 i
Finance and insurance	52	1,175	0-5	0-138	4	0-17	22	23 i	21	9 i	320	0	0-176	0-13	0-14 i	63	0-162	0-19	0-82 i	0-24	0-176	0-107	0-40 i	0-10 i	0-59 i

TABLE 53-B

R&D paid for by the company and others and performed by the company outside of the United States, by selected location, industry, and company size: 2019 (part B)

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total outside United States	Argentina	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed
Real estate and rental and leasing	53	104	*	*	0	*	0 - 20	*	0 - 94	*	*	*	0 - 94	*	*	3	*	*	*	*	*	*	0	*	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other real estate and rental and leasing	other 53	101	*	*	0	*	0 - 20	*	0 - 94	*	*	*	0 - 94	*	*	3	*	*	*	*	*	*	0	*	0
Professional, scientific, and technical services	54	14,790	160 i	152 i	25 i	91	813 i	210 i	774	21 i	1,347	1 i	665 i	14 i	24 i	239 i	129 i	266 i	18 i	32 i	554	12 i	89 i	8 i	1,313 - 1,338 i
Architectural, engineering, and related services	5413	37	0	*	* i	*	0	* i	1 i	*	17	*	*	0	0	*	*	*	0	*	*	2	* i	*	3 i
Computer systems design and related services	5415	5,370	48 i	32	*	23	767 i	45	347	* i	994	0	70	3	2 i	71 i	6	194 i	1	13	463	3	9	3	118 - 146 i
Scientific research and development services	5417	9,006 i	111 i	109 i	23 i	68 i	46 i	158 i	403	21 i	267 i	1 i	595 i	11 i	21 i	167 i	120 i	56 i	17 i	19 i	74 i	7 i	80 i	5 i	1,190 i
Research and development in biotechnology	541711	2,793	22	24	7	30	12	67	195	6	103	0	145	2	11	15	39	14	3	4	24	0	5	0	* i
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	6,205 i	89 i	85 i	15 i	38 i	26 - 35 i	92 i	208 i	15 i	163 i	1 i	449 i	9 i	11 i	152 i	81 i	42 i	14 i	15 i	49 i	7 i	74 i	5 i	1,181 - 1,191 i
Research and development in the social sciences and humanities	541720	8	0	0	0	0	0 - 7	0	0	0	1	0	0	0	0	0	0	0	*	0	0	0	1	0	0 - 8 i
Other professional, scientific, and technical services	other 54	376	1	12	2	0	*	6	23	0	70	0	*	0	*	1	3	16	0	1	18	*	0	0	1 i
Health care services	621-23	24	0	0	0	0	0	0 - 24	*	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	* i
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2 - 4,124	0 - 5	0 - 138	*	*	0 - 20	0 - 238	0 - 285	0 - 48	0 - 462 i	0	0 - 468	0 - 13	0	0 - 214	0 - 162	0	0 - 82	0 - 24	0 - 182 i	1	0	0	1 i
All companies (number of domestic employees)	-	104,464	402	1,493	117	1,022	2,373 i	2,032	8,195	396	9,846	24	4,090	838	274	2,376	1,451	1,775	380	780	5,974	369 i	229 i	143	3,720 i
Small companies																									
10-19 ^a	-	138	0	0	0	*	2	5	19	1	20	0	*	*	* i	*	11	1	0	0	3	*	0	0	10 i
20-49	-	457	2	2	0	1	2	4	89	3	72	0	6	3	*	4	4	7	0	2	3	*	3	2	28 i

TABLE 53-B

R&D paid for by the company and others and performed by the company outside of the United States, by selected location, industry, and company size: 2019 (part B)

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total outside United States	Argentina	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed	
Medium companies																										
50–99	–	737	3	3	2	2	1	11	64	*	107	0	3	*	2	6	*	19	0	4	47	11	*	0	12	i
100–249	–	2,192	3	4	1	8	35	22	270	20	129	1	23	*	7	47	33	118	6	31	264	4	3	*	31	i
Large companies																										
250–499	–	2,709	11	25	1	81	i 6	19	169	43	260	*	47	4	8	55	93	64	1	43	529	*	1	*	36	
500–999	–	2,953	31	17	0	27	12	63	205	15	241	1	i 86	5	11	48	20	57	11	37	182	6	1	i 4	27	i
1,000–4,999	–	16,553	60	i 126	8	77	86	308	1,428	70	2,275	5	345	61	37	447	96	207	174	168	i 752	15	22	1	297	i
5,000–9,999	–	11,965	35	i 149	14	i 127	i 920	i 136	691	i 45	i 916	i *	675	i 275	i 110	317	184	i 185	i 96	i 180	417	28	14	2	258	i
10,000–24,999	–	23,612	202	427	25	219	217	327	1,476	39	1,912	4	1,194	23	40	701	i 306	i 268	i 33	233	382	i 80	108	i 32	2,783	i
25,000 or more	–	43,148	55	740	68	480	1,093	i 1,137	3,784	159	3,912	13	1,712	466	59	751	703	849	58	83	3,395	224	i 77	i 103	239	i

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.**Note(s):**

Detail may not add to total because of rounding. Country detail was not collected from companies reporting less than \$1 million of R&D paid for by the company or reporting less than \$1 million of R&D paid for by others. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.