

Table 12. Higher education R&D expenditures at institutions in the standard form survey population, by type of cost, highest degree granted, and institutional control: FYs 2010–24

(Dollars in thousands)

Type of cost, highest degree granted, and institutional control	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
All institutions															
All R&D	61,286,610	65,274,393	65,730,064	66,978,647	67,161,428	68,520,986	71,737,194	75,150,488	79,027,030	83,490,430	86,308,537	89,706,305	97,677,440	108,696,625	117,554,145
Direct costs	46,159,649	49,311,567	49,898,796	51,054,891	51,526,881	52,582,932	55,249,921	57,937,629	60,778,784	64,348,093	66,533,185	69,169,817	75,323,282	84,223,159	91,317,926
Salaries, wages, and fringe benefits	25,929,799	27,860,610	28,339,650	28,776,870	29,091,347	29,873,837	31,434,483	33,232,524	34,676,897	36,568,801	38,730,296	40,342,884	43,106,517	47,104,077	51,514,640
Software	105,970	116,422	103,473	107,688	96,523	117,020	113,557	109,660	121,868	136,544	158,590	172,887	192,918	221,173	249,255
Noncapitalized software	88,456	98,438	93,267	95,655	84,281	93,215	95,169	98,633	110,803	120,989	144,329	158,403	178,195	199,273	225,588
Capitalized software	17,514	17,984	10,206	12,033	12,242	23,805	18,388	11,027	11,065	15,555	14,261	14,484	14,723	21,900	23,667
Capitalized equipment	2,148,421	2,256,025	2,040,490	2,254,383	2,036,405	2,119,775	2,169,348	2,193,707	2,148,430	2,439,584	2,588,735	2,664,230	2,703,713	3,254,884	3,603,337
Passed through to subrecipients	4,956,929	5,436,850	5,531,357	5,689,030	5,702,930	5,633,758	5,696,733	5,915,737	6,332,240	6,757,122	7,100,913	7,627,080	8,605,522	9,457,522	10,460,284
Other direct costs	13,018,530	13,641,660	13,883,826	14,226,920	14,599,676	14,838,542	15,835,800	16,486,001	17,499,349	18,446,042	17,954,651	18,362,736	20,714,612	24,185,503	25,490,410
Indirect costs	15,126,961	15,962,826	15,831,268	15,923,756	15,634,547	15,938,054	16,487,273	17,212,859	18,248,246	19,142,337	19,775,352	20,536,488	22,354,158	24,473,466	26,236,219
Recovered	10,465,893	11,352,339	11,221,758	11,220,280	10,874,009	11,101,370	11,453,249	12,022,800	12,746,380	13,608,664	14,036,712	14,660,171	16,185,290	17,703,259	19,172,143
Unrecovered	4,661,068	4,610,487	4,609,510	4,703,476	4,760,538	4,836,684	5,034,024	5,190,059	5,501,866	5,533,673	5,738,640	5,876,317	6,168,868	6,770,207	7,064,076
Doctorate															
All R&D	60,266,691	64,064,133	64,700,201	66,182,145	66,410,192	67,860,286	70,686,976	74,441,469	78,355,175	82,803,180	85,613,262	89,025,572	96,896,184	107,827,974	116,581,952
Direct costs	45,266,156	48,282,499	49,022,847	50,363,045	50,877,741	52,010,844	54,331,508	57,313,332	60,194,555	63,754,118	65,935,372	68,584,316	74,658,417	83,480,884	90,479,383
Salaries, wages, and fringe benefits	25,494,721	27,357,645	27,906,910	28,436,384	28,757,780	29,582,616	31,084,360	32,913,287	34,363,836	36,256,876	38,416,748	40,017,363	42,760,890	46,723,319	51,093,637
Software	98,119	110,285	95,627	102,523	91,347	111,642	108,665	107,222	119,962	134,754	156,208	169,135	188,696	217,156	243,984
Noncapitalized software	80,940	92,808	86,115	90,658	79,643	88,077	90,568	96,578	109,040	119,354	142,277	155,015	174,034	195,453	220,921
Capitalized software	17,179	17,477	9,512	11,865	11,704	23,565	18,097	10,644	10,922	15,400	13,931	14,120	14,662	21,703	23,063
Capitalized equipment	2,086,956	2,192,296	1,995,345	2,219,549	2,011,004	2,095,590	2,039,169	2,166,520	2,124,588	2,418,126	2,565,540	2,636,140	2,666,094	3,218,572	3,558,115
Passed through to subrecipients	4,901,412	5,371,178	5,469,627	5,647,933	5,663,448	5,609,183	5,659,155	5,884,468	6,302,791	6,728,976	7,073,375	7,598,695	8,570,861	9,415,979	10,417,801
Other direct costs	12,684,948	13,251,095	13,555,338	13,956,656	14,354,162	14,611,813	15,440,159	16,241,835	17,283,378	18,215,386	17,723,501	18,162,983	20,471,876	23,905,858	25,165,846
Indirect costs	15,000,535	15,781,634	15,677,354	15,819,100	15,532,451	15,849,442	16,355,468	17,128,137	18,160,620	19,049,062	19,677,890	20,441,256	22,237,767	24,347,090	26,102,569
Recovered	10,382,463	11,236,113	11,125,166	11,147,825	10,808,998	11,041,336	11,384,466	11,966,759	12,686,453	13,547,840	13,974,021	14,597,418	16,107,778	17,624,389	19,086,976
Unrecovered	4,618,072	4,545,521	4,552,188	4,671,275	4,723,453	4,808,106	4,971,002	5,161,378	5,474,167	5,501,222	5,703,869	5,843,838	6,129,989	6,722,701	7,015,593
Nondoctorate															
All R&D	1,019,919	1,210,260	1,029,863	796,502	751,236	660,700	1,050,218	709,019	671,855	687,250	695,275	680,733	781,256	868,651	972,193
Direct costs	893,493	1,029,068	875,949	691,846	649,140	572,088	918,413	624,297	584,229	593,975	597,813	585,501	664,865	742,275	838,543
Salaries, wages, and fringe benefits	435,078	502,965	432,740	340,486	333,567	291,221	350,123	319,237	313,061	311,925	313,548	325,521	345,627	380,758	421,003
Software	7,851	6,137	7,846	5,165	5,176	5,378	4,892	2,438	1,906	1,790	2,382	3,752	4,222	4,017	5,271
Noncapitalized software	7,516	5,630	7,152	4,997	4,638	5,138	4,601	2,055	1,763	1,635	2,052	3,388	4,161	3,820	4,667
Capitalized software	335	507	694	168	538	240	291	383	143	155	330	364	61	197	604
Capitalized equipment	61,465	63,729	45,145	34,834	25,401	24,185	130,179	27,187	23,842	21,458	23,195	28,090	37,619	36,312	45,222
Passed through to subrecipients	55,517	65,672	61,730	41,097	39,482	24,575	37,578	31,269	29,449	28,146	27,538	28,385	34,661	41,543	42,483
Other direct costs	333,582	390,565	328,488	270,264	245,514	226,729	395,641	244,166	215,971	230,656	231,150	199,753	242,736	279,645	324,564
Indirect costs	126,426	181,192	153,914	104,656	102,096	88,612	131,805	84,722	87,626	93,275	97,462	95,232	116,391	126,376	133,650
Recovered	83,430	116,226	96,592	72,455	65,011	60,034	68,783	56,041	59,927	60,824	62,691	62,753	77,512	78,870	85,167

Table 12. Higher education R&D expenditures at institutions in the standard form survey population, by type of cost, highest degree granted, and institutional control: FYs 2010–24

(Dollars in thousands)

Type of cost, highest degree granted, and institutional control	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Unrecovered	42,996	64,966	57,322	32,201	37,085	28,578	63,022	28,681	27,699	32,451	34,771	32,479	38,879	47,506	48,483
Public															
All R&D	41,266,626	43,915,960	44,162,595	44,814,125	44,640,610	45,382,410	47,074,583	49,257,662	51,890,982	54,655,748	56,639,311	58,656,445	63,797,075	71,006,881	76,943,160
Direct costs	31,705,979	33,922,562	34,339,324	34,970,423	34,982,571	35,611,429	36,936,818	38,696,275	40,643,826	42,882,969	44,475,561	46,005,982	49,983,137	55,858,875	60,883,408
Salaries, wages, and fringe benefits	18,317,189	19,636,095	19,949,722	20,205,730	20,413,042	20,779,313	21,724,959	22,901,546	23,752,695	25,070,725	26,483,281	27,546,299	29,332,585	31,832,642	34,870,259
Software	82,340	96,499	83,509	85,149	74,459	92,877	89,420	81,618	94,259	103,511	121,050	139,285	149,388	165,600	177,471
Noncapitalized software	69,454	80,693	74,897	76,518	65,040	74,445	74,083	73,831	85,049	92,431	111,956	127,246	139,031	150,265	158,853
Capitalized software	12,886	15,806	8,612	8,631	9,419	18,432	15,337	7,787	9,210	11,080	9,094	12,039	10,357	15,335	18,618
Capitalized equipment	1,457,694	1,555,049	1,476,328	1,655,640	1,468,659	1,508,998	1,578,490	1,554,190	1,522,210	1,744,709	1,924,765	1,941,026	1,983,854	2,335,068	2,590,242
Passed through to subrecipients	3,065,688	3,418,705	3,502,384	3,608,137	3,558,959	3,541,642	3,520,318	3,662,377	3,917,036	4,149,921	4,384,656	4,597,945	5,168,602	5,679,612	6,349,479
Other direct costs	8,783,068	9,216,214	9,327,381	9,415,767	9,467,452	9,688,599	10,023,631	10,496,544	11,357,626	11,814,103	11,561,809	11,781,427	13,348,708	15,845,953	16,895,957
Indirect costs	9,560,647	9,993,398	9,823,271	9,843,702	9,658,039	9,770,981	10,137,765	10,561,387	11,247,156	11,772,779	12,163,750	12,650,463	13,813,938	15,148,006	16,059,752
Recovered	6,175,654	6,585,483	6,554,816	6,539,581	6,339,755	6,409,794	6,622,242	6,946,564	7,365,362	7,916,489	8,105,687	8,506,535	9,429,277	10,373,089	11,163,918
Unrecovered	3,384,993	3,407,915	3,268,455	3,304,121	3,318,284	3,361,187	3,515,523	3,614,823	3,881,794	3,856,290	4,058,063	4,143,928	4,384,661	4,774,917	4,895,834
Private															
All R&D	20,019,984	21,358,433	21,567,469	22,164,522	22,520,818	23,138,576	24,662,611	25,892,826	27,136,048	28,834,682	29,669,226	31,049,860	33,880,365	37,689,744	40,610,985
Direct costs	14,453,670	15,389,005	15,559,472	16,084,468	16,544,310	16,971,503	18,313,103	19,241,354	20,134,958	21,465,124	22,057,624	23,163,835	25,340,145	28,364,284	30,434,518
Salaries, wages, and fringe benefits	7,612,610	8,224,515	8,389,928	8,571,140	8,678,305	9,094,524	9,709,524	10,330,978	10,924,202	11,498,076	12,247,015	12,796,585	13,773,932	15,271,435	16,644,381
Software	23,630	19,923	19,964	22,539	22,064	24,143	24,137	28,042	27,609	33,033	37,540	33,602	43,530	55,573	71,784
Noncapitalized software	19,002	17,745	18,370	19,137	19,241	18,770	21,086	24,802	25,754	28,558	32,373	31,157	39,164	49,008	66,735
Capitalized software	4,628	2,178	1,594	3,402	2,823	5,373	3,051	3,240	1,855	4,475	5,167	2,445	4,366	6,565	5,049
Capitalized equipment	690,727	700,976	564,162	598,743	567,746	610,777	590,858	639,517	626,220	694,875	663,970	723,204	719,859	919,816	1,013,095
Passed through to subrecipients	1,891,241	2,018,145	2,028,973	2,080,893	2,143,971	2,092,116	2,176,415	2,253,360	2,415,204	2,607,201	2,716,257	3,029,135	3,436,920	3,777,910	4,110,805
Other direct costs	4,235,462	4,425,446	4,556,445	4,811,153	5,132,224	5,149,943	5,812,169	5,989,457	6,141,723	6,631,939	6,392,842	6,581,309	7,365,904	8,339,550	8,594,453
Indirect costs	5,566,314	5,969,428	6,007,997	6,080,054	5,976,508	6,167,073	6,349,508	6,651,472	7,001,090	7,369,558	7,611,602	7,886,025	8,540,220	9,325,460	10,176,467
Recovered	4,290,239	4,766,856	4,666,942	4,680,699	4,534,254	4,691,576	4,831,007	5,076,236	5,381,018	5,692,175	5,931,025	6,153,636	6,756,013	7,330,170	8,008,225
Unrecovered	1,276,075	1,202,572	1,341,055	1,399,355	1,442,254	1,475,497	1,518,501	1,575,236	1,620,072	1,677,383	1,680,577	1,732,389	1,784,207	1,995,290	2,168,242

Source(s):

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