

TABLE 16

**Higher education R&D expenditures, by highest degree granted, institutional control, and type of cost: FYs 2010–20**

(Dollars in thousands)

Type of cost, highest degree granted, and institutional control	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>All institutions</b>											
All R&D	61,286,610	65,274,393	65,729,007	67,013,138	67,199,090	68,549,882	71,767,849	75,147,144	79,026,269	83,534,148	86,296,178
Direct costs	46,159,649	49,311,567	49,897,854	51,089,463	51,564,673	52,612,168	55,281,411	57,935,304	60,777,579	64,388,205	66,514,804
Salaries, wages, and fringe benefits	25,929,799	27,860,610	28,339,070	28,802,181	29,118,462	29,894,812	31,455,447	33,229,973	34,678,293	36,598,736	38,703,867
Software	105,970	116,422	103,456	107,685	96,522	117,011	113,524	109,635	121,867	136,568	158,145
Noncapitalized software	88,456	98,438	93,250	95,652	84,279	93,207	95,136	98,610	110,804	121,014	144,023
Capitalized software	17,514	17,984	10,206	12,033	12,243	23,804	18,388	11,025	11,063	15,554	14,122
Capitalized equipment	2,148,421	2,256,025	2,040,534	2,254,429	2,036,393	2,119,860	2,169,465	2,193,911	2,148,659	2,440,045	2,588,624
Passed through to subrecipients	4,956,929	5,436,850	5,531,421	5,689,087	5,702,916	5,633,830	5,697,047	5,915,408	6,315,524	6,716,738	7,053,612
Other direct costs	13,018,530	13,641,660	13,883,373	14,236,081	14,610,380	14,846,655	15,845,928	16,486,377	17,513,236	18,496,118	18,010,556
Indirect costs	15,126,961	15,962,826	15,831,153	15,923,675	15,634,417	15,937,714	16,486,438	17,211,840	18,248,690	19,145,943	19,781,374
Recovered	10,465,893	11,352,339	11,221,624	11,220,177	10,873,879	11,101,007	11,452,294	12,021,637	12,746,295	13,611,514	14,038,278
Unrecovered	4,661,068	4,610,487	4,609,529	4,703,498	4,760,538	4,836,707	5,034,144	5,190,203	5,502,395	5,534,429	5,743,096
<b>Doctorate</b>											
All R&D	60,266,691	64,064,133	64,700,201	66,217,717	66,447,854	67,890,206	70,718,154	74,440,312	78,357,182	82,849,208	85,607,541
Direct costs	45,266,156	48,282,499	49,022,847	50,398,617	50,915,499	52,041,028	54,363,455	57,313,046	60,195,881	63,796,585	65,922,218
Salaries, wages, and fringe benefits	25,494,721	27,357,645	27,906,910	28,462,160	28,785,382	29,604,060	31,105,634	32,911,906	34,366,799	36,289,351	38,392,902
Software	98,119	110,285	95,627	102,523	91,341	111,645	108,637	107,211	119,973	134,828	155,774
Noncapitalized software	80,940	92,808	86,115	90,658	79,637	88,079	90,540	96,567	109,051	119,428	141,979
Capitalized software	17,179	17,477	9,512	11,865	11,704	23,566	18,097	10,644	10,922	15,400	13,795
Capitalized equipment	2,086,956	2,192,296	1,995,345	2,219,549	2,011,006	2,095,638	2,039,262	2,166,650	2,124,751	2,418,507	2,565,531
Passed through to subrecipients	4,901,412	5,371,178	5,469,627	5,647,933	5,663,439	5,609,210	5,659,469	5,884,082	6,286,022	6,688,592	7,025,460
Other direct costs	12,684,948	13,251,095	13,555,338	13,966,452	14,364,331	14,620,475	15,450,453	16,243,197	17,298,336	18,265,307	17,782,551
Indirect costs	15,000,535	15,781,634	15,677,354	15,819,100	15,532,355	15,849,178	16,354,699	17,127,266	18,161,301	19,052,623	19,685,323
Recovered	10,382,463	11,236,113	11,125,166	11,147,825	10,808,902	11,041,072	11,383,623	11,965,812	12,686,665	13,550,676	13,975,782
Unrecovered	4,618,072	4,545,521	4,552,188	4,671,275	4,723,453	4,808,106	4,971,076	5,161,454	5,474,636	5,501,947	5,709,541
<b>Nondoctorate</b>											
All R&D	1,019,919	1,210,260	1,028,806	795,421	751,236	659,676	1,049,695	706,832	669,087	684,940	688,637
Direct costs	893,493	1,029,068	875,007	690,846	649,174	571,140	917,956	622,258	581,698	591,620	592,586
Salaries, wages, and fringe benefits	435,078	502,965	432,160	340,021	333,080	290,752	349,813	318,067	311,494	309,385	310,965
Software	7,851	6,137	7,829	5,162	5,181	5,366	4,887	2,424	1,894	1,740	2,371
Noncapitalized software	7,516	5,630	7,135	4,994	4,642	5,128	4,596	2,043	1,753	1,586	2,044
Capitalized software	335	507	694	168	539	238	291	381	141	154	327
Capitalized equipment	61,465	63,729	45,189	34,880	25,387	24,222	130,203	27,261	23,908	21,538	23,093
Passed through to subrecipients	55,517	65,672	61,794	41,154	39,477	24,620	37,578	31,326	29,502	28,146	28,152
Other direct costs	333,582	390,565	328,035	269,629	246,049	226,180	395,475	243,180	214,900	230,811	228,005

TABLE 16

**Higher education R&D expenditures, by highest degree granted, institutional control, and type of cost: FYs 2010–20**

(Dollars in thousands)

Type of cost, highest degree granted, and institutional control	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Indirect costs	126,426	181,192	153,799	104,575	102,062	88,536	131,739	84,574	87,389	93,320	96,051
Recovered	83,430	116,226	96,458	72,352	64,977	59,935	68,671	55,825	59,630	60,838	62,496
Unrecovered	42,996	64,966	57,341	32,223	37,085	28,601	63,068	28,749	27,759	32,482	33,555
Public											
All R&D	41,266,626	43,915,960	44,162,595	44,849,697	44,678,272	45,412,330	47,107,025	49,257,693	51,891,065	54,676,833	56,663,756
Direct costs	31,705,979	33,922,562	34,339,324	35,005,995	35,020,267	35,641,244	36,969,260	38,696,285	40,643,885	42,903,776	44,494,080
Salaries, wages, and fringe benefits	18,317,189	19,636,095	19,949,722	20,231,506	20,439,977	20,800,559	21,747,650	22,901,344	23,752,500	25,086,682	26,472,556
Software	82,340	96,499	83,509	85,149	74,464	92,881	89,420	81,626	94,272	103,482	120,556
Noncapitalized software	69,454	80,693	74,897	76,518	65,044	74,448	74,083	73,839	85,062	92,402	111,598
Capitalized software	12,886	15,806	8,612	8,631	9,420	18,433	15,337	7,787	9,210	11,080	8,958
Capitalized equipment	1,457,694	1,555,049	1,476,328	1,655,640	1,468,645	1,508,981	1,578,490	1,554,168	1,522,182	1,744,741	1,924,396
Passed through to subrecipients	3,065,688	3,418,705	3,502,384	3,608,137	3,558,954	3,541,678	3,520,318	3,662,415	3,917,082	4,149,970	4,388,534
Other direct costs	8,783,068	9,216,214	9,327,381	9,425,563	9,478,227	9,697,145	10,033,382	10,496,732	11,357,849	11,818,901	11,588,038
Indirect costs	9,560,647	9,993,398	9,823,271	9,843,702	9,658,005	9,771,086	10,137,765	10,561,408	11,247,180	11,773,057	12,169,676
Recovered	6,175,654	6,585,483	6,554,816	6,539,581	6,339,721	6,409,899	6,622,242	6,946,587	7,365,388	7,916,771	8,108,186
Unrecovered	3,384,993	3,407,915	3,268,455	3,304,121	3,318,284	3,361,187	3,515,523	3,614,821	3,881,792	3,856,286	4,061,490
Private											
All R&D	20,019,984	21,358,433	21,566,412	22,163,441	22,520,818	23,137,552	24,660,824	25,889,451	27,135,204	28,857,315	29,632,422
Direct costs	14,453,670	15,389,005	15,558,530	16,083,468	16,544,406	16,970,924	18,312,151	19,239,019	20,133,694	21,484,429	22,020,724
Salaries, wages, and fringe benefits	7,612,610	8,224,515	8,389,348	8,570,675	8,678,485	9,094,253	9,707,797	10,328,629	10,925,793	11,512,054	12,231,311
Software	23,630	19,923	19,947	22,536	22,058	24,130	24,104	28,009	27,595	33,086	37,589
Noncapitalized software	19,002	17,745	18,353	19,134	19,235	18,759	21,053	24,771	25,742	28,612	32,425
Capitalized software	4,628	2,178	1,594	3,402	2,823	5,371	3,051	3,238	1,853	4,474	5,164
Capitalized equipment	690,727	700,976	564,206	598,789	567,748	610,879	590,975	639,743	626,477	695,304	664,228
Passed through to subrecipients	1,891,241	2,018,145	2,029,037	2,080,950	2,143,962	2,092,152	2,176,729	2,252,993	2,398,442	2,566,768	2,665,078
Other direct costs	4,235,462	4,425,446	4,555,992	4,810,518	5,132,153	5,149,510	5,812,546	5,989,645	6,155,387	6,677,217	6,422,518
Indirect costs	5,566,314	5,969,428	6,007,882	6,079,973	5,976,412	6,166,628	6,348,673	6,650,432	7,001,510	7,372,886	7,611,698
Recovered	4,290,239	4,766,856	4,666,808	4,680,596	4,534,158	4,691,108	4,830,052	5,075,050	5,380,907	5,694,743	5,930,092
Unrecovered	1,276,075	1,202,572	1,341,074	1,399,377	1,442,254	1,475,520	1,518,621	1,575,382	1,620,603	1,678,143	1,681,606

**Source(s):**

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.