

18. FEDERAL INVESTMENT

Federal investment is the portion of Federal spending intended to yield long-term benefits for the economy and the country. It promotes improved efficiency within Federal agencies, as well as growth in the national economy by increasing the overall stock of capital. Investment spending can take the form of direct Federal spending or of grants to State and local governments. It can be designated for physical capital, which creates a tangible asset that yields a stream of services over a period of years. It also can be for research and development, education, or training, all of which are intangible but still increase income in the future or provide other long-term benefits.

Most presentations in this volume combine investment spending with spending intended for current use. This chapter focuses solely on Federal and federally financed investment. It provides a comprehensive picture of Federal investment spending for physical capital, research and development, and education and training, but because it disregards spending for non-investment activities, it provides only a partial picture of Federal support for specific national needs, such as defense, transportation, or environmental protection.

DESCRIPTION OF FEDERAL INVESTMENT

The distinction between investment spending and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification of investment, encompassing physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways, and all other investments, or “direct Federal programs.” This “direct Federal” category consists primarily of spending for assets owned by the Federal Government, such as weapons systems and buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

The definition of investment in a particular presentation can vary depending on specific considerations:

- Taking the approach of a traditional balance sheet would limit investment to only those physical assets owned by the Federal Government, excluding capital financed through grants and intangible assets such as research and education.
- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national defense assets, the direct benefits of which enhance national security rather than economic growth.
- Examining the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- Considering a “social investment” perspective would broaden the coverage of investment beyond what is included in this chapter to include programs such as maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

This analysis takes the relatively broad approach of including all investment in physical assets, research and development, and education and training, regardless of ultimate ownership of the resulting asset or the purpose it serves. It does not include “social investment” items like health care or social services where it is difficult to separate out the degree to which the spending provides current versus future benefits. The definition of investment used in this section provides consistency over time (historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume). Table 18–2 at the end of this section allows disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data: the treatment of grants to State and local governments, and the classification of spending that could be shown in multiple categories.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays into the category in which the recipient jurisdictions are expected to spend a majority of the money. Hence, the Community Development Block Grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acquisition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified hierarchically in the category that is most commonly recognized as investment: physical assets, followed by research and development, followed by education and

training. Consequently, outlays for the conduct of research and development do not include outlays for the construction of research facilities, because these outlays are included in the category for investment in physical assets.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction or education and training. For more information about the treatment of Federal credit programs, refer to the section on Federal credit in Chapter 9, "Budget Concepts," in this volume.

This discussion presents spending for gross investment, without adjusting for depreciation.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 18–1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Combined defense and nondefense investment outlays were \$464.9 billion in 2013. They are estimated to increase slightly to \$465.7 billion in 2014 and increase to \$483.7 billion in 2015. The major factors contributing to these changes are described below.

Major Federal investment outlays will comprise an estimated 12.4 percent of total Federal outlays in 2015 and 2.7 percent of the Nation's gross domestic product. Greater detail on Federal investment is available in Table 18–2 at the end of this section. That table includes both budget authority and outlays.

Physical investment. Outlays for major public physical capital investment (hereafter referred to as "physical investment outlays") were \$251.5 billion in 2013 and are estimated to decline to \$232.4 billion in 2014 and continue to decline to \$231.6 billion in 2015. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. Approximately two-thirds of these outlays are for direct physical investment by the Federal Government, with the remainder being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense outlays for physical investment are estimated to be \$105.6 billion in 2015. Approximately 90 percent of defense physical investment outlays, or an estimated \$95.8 billion, are for the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities. Defense outlays for physical investment decrease from \$126.9 billion in 2013 to \$104.0 billion in 2014, primarily due to reduced

Table 18–1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

(In billions of dollars)

Federal Investment	Actual 2013	Estimate	
		2014	2015
Major public physical capital investment:			
Direct Federal:			
National defense	126.9	104.0	105.6
Nondefense	46.1	44.1	40.5
Subtotal, direct major public physical capital investment	173.0	148.2	146.2
Grants to State and local governments	78.4	84.2	85.5
Subtotal, major public physical capital investment	251.5	232.4	231.6
Conduct of research and development:			
National defense	71.1	61.0	68.6
Nondefense	61.4	62.8	62.5
Subtotal, conduct of research and development	132.5	123.8	131.0
Conduct of education and training:			
Grants to State and local governments	58.6	63.6	59.6
Direct Federal	22.3	45.8	61.5
Subtotal, conduct of education and training	81.0	109.5	121.0
Total, major Federal investment outlays	464.9	465.7	483.7
MEMORANDUM			
Major Federal investment outlays:			
National defense	198.0	165.0	174.2
Nondefense	266.9	300.7	309.5
Total, major Federal investment outlays	464.9	465.7	483.7
Miscellaneous physical investment:			
Commodity inventories	–*	–0.3	–*
Other physical investment (direct)	2.4	2.4	2.5
Total, miscellaneous physical investment	2.4	2.1	2.5
Total, Federal investment outlays, including miscellaneous physical investment	467.3	467.8	486.2

*\$50 million or less.

spending related to overseas contingency operations and declines in base budget Defense procurement budget authority over the past several years.

Outlays for direct physical investment for nondefense purposes are estimated to be \$40.5 billion in 2015. This is a reduction from the \$44.1 billion in outlays in 2014, largely attributable to reductions in outlays for grants for specified energy property in lieu of tax credits, due to deadlines for project construction and completion of grant applications. Outlays for 2015 include \$32.5 billion for construction and rehabilitation. This amount includes funds for water, power, and natural resources projects of the Corps of Engineers, the Bureau of Reclamation within the Department of the Interior, and the Tennessee Valley Authority; construction and rehabilitation of veterans' hospitals and Indian Health Service hospitals and clinics; facilities for space and science programs; Postal Service facilities; energy conservation projects in the Department of Energy; construction for the administration of justice programs (largely in Customs and Border Protection within the Department of Homeland Security); construction of office buildings by the General Services Administration; and construction for embassy security. Outlays for the acquisition of major equipment are estimated to be \$17.2 billion in 2015. The largest amounts are for the air traffic control system; weather and climate monitoring in the National Oceanic and Atmospheric Administration; law enforcement activities, largely in the Department of Homeland Security and the Federal Bureau of Investigation; and information systems in the Department of Veterans Affairs.

Grants to State and local governments for physical investment are estimated to be \$85.5 billion in 2015, up from \$84.2 billion in 2014. Over 75 percent of these outlays, or \$65.9 billion, are to assist States and localities with transportation infrastructure, primarily highways; this category represents the majority of the increase in physical investment grants from 2014 to 2015. Other major grants for physical investment fund sewage treatment plants and other State and tribal assistance grants, community and regional development, and public housing.

Conduct of research and development. Outlays for the conduct of research and development are estimated to be \$131.0 billion in 2015. These outlays are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. More than half of these outlays, an estimated \$68.6 billion, are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are estimated to be \$62.5 billion in 2015. These are largely for the National Institutes of Health, National Aeronautics and Space Administration, the Department of Energy, and the National Science Foundation.

A more complete and detailed discussion of research and development funding can be found in Chapter 19, "Research and Development," in this volume.

Conduct of education and training. Outlays for the conduct of education and training were \$109.5 billion in 2014 and are estimated to rise to \$121.0 billion in 2015. These outlays add to the stock of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$59.6 billion in 2015, roughly 49 percent of the total. They include education programs for the disadvantaged and individuals with disabilities, training programs in the Department of Labor, Head Start, and other education programs. Grants for education and training decrease from \$63.6 billion in 2014 to \$59.6 billion in 2015, largely due to completed outlays of American Reinvestment and Recovery Act funding in 2014. Direct Federal education and training outlays are estimated to be \$61.5 billion in 2015, up from the levels in 2013 and 2014. Programs in this category primarily consist of aid for higher education through student financial assistance, loan subsidies, and veterans' education, training, and rehabilitation. Increased costs in the student loan program due to legislative and technical changes reduced negative subsidy estimates in 2014 and 2015 that are accounted for as offsets to spending. The Administration proposes expansion of and reforms to the income-based repayment plan that further increase the cost of the student loan program and reduce negative subsidies in 2015.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 18–1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and other commodities. Sales are estimated to exceed purchases by \$31 million in 2015.

Outlays for other miscellaneous physical investment are estimated to be \$2.5 billion in 2015. This category consists entirely of direct Federal outlays and includes primarily conservation programs.

Detailed Table on Investment Spending

The following table provides data on budget authority as well as outlays for major Federal investment divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 18–2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(In millions of dollars)

Description	Budget Authority			Outlays		
	2013 Actual	2014 Estimate	2015 Estimate	2013 Actual	2014 Estimate	2015 Estimate
GRANTS TO STATE AND LOCAL GOVERNMENTS						
Major public physical investment:						
Construction and rehabilitation:						
Transportation:						
Highways	41,729	39,453	46,685	43,427	43,449	45,095
Mass transportation	22,056	11,892	18,889	11,506	12,698	14,238
Rail transportation			2,303	780	1,275	2,621
Air and other transportation	3,652	3,908	3,843	3,724	4,093	3,933
Subtotal, transportation	67,437	55,253	71,720	59,437	61,515	65,887
Other construction and rehabilitation:						
Pollution control and abatement	3,188	2,931	2,124	3,393	3,181	2,909
Community and regional development	19,233	4,030	18,559	8,156	12,173	9,900
Housing assistance	3,467	3,625	4,603	4,512	4,270	4,265
Other	507	627	592	706	704	597
Subtotal, other construction and rehabilitation	26,395	11,213	25,878	16,767	20,328	17,671
Subtotal, construction and rehabilitation	93,832	66,466	97,598	76,204	81,843	83,558
Other physical assets	1,668	1,850	1,743	2,227	2,392	1,923
Subtotal, major public physical investment	95,500	68,316	99,341	78,431	84,235	85,481
Conduct of research and development:						
Agriculture	299	334	330	275	487	487
Other	179	184	179	148	161	129
Subtotal, conduct of research and development	478	518	509	423	648	616
Conduct of education and training:						
Elementary, secondary, and vocational education	35,993	42,200	39,433	40,260	43,428	39,931
Higher education	455	471	342	448	482	480
Research and general education aids	710	737	772	832	816	794
Training and employment	3,700	3,580	3,083	3,361	4,154	3,879
Social services	10,967	11,732	11,901	11,071	11,718	11,654
Agriculture	376	416	416	336	646	471
Other	2,315	2,399	2,395	2,313	2,377	2,371
Subtotal, conduct of education and training	54,516	61,535	58,342	58,621	63,621	59,580
Subtotal, grants for investment	150,494	130,369	158,192	137,475	148,504	145,677
DIRECT FEDERAL PROGRAMS						
Major public physical investment:						
Construction and rehabilitation:						
National defense:						
Military construction and family housing	7,485	7,696	4,954	11,579	11,511	9,625
Atomic energy defense activities and other	21	81	259	51	97	280
Subtotal, national defense	7,506	7,777	5,213	11,630	11,608	9,905
Nondefense:						
International affairs	2,068	1,994	1,602	1,142	1,248	1,479
General science, space, and technology	1,133	1,283	1,198	957	1,444	1,397
Water resources projects	5,999	2,705	2,003	3,089	4,097	4,334
Other natural resources and environment	1,429	1,056	1,255	1,269	1,311	1,193
Energy	7,546	8,264	5,024	8,730	9,099	6,136
Postal service	367	350	587	336	355	652
Transportation	582	70	270	390	83	296
Veterans hospitals and other health facilities	3,564	2,753	2,396	2,913	2,609	2,397
Administration of justice	1,372	2,260	2,258	2,018	2,188	1,439
GSA real property activities	361	1,653	2,002	1,558	1,458	1,593
Other construction	7,064	1,880	11,323	7,630	2,217	1,639
Subtotal, nondefense	31,485	24,268	29,918	30,032	26,109	22,555
Subtotal, construction and rehabilitation	38,991	32,045	35,131	41,662	37,717	32,460

Table 18–2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued
(In millions of dollars)

Description	Budget Authority			Outlays		
	2013 Actual	2014 Estimate	2015 Estimate	2013 Actual	2014 Estimate	2015 Estimate
Acquisition of major equipment:						
National defense:						
Department of Defense	100,000	99,917	96,950	114,984	92,138	95,346
Atomic energy defense activities	358	338	468	318	303	411
Subtotal, national defense	100,358	100,255	97,418	115,302	92,441	95,757
Nondefense:						
General science and basic research	444	519	476	521	526	478
Postal service	387	850	1,255	343	657	811
Air transportation	3,405	3,341	3,374	3,663	3,515	3,600
Water transportation (Coast Guard)	1,047	1,183	864	1,045	1,608	1,326
Other transportation (railroads)	1,641	1,390	2,450	1,364	1,625	1,454
Hospital and medical care for veterans	2,006	1,316	620	1,895	1,600	1,321
Federal law enforcement activities	1,400	1,385	1,395	1,500	1,232	1,373
Department of the Treasury (fiscal operations)	313	315	332	267	314	358
National Oceanic and Atmospheric Administration	1,846	2,042	2,217	1,179	1,185	1,430
Other	4,085	4,413	4,631	4,065	5,040	5,029
Subtotal, nondefense	16,574	16,754	17,614	15,842	17,302	17,180
Subtotal, acquisition of major equipment	116,932	117,009	115,032	131,144	109,743	112,937
Purchase or sale of land and structures:						
National defense	–49	–18	–37	–28	–5	–35
Natural resources and environment	253	266	645	231	262	412
General government	132	109	125	58
Other	1,876	22	–82	–94	403	378
Subtotal, purchase or sale of land and structures	2,212	379	526	234	718	755
Subtotal, major public physical investment	158,135	149,433	150,689	173,040	148,178	146,152
Conduct of research and development:						
National defense:						
Defense military	63,767	63,633	64,329	67,288	56,697	63,923
Atomic energy and other	4,142	4,327	4,782	3,827	4,269	4,664
Subtotal, national defense	67,909	67,960	69,111	71,115	60,966	68,587
Nondefense:						
International affairs	350	280	280	277	267	267
General science, space, and technology:						
NASA	10,567	11,037	11,052	10,620	10,776	10,617
National Science Foundation	4,947	5,191	5,188	5,269	5,051	5,739
Department of Energy	3,845	3,996	4,094	3,966	4,060	4,101
Subtotal, general science, space, and technology	19,359	20,224	20,334	19,855	19,887	20,457
Energy	2,289	2,309	2,579	2,033	2,057	2,233
Transportation:						
Department of Transportation	678	708	819	670	682	722
NASA	546	476	432	494	481	555
Other transportation	19	19	18	21	38	22
Subtotal, transportation	1,243	1,203	1,269	1,185	1,201	1,299
Health:						
National Institutes of Health	28,322	29,205	29,403	30,003	30,174	28,784
Other health	1,858	1,936	1,963	1,273	1,508	1,794
Subtotal, health	30,180	31,141	31,366	31,276	31,682	30,578
Agriculture	1,454	1,686	1,746	1,566	1,750	1,706
Natural resources and environment	2,053	2,189	2,230	1,896	2,047	2,043
National Institute of Standards and Technology	520	591	611	504	622	618
Hospital and medical care for veterans	1,164	1,174	1,178	1,072	1,152	1,158
All other research and development	1,460	1,674	1,644	1,278	1,513	1,487
Subtotal, nondefense	60,072	62,471	63,237	60,942	62,178	61,846
Subtotal, conduct of research and development	127,981	130,431	132,348	132,057	123,144	130,433

Table 18-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued
(In millions of dollars)

Description	Budget Authority			Outlays		
	2013 Actual	2014 Estimate	2015 Estimate	2013 Actual	2014 Estimate	2015 Estimate
Conduct of education and training:						
Elementary, secondary, and vocational education	1,401	1,354	1,233	1,361	1,293	1,301
Higher education	2,184	20,315	35,651	-661	22,321	37,197
Research and general education aids	2,031	2,119	2,207	2,196	2,101	2,047
Training and employment	2,104	2,174	2,290	2,176	1,930	2,177
Health	1,550	1,511	1,307	1,676	1,634	1,496
Veterans education, training, and rehabilitation	11,601	13,456	15,084	13,220	13,767	14,539
General science and basic research	897	968	1,004	876	914	1,142
International affairs	593	581	595	650	766	591
Other	688	826	873	851	1,111	976
Subtotal, conduct of education and training	23,049	43,304	60,244	22,345	45,837	61,466
Subtotal, direct Federal investment	309,165	323,168	343,281	327,442	317,159	338,051
Total, Federal investment	459,659	453,537	501,473	464,917	465,663	483,728