

## 13. FEDERAL INVESTMENT

Federal investment is the portion of Federal spending of taxpayer money intended to yield long-term benefits for the economy and the Nation that would be greater than if that money had been allocated in the private sector. 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 grants to State, local, tribal and territorial governments.<sup>1</sup> It can be designated for physical capital—a tangible asset or the improvement of that asset—that increases production over a period of years or increases value to the Government. It can also be for research and development, education, or training, all of which are intangible, but can still increase income in the future or provide other long-term benefits.

Most presentations in the *Analytical Perspectives* volume combine investment spending with spending intended for current use. In contrast, this chapter focuses solely on Federal and federally financed investment, providing a comprehensive picture of Federal spending for physical capital, research and development, and education and training. Because the analysis in this chapter excludes spending for non-investment activities, it gives only a partial picture of Federal support for specific national needs, such as defense.

Total Federal investment spending was \$712 billion in 2020. It is expected to increase by 11 percent in 2021 to \$791 billion. The Budget proposes a 0.7 percent increase from 2021 for a total of \$796 billion in 2022.

### DESCRIPTION OF FEDERAL INVESTMENT

The budget uses a relatively broad definition of investment. It defines Federal investment as encompassing spending for research, development, education, and training as well as physical assets such as land, structures, infrastructure, and major equipment. It also includes spending regardless of the ultimate ownership of the resulting asset, or the purpose it serves. For the purposes of this definition, however, Federal investment does not include “social investment” items like healthcare or social services where it is difficult to separate out the degree to which the spending provides current versus future benefits. The distinction between investment spending and current outlays is a matter of judgment, but the definition used for the purposes of this analysis has remained consistent over time and is useful for historical comparisons.<sup>2</sup>

<sup>1</sup> For more information on Federal grants to State and local governments see Chapter 11, “Aid to State and Local Governments,” in this volume.

<sup>2</sup> Historical figures on investment outlays beginning in 1940 may be found in the Budget’s *Historical Tables*. The *Historical Tables* are available at <https://www.whitehouse.gov/omb/historical-tables/>.

Investment in physical assets can be for the construction or improvement of buildings, structures, and infrastructure or for the development or acquisition of major equipment. The broader research and development category include spending on the facilities in which these activities occur, major equipment for the conduct of research and development, as well as spending for basic and applied research, and experimental development.<sup>3</sup> Investment in education and training includes vocational rehabilitation, programs for veterans, funding for school systems and higher education, and agricultural extension services. This category excludes training for military personnel or other individuals in Government service.

The budget further classifies investments as either grants to State, local, tribal and territorial governments (e.g. for highways or education), 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, Pell Grants, and higher education loans to individuals. For grants made 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 for current use. This analysis classifies outlays based on the category in which the recipient jurisdictions are expected to spend a majority of the money. General purpose fiscal assistance is classified as current spending, although in practice, some may be spent by recipient jurisdictions on investment.

Additionally, in this analysis, Federal investment includes credit programs that are for investment purposes. 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.

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 13–1. The categories include major public physical investment, the conduct of research and development, and the conduct of education and training. Total major Federal investment outlays were \$710 billion in 2020. They are estimated to increase 11 percent to

<sup>3</sup> A more thorough discussion of research and development funding may be found in Chapter 14, “Research and Development,” in this volume.

\$788 billion in 2021, and increase by 0.7 percent to \$793 billion in 2022.<sup>4</sup> For 2020 through 2022, defense investment outlays comprise about 30 percent of total major Federal investment while non-defense investment comprises around 70 percent. In 2021, defense investment outlays are expected to increase by \$4 billion, 2 percent, while non-defense investment outlays are expected to increase by \$74 billion, 16 percent. In 2022, the Budget projects a defense investment decrease of \$4 billion, or 2 percent, over 2021 and an increase in non-defense investment of \$9 billion, or 2 percent.

Major Federal investment outlays will comprise an estimated 13.2 percent of total Federal outlays in 2022 and 3.4 percent of the Nation's gross domestic product. Budget authority and outlays for major Federal investment by subcategory may be found in Table 13-2 at the end of this chapter.

### 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 13-1. 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 \$0.8 billion in 2022.

Outlays for other miscellaneous physical investment are estimated to be \$3.4 billion in 2022. This category consists entirely of direct Federal outlays and includes primarily conservation programs.

### Detailed Table on Investment Spending

Table 13-2 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 13-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS**

(In billions of dollars)

Federal Investment	Actual	Estimate	
	2020	2021	2022
Major public physical capital investment:			
Direct Federal:			
National defense .....	183.6	181.8	176.8
Nondefense .....	54.8	80.0	74.9
Subtotal, direct major public physical capital investment .....	238.3	261.8	251.7
Grants to State and local governments .....	85.3	96.0	122.8
Subtotal, major public physical capital investment .....	323.6	357.8	374.5
Conduct of research and development:			
National defense .....	63.1	68.9	70.1
Nondefense .....	70.5	78.1	89.2
Subtotal, conduct of research and development .....	133.6	146.9	159.3
Conduct of education and training:			
Grants to State and local governments .....	60.8	95.0	128.4
Direct Federal .....	192.3	188.4	131.3
Subtotal, conduct of education and training .....	253.0	283.4	259.7
<b>Total, major Federal investment outlays .....</b>	<b>710.2</b>	<b>788.2</b>	<b>793.5</b>
<b>MEMORANDUM</b>			
Major Federal investment outlays:			
National defense .....	246.6	250.7	246.9
Nondefense .....	463.5	537.5	546.6
Total, major Federal investment outlays .....	710.2	788.2	793.5
Miscellaneous physical investment:			
Commodity inventories .....	-0.6	-0.5	-0.8
Other physical investment (direct) .....	2.4	3.2	3.4
Total, miscellaneous physical investment .....	1.9	2.8	2.6
Total, Federal investment outlays, including miscellaneous physical investment .....	712.0	790.9	796.1

<sup>4</sup>Amounts shown in FY 2022 may understate total investment funding because some American Jobs Plan initiatives cover a range of activities (including, but not solely, investment). Additionally, the 2020 and 2021 amounts present funding provided to address the pandemic emergency.

**Table 13-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS**

(In millions of dollars)

Description	Budget Authority			Outlays		
	2020 Actual	2021 Estimate	2022 Estimate	2020 Actual	2021 Estimate	2022 Estimate
<b>GRANTS TO STATE AND LOCAL GOVERNMENTS</b>						
Major public physical investment:						
Construction and rehabilitation:						
Transportation:						
Highways .....	47,282	57,069	45,131	48,305	49,565	52,958
Mass transportation .....	13,472	13,584	14,045	13,038	13,346	14,405
Rail transportation .....	3,529	5,230	3,054	3,075	4,981	3,106
Air and other transportation .....	4,554	6,555	79,888	3,771	4,605	16,000
Subtotal, transportation .....	68,837	82,438	142,118	68,189	72,497	86,469
Other construction and rehabilitation:						
Pollution control and abatement .....	4,161	3,975	4,616	3,660	2,652	3,282
Community and regional development .....	11,343	7,901	17,667	6,416	11,418	16,439
Housing assistance .....	5,490	8,072	50,507	3,803	4,895	6,595
Other .....	1,593	2,300	18,159	1,280	1,849	6,949
Subtotal, other construction and rehabilitation .....	22,587	22,248	90,949	15,159	20,814	33,265
Subtotal, construction and rehabilitation .....	91,424	104,686	233,067	83,348	93,311	119,734
Other physical assets .....	2,511	2,935	3,291	1,911	2,687	3,078
Subtotal, major public physical investment .....	93,935	107,621	236,358	85,259	95,998	122,812
Conduct of research and development:						
Agriculture .....	373	389	438	292	328	611
Other .....	199	224	271	53	53	61
Subtotal, conduct of research and development .....	572	613	709	345	381	672
Conduct of education and training:						
Elementary, secondary, and vocational education .....	58,284	230,273	82,242	40,554	70,562	101,802
Higher education .....	405	408	20,960	375	468	878
Research and general education aids .....	933	1,328	832	854	1,073	1,040
Training and employment .....	3,843	3,496	3,920	2,957	3,584	3,717
Social services .....	16,418	17,986	16,704	13,228	15,829	16,683
Agriculture .....	446	562	541	429	380	750
Other .....	1,966	2,459	3,543	2,353	3,124	3,523
Subtotal, conduct of education and training .....	82,295	256,512	128,742	60,750	95,020	128,393
<b>Subtotal, grants for investment .....</b>	<b>176,802</b>	<b>364,746</b>	<b>365,809</b>	<b>146,354</b>	<b>191,399</b>	<b>251,877</b>
<b>DIRECT FEDERAL PROGRAMS</b>						
Major public physical investment:						
Construction and rehabilitation:						
National defense:						
Military construction and family housing .....	16,471	6,804	8,227	8,638	7,319	10,370
Atomic energy defense activities and other .....	1,936	3,166	2,469	1,679	2,645	2,291
Subtotal, national defense .....	18,407	9,970	10,696	10,317	9,964	12,661
Nondefense:						
International affairs .....	1,090	1,329	1,044	1,097	1,440	1,413
General science, space, and technology .....	2,078	2,062	1,940	1,510	2,065	2,019
Water resources projects .....	4,590	4,592	4,299	3,565	3,856	4,492
Other natural resources and environment .....	1,466	2,773	2,817	1,398	1,555	2,186
Energy .....	2,150	653	10,556	2,177	3,056	5,509
Postal service .....	763	1,006	964	856	658	897
Transportation .....	25,579	45,044	1,240	12,281	24,846	15,942
Veterans hospitals and other health facilities .....	5,094	7,894	23,099	4,210	4,663	7,644
Administration of justice .....	3,265	2,989	-125	1,985	3,536	894
GSA real property activities .....	1,224	807	7,142	1,963	1,899	2,176
Other construction .....	3,337	6,717	29,721	3,248	6,510	6,433
Subtotal, nondefense .....	50,636	75,866	82,697	34,290	54,084	49,605

**Table 13-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued**  
(In millions of dollars)

Description	Budget Authority			Outlays		
	2020 Actual	2021 Estimate	2022 Estimate	2020 Actual	2021 Estimate	2022 Estimate
Subtotal, construction and rehabilitation .....	69,043	85,836	93,393	44,607	64,048	62,266
Acquisition of major equipment:						
National defense:						
Department of Defense .....	174,945	178,887	173,977	171,389	170,159	162,461
Atomic energy defense activities .....	2,378	2,163	2,174	1,878	1,693	1,682
Subtotal, national defense .....	177,323	181,050	176,151	173,267	171,852	164,143
Nondefense:						
General science and basic research .....	576	530	551	510	503	531
Postal service .....	897	1,374	5,954	954	1,328	2,867
Air transportation .....	3,732	3,792	4,184	3,476	3,566	3,986
Water transportation (Coast Guard) .....	1,753	2,244	1,554	1,384	2,450	2,239
Other transportation (railroads) .....	2	3	261	2	3	117
Hospital and medical care for veterans .....	3,550	7,233	2,846	2,797	4,910	4,400
Federal law enforcement activities .....	2,498	2,906	1,835	2,487	2,609	1,448
Department of the Treasury (fiscal operations) .....	314	953	735	431	622	806
National Oceanic and Atmospheric Administration .....	1,339	1,356	1,969	1,554	2,184	1,649
Other .....	7,290	5,770	5,811	6,613	7,493	6,843
Subtotal, nondefense .....	21,951	26,161	25,700	20,208	25,668	24,886
Subtotal, acquisition of major equipment .....	199,274	207,211	201,851	193,475	197,520	189,029
Purchase or sale of land and structures:						
National defense .....	-29	-34	-32	-26	-25	-22
Natural resources and environment .....	322	424	421	253	365	408
General government .....	-1	.....	.....	-1	.....	.....
Other .....	144	157	307	15	-69	1
Subtotal, purchase or sale of land and structures .....	436	547	696	241	271	387
Subtotal, major public physical investment .....	268,753	293,594	295,940	238,323	261,839	251,682
Conduct of research and development:						
National defense:						
Defense military .....	60,584	63,350	62,780	57,427	62,359	63,093
Atomic energy and other .....	7,380	7,095	6,957	5,656	6,513	6,982
Subtotal, national defense .....	67,964	70,445	69,737	63,083	68,872	70,075
Nondefense:						
International affairs .....	226	226	226	226	226	226
General science, space, and technology:						
NASA .....	14,158	12,542	13,794	11,343	12,290	13,151
National Science Foundation .....	6,271	6,814	7,579	5,370	6,030	6,674
Department of Energy .....	5,424	5,335	6,027	4,810	5,542	6,202
Subtotal, general science, space, and technology .....	25,853	24,691	27,400	21,523	23,862	26,027
Energy .....	4,286	4,286	12,834	3,622	3,454	5,094
Transportation:						
Department of Transportation .....	896	841	1,023	932	932	1,029
NASA .....	595	632	723	352	576	670
Other transportation .....	22	40	43	26	37	41
Subtotal, transportation .....	1,513	1,513	1,789	1,310	1,545	1,740
Health:						
National Institutes of Health .....	42,664	41,726	49,373	34,830	39,582	43,246
Other health .....	1,246	1,447	1,488	933	996	1,051
Subtotal, health .....	43,910	43,173	50,861	35,763	40,578	44,297
Agriculture .....	1,959	2,080	2,612	1,679	1,790	2,967
Natural resources and environment .....	2,634	2,638	3,262	2,443	2,522	3,091
National Institute of Standards and Technology .....	663	833	2,058	690	743	1,970
Hospital and medical care for veterans .....	1,366	1,420	1,498	1,417	1,407	1,500
All other research and development .....	1,460	1,649	2,723	1,457	1,550	1,626
Subtotal, nondefense .....	83,870	82,509	105,263	70,130	77,677	88,538

**Table 13-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued**  
(In millions of dollars)

Description	Budget Authority			Outlays		
	2020 Actual	2021 Estimate	2022 Estimate	2020 Actual	2021 Estimate	2022 Estimate
Subtotal, conduct of research and development .....	151,834	152,954	175,000	133,213	146,549	158,613
Conduct of education and training:						
Elementary, secondary, and vocational education .....	15,655	65,129	1,862	10,266	22,388	48,874
Higher education .....	163,220	143,467	70,698	160,280	142,654	56,040
Research and general education aids .....	2,596	2,684	2,687	2,312	2,627	2,651
Training and employment .....	2,312	2,202	8,217	2,122	2,197	3,380
Health .....	2,179	3,014	2,420	1,908	2,374	2,732
Veterans education, training, and rehabilitation .....	14,305	12,807	15,179	13,120	13,471	14,331
General science and basic research .....	919	1,006	1,190	777	936	1,030
International affairs .....	748	752	753	610	696	800
Other .....	1,002	1,117	2,812	900	1,024	1,447
Subtotal, conduct of education and training .....	202,936	232,178	105,818	192,295	188,367	131,285
<b>Subtotal, direct Federal investment .....</b>	<b>623,523</b>	<b>678,726</b>	<b>576,758</b>	<b>563,831</b>	<b>596,755</b>	<b>541,580</b>
<b>Total, Federal investment .....</b>	<b>800,325</b>	<b>1,043,472</b>	<b>942,567</b>	<b>710,185</b>	<b>788,154</b>	<b>793,457</b>

