

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.

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

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.

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 Budget’s historical tables).¹ 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.

¹ The historical tables are available at <http://www.budget.gov/budget/Historicals> and on the Budget CD-ROM.

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 \$464.3 billion in 2014. They are estimated to increase to \$520.9 billion in 2015 and decrease to \$490.6 billion in 2016. The major factors contributing to these changes are described below.

Major Federal investment outlays will comprise an estimated 12.3 percent of total Federal outlays in 2016 and 2.6 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 \$233.5 billion in 2014 and are estimated slightly increase to \$235.3 billion in 2016. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the

Table 18–1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

(In billions of dollars)

Federal Investment	Actual 2014	Estimate	
		2015	2016
Major public physical capital investment:			
Direct Federal:			
National defense	117.1	115.2	110.9
Nondefense	37.5	43.2	39.8
Subtotal, direct major public physical capital investment	154.6	158.4	150.7
Grants to State and local governments	78.9	82.0	84.6
Subtotal, major public physical capital investment	233.5	240.4	235.3
Conduct of research and development:			
National defense	70.6	72.6	76.9
Nondefense	60.7	61.6	63.1
Subtotal, conduct of research and development	131.3	134.2	140.1
Conduct of education and training:			
Grants to State and local governments	56.6	61.0	58.1
Direct Federal	42.8	85.3	57.1
Subtotal, conduct of education and training	99.5	146.2	115.2
Total, major Federal investment outlays	464.3	520.9	490.6
MEMORANDUM			
Major Federal investment outlays:			
National defense	187.6	187.8	187.8
Nondefense	276.7	333.0	302.8
Total, major Federal investment outlays	464.3	520.9	490.6
Miscellaneous physical investment:			
Commodity inventories	–0.5	–0.1	–0.1
Other physical investment (direct)	2.0	2.4	2.5
Total, miscellaneous physical investment	1.5	2.3	2.4
Total, Federal investment outlays, including miscellaneous physical investment	465.8	523.2	493.0

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 \$110.9 billion in 2016. Approximately 92 percent of defense physical investment outlays, or an estimated \$102.1 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 \$117.1 billion in 2014 to \$110.9 billion in 2016, primarily due to reduced spending for 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 \$39.8 billion in 2016. Outlays for 2016 include \$21.0 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, the Power Marketing Administrations within the Department of Energy, 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; 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 \$18.6 billion in 2016. The largest amounts are for information systems in the Department of Veterans Affairs, facilities and equipment; airport and airway trust fund in the Department of Transportation and procurement, acquisition and construction in the Department of Commerce.

Grants to State and local governments for physical investment are estimated to be \$84.6 billion in 2016, up from \$81.9 billion in 2015. Over 78 percent of these outlays, or \$66.6 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 2015 to 2016. 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 \$140.1 billion in 2016. 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 \$76.9 billion, are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Non-Defense outlays for the conduct of research and development are estimated to be \$63.1 billion in 2016. 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 \$99.5 billion in 2014 and are estimated to rise to \$115.2 billion in 2016. 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 \$58.1 billion in 2016, roughly 50 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. Outlays in grants for education and training decrease from \$60.9 billion in 2015 to \$58.1 billion in 2016, largely due to completed outlays of American Reinvestment and Recovery Act funding in 2015. Direct Federal education and training outlays are estimated to be \$57.1 billion in 2016, up from \$42.8 billion in 2014 but down from \$85.3 billion in 2015. Programs in this category primarily consist of aid for higher education through student financial assistance, loan subsidies, and veterans' education, training, and rehabilitation. The year-to-year pattern of outlays in this category is partially due to updated estimates recorded in 2014 and 2015 of the subsidy costs of past student loan cohorts due to legislative, programmatic, and technical changes.

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 \$111 million in 2016.

Outlays for other miscellaneous physical investment are estimated to be \$2.5 billion in 2016. 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		
	2014 Actual	2015 Estimate	2016 Estimate	2014 Actual	2015 Estimate	2016 Estimate
GRANTS TO STATE AND LOCAL GOVERNMENTS						
Major public physical investment:						
Construction and rehabilitation:						
Transportation:						
Highways	39,352	39,198	49,336	42,952	43,269	45,266
Mass transportation	11,869	12,044	19,639	12,135	12,622	13,040
Rail transportation	1,385	1,394	2,438	2,498	3,293	4,335
Air and other transportation	3,908	3,678	3,977	3,505	4,045	3,928
Subtotal, transportation	56,514	56,314	75,390	61,090	63,229	66,569
Other construction and rehabilitation:						
Pollution control and abatement	2,929	2,936	2,982	3,179	3,031	3,061
Community and regional development	4,178	3,965	3,855	7,927	9,074	8,216
Housing assistance	3,624	3,499	3,878	4,314	3,827	3,834
Other	669	588	737	565	773	705
Subtotal, other construction and rehabilitation	11,400	10,988	11,452	15,985	16,705	15,816
Subtotal, construction and rehabilitation	67,914	67,302	86,842	77,075	79,934	82,385
Other physical assets	1,840	1,904	4,196	1,863	2,060	2,260
Subtotal, major public physical investment	69,754	69,206	91,038	78,938	81,994	84,645
Conduct of research and development:						
Agriculture	334	339	350	240	356	301
Other	203	198	237	173	174	163
Subtotal, conduct of research and development	537	537	587	413	530	464
Conduct of education and training:						
Elementary, secondary, and vocational education	37,181	36,853	42,230	38,906	41,359	37,480
Higher education	471	330	280	402	477	368
Research and general education aids	736	738	823	797	850	790
Training and employment	3,545	3,081	3,526	3,270	3,590	3,795
Social services	11,737	11,768	13,587	10,540	11,791	12,091
Agriculture	416	416	420	406	595	639
Other	2,188	2,215	2,264	2,319	2,307	2,924
Subtotal, conduct of education and training	56,274	55,401	63,130	56,640	60,969	58,087
Subtotal, grants for investment	126,565	125,144	154,755	135,991	143,493	143,196
DIRECT FEDERAL PROGRAMS						
Major public physical investment:						
Construction and rehabilitation:						
National defense:						
Military construction and family housing	7,742	5,156	6,930	9,239	8,704	8,614
Atomic energy defense activities and other	28	138	145	27	147	167
Subtotal, national defense	7,770	5,294	7,075	9,266	8,851	8,781
Non-Defense:						
International affairs	1,994	1,649	1,612	1,106	1,173	1,367
General science, space, and technology	1,304	1,172	1,291	1,175	1,338	1,314
Water resources projects	2,905	2,694	2,167	3,240	3,959	3,794
Other natural resources and environment	1,093	1,102	1,487	1,047	1,133	1,294
Energy	6,585	6,069	5,163	6,718	6,192	4,804
Postal service	315	414	402	376	541	458
Transportation	59	294	300	78	229	390
Veterans hospitals and other health facilities	2,910	3,441	3,951	2,826	3,749	3,166

Table 18-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(In millions of dollars)

Description	Budget Authority			Outlays		
	2014 Actual	2015 Estimate	2016 Estimate	2014 Actual	2015 Estimate	2016 Estimate
Administration of justice	2,089	1,983	1,385	1,727	1,152	1,461
GSA real property activities	1,668	1,328	2,505	896	1,480	1,244
Other construction	1,746	3,314	12,002	2,095	3,962	1,715
Subtotal, nondefense	22,668	23,460	32,265	21,284	24,908	21,007
Subtotal, construction and rehabilitation	30,438	28,754	39,340	30,550	33,759	29,788
Acquisition of major equipment:						
National defense:						
Department of Defense	99,931	102,091	111,827	107,457	106,000	101,757
Atomic energy defense activities	512	416	507	382	372	380
Subtotal, national defense	100,443	102,507	112,334	107,839	106,372	102,137
Non-Defense:						
General science and basic research	351	383	418	367	370	399
Postal service	580	1,809	1,795	374	1,457	1,873
Air transportation	3,329	3,325	3,474	3,456	3,511	3,487
Water transportation (Coast Guard)	1,196	992	780	1,437	1,192	1,284
Other transportation (railroads) .....	.....	.....	10	.....	.....	1
Hospital and medical care for veterans	1,352	999	1,020	1,472	1,386	1,394
Federal law enforcement activities	1,825	1,909	1,910	1,664	1,747	1,962
Department of the Treasury (fiscal operations)	315	292	389	234	264	300
National Oceanic and Atmospheric Administration	2,032	2,105	2,401	1,976	2,232	2,289
Other	4,486	4,631	4,976	4,791	5,483	5,602
Subtotal, nondefense	15,466	16,445	17,173	15,771	17,642	18,591
Subtotal, acquisition of major equipment	115,909	118,952	129,507	123,610	124,014	120,728
Purchase or sale of land and structures:						
National defense	-41	-37	-41	-38	-27	-35
Natural resources and environment	265	242	539	227	242	393
General government	109	.....	.....	124	28	.....
Other	-45	-48	-165	90	387	-190
Subtotal, purchase or sale of land and structures	288	157	333	403	630	168
Subtotal, major public physical investment	146,635	147,863	169,180	154,563	158,403	150,684
Conduct of research and development:						
National defense:						
Defense military	65,762	67,433	71,956	66,534	67,985	72,102
Atomic energy and other	4,845	4,548	4,531	4,042	4,633	4,844
Subtotal, national defense	70,607	71,981	76,487	70,576	72,618	76,946
Non-Defense:						
International affairs	411	411	497	391	411	419
General science, space, and technology:						
NASA	11,257	11,565	11,601	10,776	10,617	10,617
National Science Foundation	5,430	5,562	5,864	5,198	5,271	5,558
Department of Energy	4,079	4,043	4,161	4,108	4,055	4,161
Subtotal, general science, space, and technology	20,766	21,170	21,626	20,082	19,943	20,336
Energy	2,386	2,323	2,963	2,363	2,341	2,771
Transportation:						
Department of Transportation	699	738	914	672	676	752
NASA	476	516	500	481	555	555
Other transportation	19	19	18	24	28	22
Subtotal, transportation	1,194	1,273	1,432	1,177	1,259	1,329
Health:						
National Institutes of Health	29,131	28,892	29,500	28,429	28,636	29,008
Other health	1,629	1,875	1,913	1,196	1,715	1,522
Subtotal, health	30,760	30,767	31,413	29,625	30,351	30,530
Agriculture	1,633	1,652	1,905	1,583	2,048	1,899
Natural resources and environment	2,134	2,159	2,372	1,916	2,010	2,130

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

Description	Budget Authority			Outlays		
	2014 Actual	2015 Estimate	2016 Estimate	2014 Actual	2015 Estimate	2016 Estimate
National Institute of Standards and Technology	575	594	804	529	346	679
Hospital and medical care for veterans	1,101	1,059	1,114	1,142	1,041	1,082
All other research and development	1,614	1,564	1,650	1,509	1,339	1,503
Subtotal, nondefense	62,574	62,972	65,776	60,317	61,089	62,678
Subtotal, conduct of research and development	133,181	134,953	142,263	130,893	133,707	139,624
Conduct of education and training:						
Elementary, secondary, and vocational education	1,388	1,623	1,888	1,186	1,292	1,451
Higher education	16,864	59,476	30,267	19,986	60,563	30,360
Research and general education aids	2,128	2,131	2,324	2,077	2,125	2,222
Training and employment	2,210	2,141	2,340	2,032	2,315	2,312
Health	1,501	1,556	2,093	1,597	1,684	1,766
Veterans education, training, and rehabilitation	13,533	15,327	15,629	13,729	14,702	16,323
General science and basic research	908	871	902	833	786	919
International affairs	593	602	639	623	699	820
Other	874	903	823	786	1,090	917
Subtotal, conduct of education and training	39,999	84,630	56,905	42,849	85,256	57,090
Subtotal, direct Federal investment	319,815	367,446	368,348	328,305	377,366	347,398
Total, Federal investment	446,380	492,590	523,103	464,296	520,859	490,594

19. RESEARCH AND DEVELOPMENT

The President is committed to making investments in research and development (R&D) that will grow our economy, sustain our competitive advantage in the global economy, and enable America to remain the world leader in innovation. The Nation depends on science, technology, and innovation to promote sustainable economic growth and job creation, maintain a safe and sufficient food supply, improve the health of all Americans, move us toward a clean energy future, address global climate change, manage competing demands on environmental resources, and ensure the security of the Nation. Investing in science and technology-based innovation will let us do things like produce vaccines that stay ahead of drug-resistant bacteria, find new answers in the fight against Alzheimer's and other diseases, devise new clean energy technologies, and promote new advanced manufacturing opportunities in areas such as new materials.

The President's 2016 Budget provides \$146 billion for Federal research and development (R&D), including the

conduct of R&D and investments in R&D facilities and equipment. Detailed definitions and discussion of the reporting process are available in Section II below. The Administration continues to champion R&D, providing a 5.5 percent funding increase over 2015 enacted levels¹ for R&D. In conjunction with this investment, the 2016 Budget proposes to expand, simplify, and make permanent the Research and Experimentation tax credit, providing certainty and spurring private investment in R&D.

Finally, the 2016 Budget continues to strengthen U.S. international leadership by investing in the high-tech knowledge-based economy and innovation-fueled growth industries. The Budget will help ensure that the U.S. continues its long-standing and robust leadership in public and private sector R&D and maintains the high quality of our R&D institutions and the entrepreneurial nature of our R&D enterprise.

¹ R&D spending figures for FY 2015 are preliminary and may change as agency operating plans are finalized.

I. PRIORITIES FOR FEDERAL RESEARCH AND DEVELOPMENT

The Budget provides support for a broad spectrum of research and development, including multidisciplinary research and exploratory, potentially transformative, high-risk research proposals that could fundamentally improve our understanding of nature, revolutionize fields of science, and lead to the development of radically new technologies. Federal government funding for R&D is essential to address societal needs in areas in which the private sector does not have sufficient economic incentive to make the required investments. Key among these is the fundamental, curiosity-driven inquiry that has been a hallmark of the American research enterprise and a powerful driver of unexpected, new technology. The Budget provides \$67 billion for basic and applied research because such research is a reliable source of new knowledge, which in turn drives job creation and lasting economic growth.

The 2016 Budget continues to increase total Federal investment in the combined budgets of three key basic research agencies: the National Science Foundation (NSF), the Department of Energy (DOE) Office of Science, and the laboratories of the Department of Commerce (DOC) National Institute of Standards and Technology (NIST). The Budget proposes \$13.8 billion in 2016 for these three agencies, an increase of \$0.7 billion over the 2015 enacted level.

Promoting Advanced Manufacturing and Industries of the Future

The Administration is committed to revitalizing America's manufacturing sector, which will require in-

novation in the products that are manufactured and the manufacturing systems themselves. The Budget continues to support the "National Strategic Plan for Advanced Manufacturing," a blueprint for Federal efforts in partnership with industry and universities to develop and commercialize the emerging technologies that will create high-quality manufacturing jobs and sustain a renaissance in American manufacturing. The 2016 Budget provides \$2.4 billion for Federal R&D directly supporting advanced manufacturing at NSF, the Department of Defense (DOD), DOE, DOC, and other agencies, consistent with the goals and recommendations of the Strategic Plan. The Budget funds a national network of 45 manufacturing innovation institutes that will position the United States as a global leader in advanced manufacturing technology. Specifically, the Budget builds on the nine institutes already funded through 2015 with more than \$350 million in additional discretionary funds to support seven new manufacturing innovation institutes in DOC, DOD, DOE, and the Department of Agriculture (USDA) which will solicit proposals on a wide-range of focus areas across the manufacturing sector. The Budget also includes a mandatory spending proposal of \$1.9 billion to fund the remaining 29 institutes in the network.

In addition, as part of the broader effort, the Budget continues to invest in the National Robotics Initiative to develop robots that work with or beside people to extend or augment human capabilities. In addition to having applications in space, biology, and security, robots have the potential to increase the productivity of workers in the manufacturing sector. Another important compo-

nent of the advanced manufacturing R&D strategy is the Materials Genome Initiative. By leveraging advances in computer simulations and the overall material knowledge-base, this initiative aims to increase the rate by which we understand and characterize new materials, providing a wealth of practical information that entrepreneurs and innovators will be able to use to develop new products and processes for U.S. firms.

Moving Toward Cleaner American Energy

The Administration is committed to a future where the United States leads the world in research, development, demonstration, and deployment of clean-energy technologies to reduce air pollution, greenhouse-gas emissions, and dependence on oil, while creating high-wage, highly-skilled clean energy jobs and new businesses. The Budget advances the Administration's all-of-the-above energy strategy by investing in programs to drive innovation in the energy sector. These investments include: basic and applied research to address some of the fundamental unknowns to advancing clean energy technologies; research and development to create and dramatically improve clean energy products, such as solar panels and wind turbines, advanced nuclear reactors, electric and other alternative-fuel vehicles, and energy efficient systems for homes and businesses; and appropriate assistance to American entrepreneurs and businesses to commercialize the technologies that will lead the world in new clean energy industries.

The Budget requests approximately \$7.4 billion for clean energy technology programs government-wide to accelerate the transition to a clean energy economy and position the United States as the world leader in the energy industries of the 21st Century. DOE, DOD, USDA, and NSF are the largest investors in clean energy technology programs, with DOE providing about 75 percent of the total government-wide funding.

In DOE, the 2016 Budget provides about \$5.6 billion in discretionary funding for clean energy technology programs. Specifically, it provides \$2.7 billion for the Office of Energy Efficiency and Renewable Energy (EERE) to accelerate research and development, build on ongoing successes, increase the use of critical clean energy technologies, and further reduce costs. Within EERE, the Budget increases funding by 32 percent above 2015 enacted levels for sustainable vehicle and fuel technologies, by 60 percent for energy efficiency and advanced manufacturing activities, and by 41 percent for innovative renewable power projects. The USDA pursues complementary biofuel efforts to support development of next-generation biofuels. The Budget supports clean energy R&D through the Office of Nuclear Energy and Office of Fossil Energy, including funding for advanced reactors R&D, quantification and mitigation of methane emissions from natural gas infrastructure, and activities primarily dedicated to further lowering the costs of carbon capture and storage. The Budget includes \$325 million for the Advanced Research Projects Agency–Energy (ARPA-E), a program that seeks to fund transformative energy research, and

over \$900 million for basic clean energy research in the Office of Science.

Observing our Planet

Earth-observation data are necessary for government services that protect human life, property, the economy, and national security, as well as advancing fundamental understanding of the Earth. The Budget supports investments in Earth observations, such as Earth-observing satellites and monitoring of water, air, wildlife, invasive species, and ecosystems, consistent with the 2014 National Plan for Civil Earth Observations. Within the National Aeronautics and Space Administration (NASA), the Budget provides \$1.9 billion to sustain progress toward satellite missions and research that will improve our understanding of Earth, its atmosphere, and oceans. The Budget provides \$2.2 billion for the National Oceanic and Atmospheric Administration's satellite programs, including the next generation of polar-orbiting and geostationary satellite systems that are critical to weather forecasting. Satellite observations contribute directly to the National Weather Service's ability to issue public warnings to protect life and property. The Budget also proposes funding for the Sustainable Land Imaging program, jointly managed by NASA and the Department of Interior's U.S. Geological Survey, to continue the 42-year unbroken record of global land-imaging measurements made by the Landsat series of satellites. Consistent with the Administration's open data initiative, the Budget continues investments across multiple agencies in improving the accessibility and usability of Earth-observing data.

Understanding and Responding to Global Climate Change and Its Impacts

The President's Climate Action Plan provides a blueprint for responsible national and international action to slow the effects of climate change. The year 2014 ranks as Earth's warmest since 1880, and 14 of the 15 warmest years on record have all fallen in the first 15 years of this century. One of the key activities supported in the Climate Action Plan is actionable climate science, which is critical in helping government officials, communities, and businesses better understand and manage the risks associated with climate change. In support of this goal, the Administration has continued, through the U.S. Global Change Research Program (USGCRP), to advance actionable climate science to improve our understanding of climate change and its impacts, requesting approximately \$2.7 billion for these programs. The USGCRP coordinates and integrates Federal research and applications to assist the Nation and the world in understanding, assessing, predicting, and responding to the human-induced and natural processes of climate change and their related impacts and effects. Within coordinated USGCRP inter-agency investments, the 2016 Budget supports the goals set forth in the program's 2012-2021 strategic plan, which include: advancing scientific knowledge of the integrated natural and human components of the Earth; providing the scientific basis to inform and enable timely decisions on adaptation and mitigation; building sustained

assessment capacity that improves the United States' ability to document changes on the regional, landscape, and local level to understand, anticipate, and respond to climate change impacts and vulnerabilities; and advancing communications and education to broaden public understanding of climate change. The 2016 Budget also supports an integrated suite of climate change observations, process-based research, modeling and assessment and adaptation science activities that serve as a foundation for providing timely and responsive information, including but not limited to technical reports, impact and vulnerability assessments, and adaptation response strategies to a broad array of stakeholders. The Budget also invests in science to understand our national and global carbon stocks and sinks in order to implement carbon mitigation strategies. In addition, the Budget makes significant investments in technology and tools to support the climate resilience and preparedness of the Federal government and its State, tribal, and local partners. This includes \$20 million to continue expanding and improving the recently-released online Climate Resilience Toolkit, which provides scientific tools and information to help tribes, communities, citizens, businesses, planners, and others manage their climate-related risks and opportunities, and improve their resilience to extreme events. Through this website, interested parties can access a variety of tools and data streams to help them understand how certain changes in environmental conditions—such as sea level rise and flooding, or droughts and wildfires—may impact their communities.

Informing Better Stewardship of Natural Resources and Our Environment

Sustainable stewardship of natural resources requires strong investments in research and development in the natural sciences to strengthen the scientific basis for decision-making. The 2016 Budget provides robust R&D funding to support resource decision making and environmental stewardship at the Department of the Interior, Environmental Protection Agency, National Oceanic and Atmospheric Administration, and USDA, particularly through user-driven information and tools. The Budget provides strong support for science to inform ocean and coastal stewardship, with investments in ocean observations and exploration, coastal mapping and assessment, coastal ecosystem research, and coastal habitat restoration. The Budget strengthens investments in the safety and security of the Nation through research and development related to hazards such as earthquakes, floods, and extreme weather. Responding to the President's Council of Advisors on Science and Technology report, "Agricultural Preparedness & the United States Agricultural Research Enterprise," the 2016 Budget invests \$450 million in USDA's Agriculture and Food Research Initiative, which will be distributed through competitively awarded extramural research grants to support breakthrough research in national priorities including water quantity and quality, sustainable agricultural production, and climate change, as well as bioenergy, food safety, and human nutrition.

Improving Americans' Health through Innovation in Life Sciences, Biology, and Neuroscience

The Administration is committed to funding Federal R&D investments in fundamental biological discovery research that could generate unexpected, high-impact scientific and technological advances in health. The 2016 Budget strongly supports research that has the potential to foster innovations in health and to accelerate the pace of discovery in the life sciences, especially combating antibiotic-resistant bacteria, neuroscience, and Precision Medicine – an innovative field that provides healthcare professionals with tools, knowledge, and treatments to tailor care to a person's unique characteristics such as their genetic makeup. These discoveries will help improve the prevention and treatment of diseases and support the bioeconomy of the future.

The 2016 Budget proposes \$31.3 billion for the National Institutes of Health (NIH) to support high-quality, innovative biomedical research both on-campus and at research institutions across the country. The Budget supports basic and translational research to increase understanding of the causes of disease and spur development of diagnostic tests, treatments, and cures. The Budget increases NIH investments in Alzheimer's disease research, and the multi-agency BRAIN initiative. The Budget includes \$200 million for NIH's contribution to a Precision Medicine Initiative that will launch a study of a million or more Americans, expand research to define cancer subtypes and identify new therapeutic targets. The Budget also includes over \$450 million for research at NIH on antibiotic-resistant bacteria. The NIH investment is part of a \$1.2 billion effort from many bureaus of the Department of Health and Human Services, as well as the Departments of Veterans Affairs, DOD and USDA, to combat antibiotic-resistant bacteria. These resources will be used to prevent, detect, and control illness and death related to infections caused by antibiotic-resistant bacteria and will also help support the advancement of therapeutics for the treatment of bacterial infections.

The Budget includes over \$506 million in mandatory R&D funding for the independent Patient-Centered Outcomes Research Institute to conduct clinical comparative effectiveness research, as authorized by the Affordable Care Act.

The Budget also proposes \$1.1 billion for medical and prosthetic research across the Department of Veterans Affairs.

Strengthening Our Security through Science and Technology

Federal R&D investments in security aim to meet the threats of the future and to develop new innovative security capabilities. DOD R&D investments in the 2016 Budget focus on areas deemed to have the greatest impact on our nation and future military requirements. To this end, the 2016 Budget provides \$71.3 billion for DOD R&D, an increase of 9% percent from the 2015 enacted level.

The 2016 Budget proposes \$12.3 billion for DOD's Science & Technology program, a subset of DOD R&D which consists of basic research, applied research and advanced technology development.

The 2016 Budget also maintains DOD's critical role in fostering breakthrough approaches for discovering promising technologies with \$3.0 billion for the Defense Advanced Research Projects Agency (DARPA), which promotes advanced research to create breakthrough technologies for tomorrow's military systems. This funding level represents an increase of \$101 million from the 2015 enacted level. Investing in DARPA's high-risk and high-reward science is an Administration priority and critical to maintaining the technological superiority of the U.S. military.

For DOE, the Budget proposes \$4.8 billion for investments in R&D for the Nation's nuclear stockpile, naval nuclear propulsion, and nonproliferation goals.

The Budget supports investments in state-of-the-art technologies and solutions for Federal, State, and local homeland security operators, including \$559 million in funding for the Department of Homeland Security R&D programs that protect the Nation's people and critical infrastructure from chemical, biological, radiological, nuclear, and cyber attacks.

Preparing Our Students with Skills through Science, Technology, Engineering, and Mathematics (STEM) Education

Our Nation's competitiveness depends on our ability to improve and expand STEM learning in the United States. Over the past two years, the Administration has made considerable progress towards creating a more cohesive framework for delivering STEM education. Guided

by the Federal STEM Education Five-Year Strategic Plan and a significant reorganization of programs, agencies are increasing coordination, strengthening partnerships, and identifying ways to leverage existing resources to improve the reach of agency assets. The 2016 Budget builds on these efforts and continues to reduce fragmentation, ensuring that investments are aligned with the Strategic Plan and support effective programs with strategic approaches to evaluation. The Budget invests \$3.1 billion in STEM education programs, \$103 million above 2015 enacted, including \$202 million for K-12 education in the Department of Education's Math and Science Partnerships, and \$338 million for graduate fellowships, \$62 million for graduate traineeships, and \$135 million for improving undergraduate education at the NSF.

Expanding Our Capabilities in Space

The Budget provides \$18.5 billion for NASA to support the President's vision for innovation and scientific discovery on Earth and beyond. NASA drives innovation in the aerospace sector and enhances the Nation's capabilities in space in areas such as communications, space-based observations, space transportation, scientific discovery, and national defense. The Budget provides \$1.2 billion for the Commercial Crew program, which will develop lower-cost means to transport astronauts to orbit and eliminate our reliance on Russia for crew transport to the International Space Station. The Budget also provides \$725 million for Space Technology and \$230 million for Advanced Exploration Systems to develop technologies that will reduce the cost and increase the capabilities of NASA, other government, and commercial space activities.

II. FEDERAL R&D DATA

R&D is defined as the collection of efforts directed toward gaining greater knowledge or understanding and applying knowledge toward the production of useful materials, devices, and methods. R&D investments can be characterized as basic research, applied research, development, R&D equipment, or R&D facilities. The Office of Management and Budget has used those or similar categories in its collection of R&D data since 1949.

Background on Federal R&D Funding

More than 20 Federal agencies fund R&D in the United States. The character of the R&D that these agencies fund depends on the mission of each agency and on the role of R&D in accomplishing it. Table 19-1 shows agency-by-agency spending on basic research, applied research, development, and R&D equipment and facilities.

Basic research is systematic study directed toward a fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. Basic research, however, may include activities with broad applications in mind.

Applied research is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

Development is systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

Research and development equipment includes acquisition or design and production of movable equipment, such as spectrometers, research satellites, detectors, and other instruments. At a minimum, this category includes programs devoted to the purchase or construction of R&D equipment.

Research and development facilities include the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activities. Facilities include land, buildings, and fixed capital equipment, regardless of whether the facilities are to be used by the Government or by a private organization, and regardless of where title to the property may rest. This category includes such fixed facilities as reactors, wind tunnels, and particle accelerators.

While the definitions for R&D activities have been stable for decades, interpretations of which programs are conducting R&D can vary with time. Government-wide efforts are underway to increase the accuracy and consistency of R&D budget. In the 2016 Budget, additional accounts within DOD have begun reporting \$1.5 to \$1.9

billion in R&D activities for the years covered in Table 19-1. At the Federal Aviation Administration, the application of the R&D definitions has been reanalyzed at the program level, leading to an increase in R&D reporting for this year versus previous Budgets.

III. OTHER MULTI-AGENCY R&D ACTIVITIES

Many research investments into the most promising areas for future industry, scientific discovery, and job creation are being addressed through multi-agency research activities coordinated through the National Science and Technology Council (NSTC) and other interagency forums. Most of these challenges simply cannot be addressed effectively by a single agency. Moreover, innovation often arises from combining the tools, techniques, and insights from multiple agencies. Details of two such interagency efforts – networking and information technology R&D and nanotechnology R&D – are described below.

Networking and Information Technology R&D: Federal IT R&D, which launched and fueled the digital revolution, continues to drive innovation in scientific research, national security, communication, and commerce to sustain U.S. technological leadership. The multi-agency Networking and Information Technology Research and Development (NITRD) Program provides strategic planning for and coordination of agency research efforts in big data, cyber-physical systems, cybersecurity, health IT high-confidence systems, high-end computing systems, human computer interaction, IT workforce development, large-scale networking, software design, wireless spectrum sharing, and other research relevant to advanced information technologies.

The 2016 Budget includes a focus on research to address the challenges and opportunities afforded by big data while providing appropriate privacy protections for personal data. The Budget continues to prioritize cybersecurity research to develop novel approaches and technologies that can protect U.S. systems from cyberattacks, to emphasize research that advances cyber-physical systems and the efficient use of wireless spectrum, and to promote high-end computing. The 2016 Budget also provides \$242 million to support the National Strategic

Computing Initiative within the DOE to promote innovation in high-performance computing to support national security, scientific discovery, and economic competitiveness. Budget information for NITRD is available at www.nitrd.gov.

Nanotechnology R&D: Working cooperatively through the National Nanotechnology Initiative (NNI), Federal agencies continue to support R&D aimed at creating a future in which the ability to understand and control matter at the nanoscale leads to a revolution in technology and industry that benefits society. Agencies participating in the NNI conduct R&D on materials, devices, and systems that exploit the unique physical, chemical, and biological properties that emerge in materials at the nanoscale (approximately 1 to 100 nanometers). Participating agencies continue to support fundamental research for nanotechnology-based innovation, technology transfer, and nanomanufacturing through individual investigator awards; multidisciplinary centers of excellence; education and training; and infrastructure and standards development, including openly-accessible user facilities and networks. NNI agencies will also continue their strong support for R&D on the environmental, health, and safety aspects of nanotechnology needed to ensure responsible development. NNI agencies and the National Nanotechnology Coordination Office (NNCO) will work with the business community, state and local governments, and the private sector to explore new approaches and leverage existing programs to foster broader commercialization of nanotechnology-enabled products. In addition, NNI agencies and the NNCO will continue to expand stakeholder engagement to advance nanotechnology-based STEM education, training, and outreach. Budget information is available at www.nano.gov.

IV. R&D IS AN INVESTMENT IN AMERICA'S FUTURE

America's long-term economic competitiveness and growth -- including sustaining efforts to grow domestic manufacturing -- also depend on robust investments in research and development (R&D), which provide the foundation needed to further grow the economy. Federal funding for R&D has helped lead to new products, new capabilities, and new industries, resulting in sustainable economic growth and highly-skilled, high-wage jobs,

as well as the creation of an astounding array of products and services that benefit every American. Today, we look to engineering and science to address our biggest challenges: creating jobs; improving the health of all Americans; enhancing access to clean energy, water, and food; addressing global climate change; managing competing demands on environmental resources; and ensuring the security of the Nation.

Table 19-1. FEDERAL RESEARCH AND DEVELOPMENT SPENDING

(Budget authority, dollar amounts in millions)

	2014 Actual	2015 Enacted	2016 Proposed	Dollar Change: 2015 to 2016	Percent Change: 2015 to 2016
By Agency¹					
Defense ²	66,018	67,451	72,121	4,670	7%
Health and Human Services	30,685	30,475	31,040	565	2%
Energy	11,996	11,736	12,597	861	7%
NASA	11,906	12,145	12,238	93	1%
National Science Foundation	5,827	5,999	6,309	310	5%
Agriculture	2,380	2,446	2,884	438	18%
Commerce	1,556	1,526	2,127	601	39%
Veterans Affairs	1,101	1,090	1,147	57	5%
Transportation ³	853	900	1,115	215	24%
Interior	840	904	985	81	9%
Patient-Centered Outcomes Research Trust Fund	297	506	578	72	14%
Homeland Security ⁴	1,032	1,032	569	-463	-45%
Environmental Protection Agency	539	523	559	36	7%
Education	315	333	279	-54	-16%
Smithsonian Institution	227	245	261	16	7%
Other	763	758	885	127	17%
TOTAL	136,335	138,069	145,694	7,625	6%
Basic Research					
Defense	2,112	2,292	2,101	-191	-8%
Health and Human Services	15,862	15,482	15,966	484	3%
Energy	4,095	4,120	4,245	125	3%
NASA	3,371	3,198	3,198	0	0%
National Science Foundation	4,752	4,834	5,062	228	5%
Agriculture	992	1,004	1,114	110	11%
Commerce	205	210	239	29	14%
Veterans Affairs	451	429	450	21	5%
Transportation .....	.....	.....	.....	.....	.....
Interior	52	53	61	8	15%
Patient-Centered Outcomes Research Trust Fund .....	.....	.....	.....	.....	.....
Homeland Security ⁴	41	41	41	0	0%
Environmental Protection Agency .....	.....	.....	.....	.....	.....
Education	27	6	7	1	17%
Smithsonian Institution	200	209	225	16	8%
Other	27	19	19	0	0%
SUBTOTAL	32,187	31,897	32,728	831	3%
Applied Research					
Defense	4,664	4,775	4,819	44	1%
Health and Human Services	14,621	14,791	14,864	73	0%
Energy	4,550	4,363	4,683	320	7%
NASA	2,358	2,402	2,480	78	3%
National Science Foundation	678	728	802	74	10%
Agriculture	1,090	1,105	1,251	146	13%
Commerce	1,053	919	1,086	167	18%
Veterans Affairs	583	564	597	33	6%
Transportation	635	673	766	93	14%
Interior	665	701	785	84	12%
Patient-Centered Outcomes Research Trust Fund	297	506	578	72	14%
Homeland Security ⁴	210	210	176	-34	-16%
Environmental Protection Agency	456	442	474	32	7%
Education	179	199	159	-40	-20%
Smithsonian Institution .....	.....	.....	.....	.....	.....
Other	507	533	626	93	17%
SUBTOTAL	32,546	32,911	34,146	1,235	4%

Table 19-1. FEDERAL RESEARCH AND DEVELOPMENT SPENDING—Continued

(Budget authority, dollar amounts in millions)

	2014 Actual	2015 Enacted	2016 Proposed	Dollar Change: 2015 to 2016	Percent Change: 2015 to 2016
Development					
Defense ²	58,986	60,366	65,036	4,670	8%
Health and Human Services	30	30	30	0	0%
Energy	2,559	2,322	2,621	299	13%
NASA	6,004	6,481	6,423	-58	-1%
National Science Foundation .....	.....	.....	.....	.....	.....
Agriculture	179	177	181	4	2%
Commerce	85	164	400	236	144%
Veterans Affairs	67	66	67	1	2%
Transportation	198	199	304	105	53%
Interior	107	110	113	3	3%
Patient-Centered Outcomes Research Trust Fund .....	.....	.....	.....	.....	.....
Homeland Security ⁴	348	348	344	-4	-1%
Environmental Protection Agency	78	76	80	4	5%
Education	109	128	113	-15	-12%
Smithsonian Institution .....	.....	.....	.....	.....	.....
Other	235	215	264	49	23%
SUBTOTAL	68,985	70,682	75,976	5,294	7%
Facilities and Equipment					
Defense	256	18	165	147	817%
Health and Human Services	172	172	180	8	5%
Energy	792	931	1,048	117	13%
NASA	173	64	137	73	114%
National Science Foundation	397	437	445	8	2%
Agriculture	119	160	338	178	111%
Commerce	213	233	402	169	73%
Veterans Affairs .....	.....	31	33	2	6%
Transportation	20	28	45	17	61%
Interior	13	39	2	-37	-95%
Patient-Centered Outcomes Research Trust Fund .....	.....	.....	.....	.....	.....
Homeland Security ⁴	433	433	8	-425	-98%
Environmental Protection Agency	5	5	5	0	0%
Education .....	.....	.....	.....	.....	.....
Smithsonian Institution	27	36	36	0	0%
Other	-3	-8	.....	.....	.....
SUBTOTAL	2,617	2,579	2,844	265	10%

¹ Some numbers in the chapter text include non-R&D activities and thus will be different from the R&D numbers in this table.² In this Budget, Department of Defense began reporting development activities from three additional accounts, adding \$1.9 billion in FY 2014, \$1.8 billion in FY 2015, and \$1.5 billion in FY 2016.³ Classification of R&D activities at the Federal Aviation Administration have been recently updated.⁴ As of the date the 2016 Budget was released, final 2015 appropriations for the Department of Homeland Security were not yet enacted. Therefore, the 2015 column of this table reflects amounts requested for the Department of Homeland Security in the 2015 Budget.

20. CREDIT AND INSURANCE

The Federal Government offers direct loans and loan guarantees to support a wide range of activities including home ownership, education, small business, farming, energy, infrastructure investment, and exports. Also, Government-Sponsored Enterprises (GSEs) operate under Federal charters for the purpose of enhancing credit availability for targeted sectors. Through its insurance programs, the Federal Government insures deposits at depository institutions, guarantees private defined-benefit pensions, and insures against some other risks such as flood and terrorism.

This chapter discusses the roles of these diverse programs:

- The first section emphasizes the roles of Federal credit and insurance programs in addressing market imperfections that may prevent the private market from efficiently providing credit and insurance.
- The second section discusses individual credit programs and the GSEs. Credit programs are broadly classified into five categories: housing, education, small business and farming, energy and infrastructure, and international lending.
- The third section reviews Federal deposit insurance, pension guarantees, disaster insurance, and insurance against terrorism and other security-related risks.

I. THE FEDERAL ROLE

Credit and insurance markets sometimes fail to function smoothly due to market imperfections. Relevant market imperfections include information failures, monitoring problems, limited ability to secure resources, insufficient competition, externalities, and financial market instability. Federal credit and insurance programs may improve economic efficiency if they effectively fill the gaps created by market imperfections. The presence of a market imperfection, however, does not mean that Government intervention will always be effective. To be effective, a credit or insurance program should be carefully designed to reduce inefficiencies in the targeted area without disturbing efficiently functioning areas. In addition to correcting market failures, Federal credit and insurance programs may provide subsidies to serve other policy purposes, such as reducing inequalities and extending opportunities to disadvantaged regions or segments of the population. The effectiveness of credit assistance in serving these purposes should be carefully compared with that of more direct policy tools, such as grants and tax credits.

Information Failures. When lenders have insufficient information about borrowers, they may fail to evaluate the creditworthiness of borrowers accurately. As a result, some creditworthy borrowers may fail to obtain credit at a reasonable interest rate, while some high-risk borrowers obtain credit at an attractive interest rate. The problem becomes more serious when borrowers are much better informed about their own creditworthiness than lenders (asymmetric information). With asymmetric information, raising the interest rate can disproportionately draw high-risk borrowers who care less about the interest rate (adverse selection). Thus, if adverse selection is likely for a borrower group, lenders may limit the amount of credit to the group instead of raising the interest rate or even exclude the group all together. In this

situation, many creditworthy borrowers may fail to obtain credit even at a high interest rate. Ways to deal with this problem in the private sector include equity financing and pledging collateral. Federal credit programs play a crucial role for those populations that are vulnerable to this information failure and do not have effective means to deal with it. Start-up businesses lacking a credit history, for example, are vulnerable to the information failure, but most of them are unable to raise equity publicly and do not have sufficient collateral. Another example is students who have little income, little credit experience, and no collateral to pledge. Without Federal credit assistance, many in these groups may be unable to pursue their entrepreneurial or academic goals. In addition, a moderate subsidy provided by the Government can alleviate adverse selection by attracting more low-risk borrowers, although an excessive subsidy can cause economic inefficiency by attracting many borrowers with unworthy or highly risky projects.

Monitoring Needs. Monitoring is a critical part of credit and insurance businesses. Once the price (the interest rate or the insurance premium) is set, borrowers and policyholders may have incentives to engage in risky activities. Insured banks, for example, might take more risk to earn a higher return. Although private lenders and insurers can deter risk-taking through covenants, re-pricing, and cancellation, Government regulation and supervision can be more effective in some cases, especially where covering a large portion of the target population is important. For a complex business like banking, close examination may be necessary to deter risk-taking. Without legal authority, close examination may be impractical. When it is difficult to prevent risk-taking, private insurers may turn down many applicants and often cancel policies, which is socially undesirable in some cases. To the extent possible, bank failures should be managed to reduce dis-

ruption to the financial market. If private-sector pensions were unprotected, many retirees could experience financial hardships and strain other social safety nets.

Limited Ability to Secure Resources. The ability of private entities to absorb losses is often more limited than that of the Federal Government. For some events potentially involving a very large loss concentrated in a short time period, therefore, Government insurance can be more reliable. Such events include massive bank failures and some natural and man-made disasters that can threaten the solvency of private insurers. In addition, some lenders may have limited funding sources. Small local banks, for example, may have to rely largely on local deposits.

Insufficient Competition. Competition can be insufficient in some markets because of barriers to entry or economies of scale. Insufficient competition may result in unduly high prices of credit and insurance in those markets.

Externalities. Decisions at the individual level are not socially optimal when individuals do not capture the full benefit (positive externalities) or bear the full cost (negative externalities) of their activities. Education, for

example, generates positive externalities because the general public benefits from the high productivity and good citizenship of a well-educated person. Pollution, in contrast, is a negative externality, from which other people suffer. Without Government intervention, people may engage less than the socially optimal level in activities that generate positive externalities and more in activities that generate negative externalities.

Financial Market Instability. Another rationale for Federal intervention is to prevent instability in the financial market. Without deposit insurance, for example, the financial market would be much less stable. When an economic shock impairs the financial structure of many banks, depositors may find it difficult to distinguish between solvent banks and insolvent ones. In this situation, a large number of bank failures might prompt depositors to withdraw deposits from all banks (bank runs). Bank runs would make bank failures contagious and harm the entire economy. Deposit insurance is critical in preventing bank runs.

II. CREDIT IN VARIOUS SECTORS

Housing Credit Programs and GSEs

Through housing credit programs, the Federal Government promotes homeownership and housing among various target groups, including low- and moderate-income people, veterans, and rural residents. Recently, the target market expanded dramatically due to the financial crisis.

The consequences of inflated house prices and loose mortgage underwriting during the housing bubble that peaked in 2007 created perilous conditions for many American homeowners. Millions of families were foreclosed upon and millions more found themselves owing more on their homes than their homes were worth. Private capital all but disappeared from the market. Without the Federal support provided to the housing market since 2008, the situation would have been more problematic.

Federal Housing Administration

The Federal Housing Administration (FHA) guarantees mortgage loans to provide access to homeownership for people who may have difficulty obtaining a conventional mortgage. FHA has been a primary facilitator of mortgage credit for first-time and minority buyers, a pioneer of products such as the 30-year self-amortizing mortgage, and a vehicle to enhance credit for many moderate and low-income households.

FHA and the Mortgage Market

In the early 2000s, FHA's market presence diminished greatly as low interest rates increased the affordability of mortgage financing and more borrowers used emerging non-prime mortgage products, including subprime and Alt-A mortgages. Many of these products had risky and

hard-to-understand features such as low "teaser rates" offered for periods as short as the first two years of the mortgage, high loan-to-value ratios (with some mortgages exceeding the value of the house), and interest-only loans with balloon payments that require full payoff at a set future date. The Alt-A mortgage made credit easily available by waiving documentation of income or assets. This competition eroded the market share of FHA's single-family loans, reducing it from 9 percent in 2000 to less than 2 percent in 2005.

Starting at the end of 2007, the availability of FHA and Government National Mortgage Association (which supports the secondary market for federally-insured housing loans by guaranteeing securities backed by mortgages guaranteed by FHA, VA, and USDA) credit guarantees has been an important factor countering the tightening of private-sector credit. The annual volume of FHA's single-family mortgages soared from \$52 billion in 2006 to \$330 billion in 2009.

FHA's presence has supported the home purchase market and enabled many existing homeowners to re-finance at today's lower rates. If not for such re-financing options, many homeowners would remain stuck in high-interest mortgages and face higher risk of foreclosure given the economic challenges resulting from the crisis.

The return of conventional financing to the mortgage market—with appropriate safeguards for consumers and investors including prudent underwriting and disclosure of risk—will broaden both the options available to borrowers and the sources of capital to fund those options. The Administration supports a greater role for non-federally assisted mortgage credit, while recognizing that FHA will continue to play an important role in the mortgage market going forward.

Following its peak in 2009, FHA's new origination loan volume declined in 2014 to \$135 billion. In line with the volume decrease, the FHA's market share for home purchase loans declined to 18 percent by the beginning of calendar year 2014, after peaking at 28 percent in calendar year 2009. Part of this decline is likely due to the increased price of FHA insurance, as discussed in detail below.

FHA's Budget Costs

FHA's budget estimates can be volatile and prone to forecast error because default claim rates are sensitive to a variety of dynamics. FHA insurance premium revenues are spread thinly but universally over pools of policyholders, making those inflows generally stable and subject to less forecast error than for mortgage defaults. Mortgage insurance costs for FHA, however, are concentrated in the minority of borrowers who default and whose lender files a claim, with the average per claim cost being much larger than the average premium income. Therefore, if claims change by even a small fraction of borrowers (e.g., one percent), net FHA insurance costs will move by a multiple of that change. For other forms of insurance, such as life and health, these changes tend to gradually occur over time, allowing actuaries to anticipate the effects and modify risk and pricing models accordingly. The history of FHA, however, has been spotted with rapid, unanticipated changes in claim costs and recoveries. FHA is vulnerable to "Black Swans," outlier events that are difficult to predict and have deep effect. For FHA, these include the collapse of house prices after market bubbles burst and the effects of lending practices with very high claim rates, such as the now illegal seller-financed down-payment mortgage.

One of the major benefits of an FHA-insured mortgage is that it provides a homeownership option for borrowers who can make only a modest down-payment, but show that they are creditworthy and have sufficient income to afford the house they want to buy. In 2014, over 75 percent of new FHA loans were financed with less than five percent down. The disadvantage to low down-payment mortgages is that they have little in the way of an equity cushion should house prices decline or events such as income loss or unexpected medical expenses make it difficult for households to remain current on their mortgage payment. When these occur, the net sales proceeds from home sales may not be sufficient to support exit strategies that allow borrowers to completely pay off the debt and relocate to more affordable housing.

According to its annual actuarial analysis, FHA has been below its target minimum capital reserve ratio of 2 percent since 2009. As the housing market recovers and FHA improves its risk management, the actuarial review has found that FHA's capital reserve increased by \$21 billion over the last two years and projects that the ratio will again exceed 2 percent within two years. However, it is important to note that a low capital ratio does not threaten FHA's operations, either for its existing portfolio or for new books of business. FHA accounts contain sufficient funds to pay anticipated claims and unlike pri-

vate lenders, the guarantee on FHA and other Federal loans is backed by the full faith and credit of the Federal Government and is not dependent on capital reserves to honor its commitments.

Policy Responses to Enhance FHA's Risk Management and Promote Access to Credit

During 2013, FHA took the following steps to bolster financial performance:

1. Reversed a policy to cancel required premium payments after borrowers achieve an amortized loan-to-value ratio of 78 percent. Under the previous practice borrowers paid premiums for only about ten years even though FHA's 100 percent insurance guarantee remains in effect for up to 30 years. This change applies only to new loans.
2. Revised its loss mitigation program to target deeper levels of payment relief for struggling borrowers, allowing more families to retain their homes and avoid foreclosure.
3. Expanded the use of home short-sales, which provide opportunities for distressed borrowers for whom home retention is not feasible to transition to new housing without going through foreclosure.
4. For HECM reverse mortgages, reduced initial loan disbursements and required financial assessments and, where appropriate, cash set-asides to increase compliance with property insurance and tax requirements.

In 2010, FHA implemented new loan-to-value and credit score requirements. FHA's minimum credit score was raised to 580 for borrowers making low down-payments of less than 10 percent (loan-to-value ratios above 90 percent). Other borrowers, who have the security of a high amount of home equity relative to low down-payment borrowers, remain eligible for FHA assistance with a credit score as low as 500. FHA also reduced allowable seller concessions from 6 percent of property value to 3 percent or \$6,000, whichever is higher but no higher than 6 percent. This conforms closer to industry standards and reduces potential house price over-valuation.

FHA increased insurance premiums to bolster its capital resources five times since 2008. For a typical borrower, the cumulative increases were 0.25 percentage points in the upfront premium and 0.85 percentage points in annual premiums. As a result of these premium increases and other risk management practices taken by FHA, as well as the improved economic and housing sector forecast, FHA's capital reserves have grown substantially.

Given the improvement in FHA's financial position, it makes sense to partially reverse part of these premium increases to promote access to housing credit. The Budget reflects that a 0.50 percentage point reduction of annual premiums, from 1.35 percent to .85 percent, was rolled out in January 2015. Even with this reduction, FHA will col-

lect premiums on new mortgages that are well above the estimated costs of guaranteeing those mortgages against default. As a result, FHA will continue on a strong trajectory towards restoring its capital reserve ratio. This reduction also provides pricing to new FHA borrowers more in line with the stronger underwriting requirements they have to meet in order to qualify and will make homeownership more likely for many borrowers, including those who have sufficient credit quality but would lack the income to support mortgage payments at the higher premium levels.

In addition to the single-family mortgage insurance provided through the MMI program, FHA's General Insurance and Special Risk Insurance (GISRI) loan programs continue to facilitate the construction, rehabilitation, or refinancing of tens of thousands of apartments and hospital beds in multifamily housing and healthcare facilities each year. Reflective of FHA's countercyclical role in the market and low interest rates, annual loan volume for GI/SRI programs grew from less than \$5 billion in 2008 to more than \$24 billion in 2013. Driven by a sharp drop in refinancing activity, volume declined to \$15 billion in 2014, but is projected to increase modestly in 2015 and 2016 due to FHA's continued focus on lending to promote affordable rental housing through initiatives such as the Low-Income Housing Tax Credit (LIHTC) pilot and Federal Financing Bank (FFB) financing of multi-family risk-share loans.

VA Housing Program

The Department of Veterans Affairs (VA) assists veterans, members of the Selected Reserve, and active duty personnel in purchasing homes in recognition of their service to the Nation. The housing program effectively substitutes the Federal guarantee for the borrower's down payment, making the lending terms more favorable than loans without a VA guarantee. VA does not guarantee the entire mortgage loan to veterans, but provides a 100 percent guarantee on the first 25 percent of losses upon default. VA provided 172,167 zero down payment loans and 150,348 fee-exempt loans to veterans with service-connected disabilities in 2014. The number of loans VA guaranteed remained at a high level in 2014, as the tightened credit markets continued to make the VA housing program more attractive to eligible homebuyers. Additionally, the continued historically low interest rate environment of 2014 allowed 163,011 Veteran borrowers to lower the interest rate on their home mortgages through refinancing. VA provided almost \$99 billion in guarantees to assist 432,199 borrowers in 2014, following \$135 billion and 600,023 borrowers in 2013.

VA, in cooperation with VA-guaranteed loan servicers, also assists borrowers through home retention options and alternatives to foreclosure. VA intervenes when needed to help veterans and service members avoid foreclosure through loan modifications, special forbearances, repayment plans, and acquired loans; as well as assistance to complete compromise sales or deeds-in-lieu of foreclosure. These joint efforts helped resolve nearly 80 percent of defaulted VA-guaranteed loans in 2014.

Rural Housing Service

The Rural Housing Service (RHS) at the U.S. Department of Agriculture (USDA) offers direct and guaranteed loans to help very-low- to moderate-income rural residents buy and maintain adequate, affordable housing. RHS housing loans and loan guarantees differ from other Federal housing loan programs in that they are means-tested, making them more accessible to low-income, rural residents. For the direct loan program, approximately 40 percent of borrowers earn less than 50 percent of their area's median income; the remainder earn between 50 percent and 80 percent (maximum for the program) of area median income. The single family housing guaranteed loan program is designed to provide home loan guarantees for moderate-income rural residents whose incomes are between 80 percent and 115 percent (maximum for the program) of area median income.

The 2016 Budget continues USDA single family housing assistance programs through direct loans and loan guarantees. Within its \$24 billion guarantee loan level, the Budget expects RHS to provide over \$3.3 billion in loans for low-income rural borrowers, which will provide 30,300 new homeownership opportunities to that income group. Overall, the program could potentially provide almost 164,000 new homeownership opportunities to low- to moderate-income rural residents in 2016. This funding level includes the continuation of an annual and up-front fee structure. These fees reduce the overall subsidy cost of the loans without adding significant burden to the borrowers. The Budget also proposes to make USDA's guaranteed home loan program a direct endorsement program, allowing approved lenders with a strong track record with the program to make the loans on behalf of the government and no longer requiring USDA to sign-off in conjunction with each loan. This change will make RHS more efficient and allow the single family housing staff to refocus on other unmet needs.

For USDA's single family housing direct loan program, the 2016 Budget provides a loan level of \$900 million, which is expected to allow 6,800 low to very-low income rural residents realize the dream of home ownership.

For USDA's multifamily housing portfolio, the Budget focuses primarily on portfolio management. Management includes the retention of its existing portfolio of affordable rental housing as well as the rehabilitation of that housing to continue to provide safe and decent housing for our residents. USDA is working with OMB and other Federal housing partners, as well as program participants, to develop solutions that will continue to provide rental subsidies for the low and very-low income residents in those properties with maturing mortgages at the lowest cost to the government. The Budget fully funds this rehabilitation effort by providing \$46.5 million for the multifamily housing revitalization activities, which include loan modifications, grants, zero percent loans, and soft second loans as well as some funding for traditional multifamily housing direct loans to allow USDA to better address its inventory property. These activities allow borrowers to restructure their debt so that they can effec-

tively rehabilitate properties within the portfolio in order for them to continue to supply decent, safe, affordable rental housing to the low- and very-low-income population in rural America. The Budget also proposes to codify these activities into permanent law.

In addition, rental assistance grants, which supplement tenant rental payments to the property owners and are vital to the proper underwriting of the multifamily housing direct loan portfolio, are funded at \$1.172 billion, which is sufficient to renew outstanding contracts. The rental assistance grant funding assumes a \$20 million savings from a new \$50 minimum tenant rent contribution requirement, similar to the ones that are already in place for HUD programs that provide rental subsidies.

The Budget also provides \$200 million in guaranteed multifamily housing loans and \$15.1 million in budget authority for the Farm Labor Housing grants and loans program. The combined 2016 Budget request in the rural development multifamily housing portfolio reflects the Administration's support for the poorest rural tenant population base.

Government-Sponsored Enterprises in the Housing Market

The Federal National Mortgage Association, or Fannie Mae, created in 1938, and the Federal Home Loan Mortgage Corporation, or Freddie Mac, created in 1970, were established to support the stability and liquidity of a secondary market for residential mortgage loans. Fannie Mae's and Freddie Mac's public missions were later broadened to promote affordable housing.

Growing stress and losses in the mortgage markets in 2007 and 2008 seriously eroded the capital of Fannie Mae and Freddie Mac, and responsive legislation enacted in July 2008 strengthened regulation of the housing GSEs and provided the Treasury Department with authorities to purchase GSE securities. In September 2008, reacting to growing GSE losses and uncertainty that threatened to paralyze the mortgage markets, the GSEs' independent regulator, the Federal Housing Finance Agency (FHFA), placed Fannie Mae and Freddie Mac under Federal conservatorship, and Treasury began to exercise its purchase authorities to provide support to the GSEs. The Budget continues to reflect the GSEs as non-budgetary entities in keeping with their temporary status in conservatorship. However, all of the current Federal assistance being provided to Fannie Mae and Freddie Mac, including capital provided by Treasury through the Senior Preferred Stock Purchase Agreements (PSPA), is shown on-budget, and discussed below.

The Federal Home Loan Bank (FHLB) System, created in 1932, is comprised of twelve individual banks with shared liabilities. Together they lend money to financial institutions—mainly banks and thrifts—that are involved in mortgage financing to varying degrees, and they also finance some mortgages using their own funds. The FHLBs have generally shown positive monthly net interest income and net income during 2014, and some have benefitted from premium yields and the accretion to income of previously recognized losses on private-label

mortgage-backed securities. Private-label mortgage backed securities constituted 2.2 percent of FHLB assets at the end of September 2014. Strict collateral requirements, superior lien priority, and joint debt issuances backed by the entire system have helped the FHLBs remain solvent, and have added significant retained earnings to produce growth in FHLB system-wide capital from just above the regulatory ratio of 4 percent in 2008 to 5.6 percent through September 2014.

In recent years, the FHLBs have experienced changes in membership composition and in advance demand that have created operational challenges. Partially in response to these challenges, the Boards of the FHLBs of Des Moines and Seattle have filed an application to merge. FHFA approved the application in December 2014, but the merger will not be finalized until the members of both Banks ratify the agreement.

Together these three GSEs currently are involved, in one form or another, with approximately half of the \$11 trillion residential mortgages outstanding in the U.S. today. Their share of outstanding residential mortgage debt rose to 55 percent in 2003. Subsequently, originations of subprime and non-traditional mortgages led to a surge of private-label mortgage-backed securities, reducing the three GSEs' market share to a low of 47 percent in 2006. Recent disruptions in the financial market, however, have led to a resurgence of their market share. The combined market share of the three GSEs was about 52 percent as of September 30, 2014.

Mission

The mission of the housing GSEs is to support certain aspects of the U.S. mortgage market. Fannie Mae and Freddie Mac's mission is to provide liquidity and stability to the secondary mortgage market and to promote affordable housing. Currently, they engage in two major lines of business.

1. **Credit Guarantee Business**—Fannie Mae and Freddie Mac guarantee the timely payment of principal and interest on mortgage-backed securities (MBS). They create MBS by pooling mortgages acquired through either purchase from or swap arrangements with mortgage originators. Over time these MBS held by the public have averaged nearly 40 percent of the U.S. mortgage market, and as of November 30, 2014, they totaled \$4.2 trillion.
2. **Mortgage Investment Business**—Fannie Mae and Freddie Mac manage retained mortgage portfolios composed of their own MBS, MBS issued by others, and individual mortgages. The GSEs finance the purchase of these portfolio assets through debt issued in the credit markets. As of November 30, 2014, these retained mortgages, financed largely by GSE debt, totaled \$826 billion. As a term of their PSPA contracts with Treasury, the combined investment portfolios of Fannie Mae and Freddie Mac were limited to no more than \$1.8 trillion as of December 31, 2009, and this limitation was directed to decline by

10 percent each year. To accelerate the wind-down of the GSEs' retained mortgage portfolios, Treasury revised the PSPA terms in August 2012, setting the effective portfolio limitation at \$1.1 trillion as of December 31, 2013, and accelerating the reduction in this limitation to 15 percent each year until December 31, 2018, when the combined limitation will be fixed at \$500 billion (\$250 billion for each company).

As of November 30, 2014, the combined debt and guaranteed MBS of Fannie Mae and Freddie Mac totaled \$5.1 trillion.

The mission of the FHLB System is broadly defined as promoting housing finance, and the System also has specific requirements to support affordable housing. Its principal business remains lending (secured by mortgages and financed by System debt issuances) to regulated depository institutions and insurance companies engaged in residential mortgage finance. Historically, investors in GSE debt have included thousands of banks, institutional investors such as insurance companies, pension funds, foreign governments and millions of individuals through mutual funds and 401k investments.

Regulatory Reform

The 2008 Housing and Economic Recovery Act (HERA) reformed and strengthened the GSEs' safety and soundness regulator by creating the Federal Housing Finance Agency (FHFA), a new independent regulator for Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. The FHFA authorities consolidate and expand upon the regulatory and supervisory roles of what were previously three distinct regulatory bodies: the Federal Housing Finance Board as the FHLB's overseer; the Office of Federal Housing Enterprise Oversight as the safety and soundness regulator of the other GSEs; and HUD as their public mission overseer. FHFA was given substantial authority and discretion to influence the size and composition of Fannie Mae and Freddie Mac investment portfolios through the establishment of housing goals, monitoring GSE compliance with those goals, and capital requirements.

FHFA is required to issue housing goals, such as for purchases of single-family mortgages provided to low-income families, for each of the regulated enterprises, including the FHLBs, with respect to single family and multi-family mortgages and has the authority to require a corrective "housing plan" if an enterprise does not meet its goals and statutory reporting requirements, and in some instances impose civil money penalties. In August of 2009, FHFA promulgated a final rule adjusting the overall 2009 housing goals downward based on a finding that current market conditions had reduced the share of loans that qualify under the goals. However, HERA mandated significant revisions to the housing goals, which were implemented the following year. The revised goals for 2010 and 2011 provided for a retrospective and market-based analysis of the GSEs' contributions toward the goals by expressing the goals as a share of the GSEs' total portfolio

purchase activity. The housing goals for 2012 through 2014, promulgated on November 13, 2012, establish revised benchmarks but maintain the structural changes implemented for 2010 and 2011. The revised goals for Fannie Mae and Freddie Mac comprise four goals and one subgoal for single-family, and one goal and one subgoal for multifamily housing. FHFA has determined that both Fannie Mae and Freddie Mac exceeded the 2012 benchmark levels on all of the single-family and multifamily goals. While FHFA's evaluation of the GSEs' performance in reaching the 2013 goals is underway, its preliminary determination indicates that Fannie Mae fell short on one goal, and that Freddie Mac fell short on three goals. On August 29, 2014, FHFA published a proposed rule that would establish new affordable housing goals for years 2015-2017.

The expanded authorities of FHFA also include the ability to place any of the regulated enterprises into conservatorship or receivership based on a finding of under-capitalization or a number of other factors.

Conservatorship

On September 6, 2008, FHFA placed Fannie Mae and Freddie Mac under Federal conservatorship. This action was taken in response to the GSEs' declining capital adequacy and to support the safety and soundness of the GSEs, given the role they played in the secondary mortgage market and the potential impact of their failure on broader financial markets. HERA provides that as conservator FHFA may take any action that is necessary to put Fannie Mae and Freddie Mac in a sound and solvent condition and to preserve and conserve the assets of each firm. As conservator, FHFA has assumed by operation of law the powers of the Board and shareholders at Fannie Mae and Freddie Mac. FHFA has appointed Directors and CEOs who are responsible for the day-to-day operations of the two firms. While in conservatorship, FHFA expects Fannie Mae and Freddie Mac to continue to fulfill their core statutory purposes, including their support for affordable housing discussed above. In its 2014 Strategic Plan for the Conservatorships of Fannie Mae and Freddie Mac, FHFA outlined three key goals for conservatorship: 1) maintain, in a safe and sound manner, foreclosure prevention activities and credit availability for new and refinanced mortgages to foster liquid, efficient, competitive and resilient national housing finance markets; 2) reduce taxpayer risk through increasing the role of private capital in the mortgage market; and 3) build a new single-family securitization infrastructure for use by the Enterprises and adaptable for use by other participants in the secondary market in the future.

Department of Treasury GSE Support Programs under HERA

On September 7, 2008, the U.S. Treasury launched three programs to provide temporary financial support to the GSEs under the temporary authority provided in HERA to purchase GSE securities. These purchase authorities expired on December 31, 2009.

1. *PSPAs with Fannie Mae and Freddie Mac*

Treasury entered into agreements with Fannie Mae and Freddie Mac to make investments in senior preferred stock in each GSE in order to ensure that each company maintains a positive net worth. In exchange for the substantial funding commitment, the Treasury received \$1 billion in senior preferred stock for each GSE and warrants to purchase up to a 79.9 percent share of common stock at a nominal price. The initial agreements established funding commitments for up to \$100 billion in each of these GSEs. On February 18, 2009, Treasury announced that the funding commitments for these agreements would be increased to \$200 billion for each GSE. On December 24, 2009, Treasury announced that the funding commitments in the purchase agreements would be modified to the greater of \$200 billion or \$200 billion plus cumulative net worth deficits experienced during 2010-2012, less any positive net worth remaining as of December 31, 2012. Based on the financial results reported by each company as of December 31, 2012, the cumulative funding commitment for Fannie Mae and Freddie Mac was set at \$445.5 billion. In total, as of December 31, 2014, \$187.5 billion has been invested in the GSEs, and the initial liquidation preference of the senior preferred stock held by Treasury has increased accordingly. The PSPAs also require that Fannie Mae and Freddie Mac pay quarterly dividends to Treasury. Prior to calendar year 2013, the quarterly dividend amount was based on an annual rate of 10 percent of the liquidation preference of Treasury's senior preferred stock. Amendments to the PSPAs effected on August 17th, 2012, replaced the 10 percent dividend with an amount equivalent to the GSE's positive net worth above a capital reserve amount. The capital reserve amount for each company was set at \$3.0 billion for calendar year 2013, and declines by \$600 million at the beginning of each calendar year thereafter until it reaches zero. Through December 31, 2014, the GSEs have paid a total of \$225.4 billion in dividends payments to Treasury on the senior preferred stock. The Budget estimates additional dividend receipts of \$153.3 billion from January 1, 2015, through FY 2025. The cumulative budgetary impact of the PSPAs from the establishment of the PSPAs through FY 2025 is estimated to be a net return to taxpayers of \$191.2 billion. The Temporary Payroll Tax Cut Continuation Act of 2011 signed into law on December 23, 2011, required that the GSEs increase their fees on security guarantees issued through 2021 by an average of at least 0.10 percentage points above the average guarantee fee imposed in 2011. Revenues generated by this fee increase are remitted directly to the Treasury for deficit reduction and are not included in the PSPA amounts. The Budget estimates resulting deficit reductions from this fee of \$39.5 billion from FY 2012 through FY 2025.

2. *GSE MBS Purchase Programs*

Treasury initiated a temporary program during the financial crisis to purchase MBS issued by Fannie Mae and Freddie Mac, which carry the GSEs' standard guar-

antee against default. The purpose of the program was to promote liquidity in the mortgage market and, thereby, affordable homeownership by stabilizing the interest rate spreads between mortgage rates and corresponding rates on Treasury securities. Treasury purchased \$226 billion in MBS from September 2008 to December 31, 2009, when the statutory purchase authority that Treasury used for this program expired, and sold the last of its MBS holdings in March 2012. The MBS purchase program generated \$11.9 billion in net budgetary savings, calculated on a net present value basis as required by the Federal Credit Reform Act.

3. *GSE Credit Facility*

Treasury promulgated the terms of a temporary secured credit facility available to Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. The facility was intended to serve as an ultimate liquidity backstop to the GSEs if necessary. No loans were needed or issued through December 31, 2009, when Treasury's HERA purchase authority expired.

4. *State Housing Finance Agency Programs*

In December 2009, Treasury used its purchase authorities under HERA to initiate two programs to support state and local Housing Financing Agencies (HFAs). Under the New Issue Bond Program (NIBP), Treasury purchased \$15.3 billion in securities of Fannie Mae and Freddie Mac backed by new HFA housing bond issuances. As of December 31, 2014, NIBP balances had decreased to approximately \$8.4 billion. The Temporary Credit and Liquidity Program (TCLP) provides HFAs with credit and liquidity facilities supporting up to \$8.2 billion in existing HFA bonds. Treasury's statutory authority to enter into new obligations for these programs expired on December 31, 2009. In late 2012, Treasury granted three-year extensions to the TCLP agreements for six HFAs in order to give these HFAs additional time to reduce their TCLP balances. The revised agreements will expire by December 2015. As of December 31, 2014, the remaining balance of TCLP backed bonds had decreased to \$0.7 billion.

Recent GSE Role in Administration Initiatives to Relieve the Foreclosure Crisis and Support Access to Affordable Housing

While under Federal conservatorship, Fannie Mae and Freddie Mac have continued to play a leading role in Government and private market initiatives to prevent homeowners who are having difficulty making their mortgage payments from losing their homes. In March 2009, the Administration announced its Making Home Affordable (MHA) program, which includes the Home Affordable Modification Program (HAMP) and the Home Affordable Refinance Program (HARP).

Fannie Mae and Freddie Mac are participating in HAMP both for mortgages they own or guarantee and as the Treasury Department's contractual financial agents. Under HAMP, investors, servicers, and borrowers re-

ceive incentive payments to reduce eligible homeowners' monthly payments to affordable levels. The incentive payments for the modification of loans not held by the GSEs are paid by Treasury's TARP fund, while the incentive payments for the modification of loans held by the GSEs are generally paid by the GSEs. As of November 30, 2014, nearly 2.3 million trial modifications have been initiated, resulting in more than 1.4 million homeowners entering permanent mortgage modifications. HAMP has also encouraged the mortgage industry to adopt similar programs that have helped millions more at no cost to the taxpayer. In May of 2014, the Administration announced an extension of MHA to at least December 31, 2016, to continue supporting homeowners who are facing foreclosure, those who are struggling with increasing interest rates on their modified mortgages, and those whose homes are underwater. For more information on HAMP and other TARP housing programs, see the Budgetary Effects of the Troubled Asset Relief Program chapter of this volume.

Fannie Mae and Freddie Mac also facilitate underwater refinancing through HARP. Under the program, borrowers with a mortgage that is owned by Fannie Mae or Freddie Mac and who are current on their loan payments may be eligible to refinance their mortgage to take advantage of the current low interest rate environment regardless of their current loan-to-value (LTV) ratio. Prior to HARP, the LTV limit of 80 percent for conforming purchase mortgages without a credit enhancement such as private mortgage insurance also applied to refinancing of mortgages owned by the GSEs. Borrowers whose home values had dropped such that their LTVs had increased above 80 percent could not take advantage of the refinance opportunity. With the introduction of HARP in 2009, eligible borrowers with LTVs up to 105 percent (later extended to 125 percent) could qualify. On October 24, 2011, FHFA announced that HARP would be enhanced by lowering the fees charged by Fannie Mae and Freddie Mac on these refinancings, streamlining the application process, and removing the previous LTV cap of 125 percent. In April of 2013, FHFA announced a two year extension of HARP to December 31, 2015. From the inception of the program through October 2014, 3.2 million refinancings have been completed through HARP.

As the housing market strengthens, the Administration has worked to expand responsible lending to creditworthy borrowers and to increase access to affordable rental housing for families not ready or wanting to buy a home. Under the direction of FHFA, the GSEs continue to play a role in these efforts. In November 2014, Fannie Mae and Freddie Mac announced a revised framework that clarifies the circumstances under which lenders may be required to repurchase a loan when the GSEs determine that a loan purchase does not meet their underwriting guidelines. This step is expected to help alleviate lender uncertainty that has contributed to increased credit overlays that drive up lending costs and reduce access to credit.

In December 2014, the GSEs released guidelines that will enable creditworthy borrowers who can afford a mortgage, but lack the resources to pay a substantial down payment plus closing costs, to obtain a mortgage with a down payment of 3 to 5 percent. In addition, FHFA directed the GSEs to begin setting aside 4.2 basis points for each dollar of unpaid principal balance of new business purchases (such as mortgages purchased for securitization) in each year to fund several federal affordable housing programs created by HERA. These set-asides, initially authorized by HERA, were suspended by FHFA in November 2008 and were reinstated effective January 1, 2015, subject to terms and conditions as prescribed by FHFA.

Future of the GSEs

To finish addressing the weaknesses exposed by the financial crisis, the housing finance system must be reformed, and the GSEs should be wound down. The bipartisan progress in the Senate last year was a meaningful step towards securing a system that aligns with many of the Administration's principles for reform, including ensuring that private capital is at the center of the housing finance system so that taxpayer assistance is never again required, and that the new system supports broad access to credit and affordable rental housing through programs like the Housing Trust and Capital Magnet Funds. The Administration will continue to work with Congress to pass comprehensive reform centered on several core principles: require more private capital in the system; end the Fannie Mae/Freddie Mac duopoly business model in order to improve system stability and better protect taxpayers; ensure broad access for all creditworthy families to sustainable products like the 30-year fixed rate mortgage in good times and bad; and help ensure sustainable rental options are widely available.

In the absence of comprehensive housing finance reform legislation, the Administration continues to take actions that balance our desire to reduce taxpayer risk with the need to support the continued flow of mortgage credit in a recovering housing market. Temporary GSE conforming loan limits of up to \$729,750 expired on September 30, 2011, and the allowable investment portfolios of Fannie Mae and Freddie Mac will continue to be reduced by 15 percent each year, according to the terms of Treasury's PSPA agreements with the enterprises as amended in August 2012. In 2013, Fannie Mae and Freddie Mac initiated a series of credit risk-sharing transactions with private market participants that add an additional layer of private loss coverage, further limiting taxpayer exposure to credit losses from the GSEs and potentially providing a model for future reforms. The GSEs and FHFA also plan to continue building a new single-family securitization platform that can be adapted for use by the GSEs as well as non-GSE users in order to increase liquidity in the secondary mortgage market.

Education Credit Programs

Historically, the Department of Education financed student loans through two programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (Direct Loan) program. In March 2010, President Obama signed the Student Aid and Fiscal Responsibility Act (SAFRA) which ended the FFEL program. On July 1, 2010, ED became the sole originator of Federal student loans through the Direct Loan program, and despite significant technical challenges, ED made all loans on time and without disruption.

The Direct Loan program was authorized by the Student Loan Reform Act of 1993. Under the program, the Federal Government provides loan capital directly to over 5,500 domestic and foreign schools, which then disburse loan funds to students. Loans are available to students and parents of students regardless of income, but the terms of the loans differ. There are three types of Direct Loans: Federal Direct Subsidized Stafford Loans, Federal Direct Unsubsidized Stafford Loans, and Federal Direct PLUS Loans. For Direct Subsidized Stafford loans which are available to undergraduate borrowers from low and moderate income families, the Federal Government provides other benefits, including not charging interest while the borrowers are in school and during certain deferment periods.

In 2013 President Obama signed the Bipartisan Student Loan Certainty Act which established interest rates for all types of new Direct Loans made on or after July 1, 2013. Interest rates on Direct Loans are set annually based on Treasury rates but once the rate is set, the rate is fixed for the life of the loan. Interest rates are set by: (1) indexing the interest rate to the rate of ten-year Treasury notes; and (2) adding the indexed rate to a specific base percent for each loan type with specific caps for each loan type. For Federal Direct Subsidized Stafford Loans and Federal Direct Unsubsidized Stafford Loans issued to undergraduate students, the rate is 2.05 percentage points above the Treasury 10-year note rate and capped at 8.25 percent. For Federal Direct Unsubsidized Stafford Loans issued to graduate and professional students, the rate is 3.6 percentage points above the Treasury rate and capped at 9.5 percent. For Federal Direct PLUS Loans issued to parents and graduate and professional students, the rate is 4.6 percentage points above the Treasury rate and capped at 10.5 percent.

The Direct Loan program offers a variety of flexible repayment plans including income-driven ones for all student borrowers, regardless of the type of loan they borrowed. In October 2011, the Administration announced a “Pay As You Earn” (PAYE) initiative for certain eligible student borrowers that set monthly loan payments at no more than 10 percent of the borrowers’ discretionary incomes and with their remaining balances forgiven after 20 years. In the summer of 2014, the President announced his plan to extend similar benefits, by December 2015, to all student borrowers. The 2016 Budget proposes to reform the PAYE terms to ensure that the program’s benefits are well-targeted.

In addition, the Federal Perkins Loan Program has provided low interest loans to help students finance the costs of postsecondary education. Students at approximately 1,700 participating postsecondary institutions could obtain Perkins loans from the school. However, the authority for schools to make Federal Perkins Loans ended on September 30, 2014, subject to an automatic one-year extension under section 422(a) of the General Education Provisions Act. Thus, absent Congressional action, the statutory authority for schools to make Federal Perkins loans to new borrowers ends on September 30, 2015. However, the 2016 Budget proposes to create an expanded, modernized Perkins Loan program providing \$8.5 billion in loan volume annually.

Small Business and Farm Credit Programs and GSEs

The Government offers direct loans and loan guarantees to small businesses and farmers, who may have difficulty obtaining credit elsewhere. It also provides guarantees of debt issued by certain investment funds that invest in small businesses. Two GSEs, the Farm Credit System and the Federal Agricultural Mortgage Corporation, increase liquidity in the agricultural lending market.

Loans to Small Businesses

The Small Business Administration (SBA) helps entrepreneurs start, sustain, and grow small businesses. As a “gap lender,” SBA works to supplement market lending and provide access to credit where private lenders are reluctant to do so at a reasonable price without a Government guarantee. SBA also helps home- and business-owners, as well as renters, cover the uninsured costs of recovery from disasters through its direct loan program. At the end of 2014 SBA’s outstanding balance of direct and guaranteed loans totaled approximately \$114 billion. Due to the improved economy and SBA improvements in lender documentation requirements, demand for SBA guaranteed loans has significantly increased in recent months. For this reason, the 2015 limitation on SBA’s 7a loan guarantees was increased to \$18.75 billion, compared to its historical limit of \$17.5 billion, and the Budget increases it to \$21 billion to accommodate expected demand as the economy and opportunities for small businesses grow.

The 2016 Budget supports \$36 billion in financing for small businesses with no subsidy costs through the 7(a) General Business Loan program and the 504 Certified Development Company (CDC) program. As noted, the 7(a) program will support \$21 billion in guaranteed loans that will help small businesses operate and expand. The 504 program will support \$7.5 billion in guaranteed loans for fixed-asset financing, and the Budget also extends an additional \$7.5 billion in 504 guarantees to allow small businesses to refinance to take advantage of current interest rates and free up resources for expansion. In addition, SBA will supplement the capital of Small Business Investment Corporations (SBICs) with up to \$4 billion in long-term, guaranteed loans to support SBICs’ venture

capital investments in small businesses. The Budget also supports SBA's disaster direct loan program at its 10-year average volume of \$1.1 billion in loans, and includes \$187 million to administer the program. Of this amount, \$159 million is provided through the Budget Control Act's disaster relief cap adjustment for costs related to Stafford Act (Presidentially-declared) disasters.

For the 2016 Budget, SBA recorded a net downward reestimate of \$1.6 billion in the expected costs of its outstanding loan portfolio, reflecting an improved loan performance forecast, which will decrease the 2015 budget deficit.

Due to continued improving economic conditions and better-than-anticipated performance of the outstanding loans, the 7(a) and 504 programs are projected to have zero subsidy cost for 2016. As a result, SBA's annual fees charged to lenders and borrowers are decreased from recent years in 2016. This has enabled SBA and the 2016 Budget to continue fee waivers on small dollar 7(a) loans as well as 7(a) loans to veteran-owned businesses.

The Budget also requests \$35 million in direct loans, and \$25 million in technical assistance grant funds for the Microloan program. The Microloan program provides low-interest loan funds to non-profit intermediaries who in turn provide loans of up to \$50,000 to new entrepreneurs.

The 2016 Budget also includes a mandatory proposal to create the Scale-Up Manufacturing Investment Funds (SUMIF) program within SBA that would support young, innovative manufacturing technologies by financing their scale-up from prototypes to commercial-scale facilities in the United States. The SUMIF is designed to generate \$10 billion in investment activity over five years, using \$5 billion in Federal financing and a matching amount of private funds to bridge a significant portion of the financing gap for small advanced manufacturing startups. The program would support private funds in a similar way to how SBA operates its SBIC debt guarantee program, but of a much larger fund and project size necessary to support the needs of manufacturing scale-up efforts. The estimated subsidy costs associated with each application for a Federal contribution to a fund would be determined on a fund-by-fund basis using actual fund financial information. For purposes of the 2016 Budget, a subsidy rate of 25 percent is assumed, which assumes conservative cash flow assumptions and an annual fee to offset some expected default costs.

To help small businesses drive economic recovery and create jobs, the Small Business Jobs Act of 2010 created two new mandatory programs to increase financing assistance to small businesses, administered by the Department of the Treasury.

Treasury's State Small Business Credit Initiative (SSBCI) is designed to support state programs that make new loans or investments to small businesses and small manufacturers. SSBCI has offered states and territories (and in certain circumstances, municipalities) the opportunity to apply for Federal funds to finance programs that partner with private lenders to extend new credit to small businesses to create jobs. These funds have allowed States to create or improve various small business programs,

including collateral support programs, capital access programs, revolving loan and loan guarantee programs, loan participation programs, and State venture capital programs. SSBCI guidelines state that all approved programs must demonstrate a reasonable expectation of minimum overall leverage of \$10 in new private lending for every \$1 in Federal funding. Treasury is providing approximately \$1.5 billion for SSBCI, which translates into \$15 billion in new lending to small businesses at the 10-to-1 leverage ratio. As of September 30, 2014, SSBCI had approved funding for 47 states, 5 territories, 4 municipalities, and the District of Columbia for a total of nearly \$1.5 billion in obligations, of which \$1.1 billion had already been disbursed.

The Budget proposes a new authorization of \$1.5 billion for a second round of the State Small Business Credit Initiative to build on the momentum of the program's first round, strengthen the Federal government's relationship with state economic development agencies, and provide capital to America's diverse community of entrepreneurs. The proposal requires \$1 billion of the funding to be competitively awarded to States best able to target local market needs, promote inclusion, attract private capital for start-up and scale-up businesses, strengthen regional entrepreneurial ecosystems, and evaluate results. The remaining \$500 million will be allocated to States according to a need-based formula reflecting economic factors such as job losses and pace of economic recovery.

The second Treasury program created by the 2010 Act was the Small Business Lending Fund (SBLF), a dedicated investment fund that encourages lending to small businesses by providing capital to qualified community banks and community development loan funds (CDLFs) with assets of less than \$10 billion. Because participating institutions leverage their capital, the SBLF helps increase lending to small businesses in an amount significantly greater than the total capital provided to participating banks. In addition to expanding the lending capacity of all participants, SBLF creates a strong incentive for banks to increase small business loans by tying the cost of SBLF funding to the growth of their portfolio of small business loans. The application period for the program closed in June 2011, with 332 institutions receiving slightly over \$4 billion in funding by the end of 2011. The Budget estimates that SBLF will generate cumulative budgetary savings of \$10 million, calculated on a net present value basis as required by the Federal Credit Reform Act.

Loans to Farmers

The Farm Service Agency (FSA) assists low-income family farmers in starting and maintaining viable farming operations. Emphasis is placed on aiding beginning and socially disadvantaged farmers. FSA offers operating loans and ownership loans, both of which may be either direct or guaranteed loans. Operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment, while farm ownership loans assist producers in acquiring and developing their farming or ranching operations. As a condition of eligibility for direct loans, borrowers must

be unable to obtain private credit at reasonable rates and terms. As FSA is the “lender of last resort,” default rates on FSA direct loans are generally higher than those on private-sector loans. FSA-guaranteed farm loans are made to more creditworthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in examining the repayment ability of borrowers. The subsidy rates for the direct programs fluctuate largely because of changes in the interest component of the subsidy rate.

The number of loans provided by these programs has varied over the past several years. In 2014, FSA provided loans and loan guarantees to more than 37,000 family farmers totaling \$5.2 billion. Direct and guaranteed loan programs provided assistance totaling \$2.4 billion to beginning farmers during 2014. Loans for socially disadvantaged farmers totaled \$759 million, of which \$420 million was in the farm ownership program and \$339 million in the farm operating program. The average size of farm ownership loans was consistent over the past two years, with new customers receiving the bulk of the direct loans. The majority of assistance provided in the operating loan program during 2014 was to beginning farmers as well. Overall, demand for FSA loans—both direct and guaranteed—continues to be high. More conservative credit standards in the private sector continue to drive applicants from commercial credit to FSA direct programs. Low grain prices and uncertainty over interest rates are causing lenders to force their marginal borrowers to FSA for credit. Also, record high land prices, market volatility and uncertainty are driving lenders to request guarantees in situations where they may not have in the past. In the 2016 Budget, FSA proposes to make \$6.4 billion in direct and guaranteed loans through discretionary programs, including guaranteed conservation loans. The overall loan level for conservation loans is unchanged from the 2015 requested level of \$150 million.

Lending to beginning farmers was strong during 2014. FSA provided direct or guaranteed loans to more than 20,000 beginning farmers. Loans provided under the Beginning Farmer Down Payment Loan Program represented 39 percent of total direct ownership loans made during the year, substantially higher than the previous year. Fifty seven percent of direct operating loans were made to beginning farmers, an increase of 17 percent in dollar volume over 2013. Overall, as a percentage of funds available, lending to beginning farmers was 2 percentage points above the 2013 level, comprised of a 6 percent increase in ownership loans and no change in the percentage of operating loans made to beginning farmers. Lending to minority and women farmers was a significant portion of overall assistance provided, with \$759 million in loans and loan guarantees provided to more than 8,500 farmers. This represents an increase of 21 percent in the overall number of direct loans to minority and women borrowers. Outreach efforts by FSA field offices to promote and inform beginning and minority farmers about FSA funding have resulted in increased lending to these groups.

FSA continues to evaluate the farm loan programs in order to improve their effectiveness. FSA released a new Microloan program to increase lending to small niche producers and minorities. This program dramatically simplifies application procedures for small loans, and implements more flexible eligibility and experience requirements. The demand for the micro-loan program continues to grow while delinquencies and defaults remain at or below that of the regular FSA operating loan program. FSA has also developed a nationwide continuing education program for its loan officers to ensure they remain experts in agricultural lending, and it is transitioning all information technology applications for direct loan servicing into a single, web-based application that will expand on existing capabilities to include all special servicing options. Its implementation will allow FSA to better service its delinquent and financially distressed borrowers. This transition is still in progress and is expected to be implemented in the near future.

The Farm Credit System (Banks and Associations)

The Farm Credit System (FCS or System) is a Government-sponsored enterprise (GSE) composed of a nationwide network of borrower-owned cooperative lending institutions originally authorized by Congress in 1916. The FCS's mission continues to be providing sound and dependable credit to American farmers, ranchers, producers or harvesters of aquatic products, their cooperatives, and farm-related businesses. In addition, they serve rural America by providing financing for rural residential real estate, rural communication, energy and water infrastructure, and agricultural exports.

The financial condition of the System's banks and associations remains fundamentally sound. Between September 30, 2013, and September 30, 2014, the ratio of capital to assets increased from 16.5 percent to 16.9 percent. Capital consisted of \$42.1 billion in unrestricted capital and \$3.7 billion in restricted capital in the Farm Credit Insurance Fund, which is held by the Farm Credit System Insurance Corporation (FCSIC). For the first nine months of calendar year 2014, net income equaled \$3.6 billion compared with \$3.5 billion for the same period of the previous year. The increase in net income resulted primarily from an increase in net interest income and noninterest income.

Over the 12-month period ending September 30, 2014, nonperforming loans as a percentage of total loans outstanding decreased from 1.15 percent to 0.85 percent, primarily due to loan repayments in excess of loans being transferred into nonaccrual status. System assets moderately grew 7.3 percent during that period due to increases in real estate mortgage loans and agribusiness loans. Real estate mortgage loans increased due to strong demand for financing higher priced cropland. The increase in agribusiness loans was due to increased lending to food and agribusiness companies and an increase in advances on existing loans to processing and marketing agribusiness companies. The System's loans outstanding grew by \$13.8 billion, or 7.1 percent, while over the past five years they grew by \$50.8 billion, or 23.0 percent. As required

by law, borrowers are also stockholder-owners of System banks and associations. As of September 30, 2014, System institutions had 502,875 of these stockholders-owners.

The number of FCS institutions continues to decrease because of consolidation. As of September 30, 2014, the System consisted of four banks and 78 associations, compared with seven banks and 104 associations in September 2002. Of the 81 FCS banks and associations, 76 of them had one of the top two examination ratings (1 or 2 on a 1 to 5 scale) and accounted for 99 percent of System's assets. Four FCS institutions had a rating of 3, and one institution was rated a 4.

The dollar volume of new loans to young, beginning, and small farmers and ranchers fell in 2013 from 2012 along with the decline in the System's overall volume of new farm loans made. Loans to young, beginning, and small farmers and ranchers represented 11.0 percent, 14.6 percent, and 15.2 percent, respectively, of the total dollar volume of all new farm loans made in 2013. All three percentages were lower than those reported for 2012. The number of loans to young and beginning farmers increased from 2012 to 2013 by 2.3 percent and 5.0 percent, respectively. However, the number of loans to small farmers fell 0.5 percent. Young, beginning, and small farmers are not mutually exclusive groups and, thus, cannot be added across categories. Maintaining special policies and programs for the extension of credit to young, beginning, and small farmers and ranchers is a legislative mandate for the System.

The System, while continuing to record strong earnings and capital growth, remains exposed to a variety of risks associated with its portfolio concentration in agriculture and rural America. Grain prices have fallen to near four-year lows as USDA is predicting record large harvests for the major grains, thanks to favorable weather during the planting and harvest season. As a result, stress to the protein, dairy and ethanol industries has subsided. The housing sector continues to slowly improve, and it is expected to translate into improved credit conditions for the housing related sectors such as timber and nurseries. Nonetheless, the agricultural sector remains subject to future risks such as a farmland price decline, a rise in interest rates, continued volatility in commodity prices, weather-related catastrophes, and long-term environmental risks related to climate change.

The FCSIC, an independent Government-controlled corporation, ensures the timely payment of principal and interest on FCS obligations on which the System banks are jointly and severally liable. On September 30, 2014, the assets in the Insurance Fund totaled \$3.7 billion. As of September 30, 2014, the Insurance Fund as a percentage of adjusted insured debt was 1.97 percent. This was slightly below the statutory secure base level of 2 percent. During the first nine months of calendar year 2014, insured System obligations grew by 3.4 percent.

Federal Agricultural Mortgage Corporation (Farmer Mac)

Farmer Mac was established in 1988 as a federally chartered instrumentality of the United States and an in-

stitution of the FCS to facilitate a secondary market for farm real estate and rural housing loans. Farmer Mac is not liable for any debt or obligation of the other System institutions, and no other System institutions are liable for any debt or obligation of Farmer Mac. The Farm Credit System Reform Act of 1996 expanded Farmer Mac's role from a guarantor of securities backed by loan pools to a direct purchaser of mortgages, enabling it to form pools to securitize. In May 2008, the Food, Conservation and Energy Act of 2008 (2008 Farm Bill) expanded Farmer Mac's program authorities by allowing it to purchase and guarantee securities backed by rural utility loans made by cooperatives.

Farmer Mac continues to meet core capital and regulatory risk-based capital requirements. As of September 30, 2014, Farmer Mac's total outstanding program volume (loans purchased and guaranteed, standby loan purchase commitments, and AgVantage bonds purchased and guaranteed) amounted to \$14.0 billion, which represents an increase of 1.6 percent from the level a year ago. Of total program activity, \$10.0 billion were on-balance sheet loans and guaranteed securities, and \$3.9 billion were off-balance-sheet obligations. Total assets were \$14.5 billion, with non-program investments (including cash and cash equivalents) accounting for \$4.2 billion of those assets. Farmer Mac's net income for the first three quarters of calendar year 2014 was \$32.6 million, a significant decrease from the same period in 2013 during which Farmer Mac reported net income of \$59.3 million. The decrease in net income is largely attributable to unusually high unrealized gains in the prior period and unrealized losses on financial derivatives in 2014 through September.

Farmer Mac's earnings can be substantially influenced by unrealized fair-value gains and losses. For example, fair-value changes on financial derivatives resulted in an unrealized losses of \$12.5 million for the first three quarters of 2014, compared with unrealized gains of \$22.5 million for the same period in 2013 (both pre-tax). Although unrealized changes in fair-value of financial derivatives temporarily impact earnings and capital, those changes are not expected to have any permanent effect if the financial derivatives are held to maturity, as is expected.

Energy and Infrastructure Credit Programs

This Administration is committed to constructing a new foundation for economic growth and job creation, and clean energy is a critical component of that. The general public, as well as individual consumers and owners, benefits from clean energy and well-developed infrastructure. Thus, the Federal Government promotes clean energy and infrastructure development through various credit programs.

Credit Programs to Promote Clean and Efficient Energy

The Department of Energy (DOE) administers two credit programs that serve to reduce emissions and enhance energy efficiency: a loan guarantee program to

support innovative energy technologies and a direct loan program to support advanced automotive technologies.

The DOE's Title 17 loan guarantee program is authorized to issue loan guarantees for projects that employ innovative technologies to reduce air pollutants or man-made greenhouse gases. The program was first provided \$4 billion in loan volume authority in 2007. The 2009 Consolidated Appropriations Act provided an additional \$47 billion in loan volume authority, allocated as follows: \$18.5 billion for nuclear power facilities, \$2 billion for "front-end" nuclear enrichment activities, \$8 billion for advanced fossil energy technologies, and \$18.5 billion for energy efficiency, renewable energy, and transmission and distribution projects. The 2011 appropriations effectively reduced the available loan volume authority for energy efficiency, renewable energy, and transmission and distribution projects by \$17 billion and provided \$170 million in credit subsidy to support renewable energy or energy efficient end-use energy technologies. Congress has since provided no new loan authority or credit subsidy for DOE's Title 17 program. The President's 2016 Budget requests no new authority as the program will focus on deploying the remaining resources appropriated in prior years.

The American Reinvestment and Recovery Act of 2009 amended the program's authorizing statute to allow loan guarantees on a temporary basis for commercial or advanced renewable energy systems, electric power transmission systems, and leading edge biofuel projects. The Recovery Act initially provided \$6 billion in new budget authority for credit subsidy costs incurred for eligible loan guarantees. After funds were transferred to support the Department of Transportation's "Cash for Clunkers" program in 2009 and \$1.5 billion was rescinded to offset the Education Jobs and Medicaid Assistance Act in 2010, the program had \$2.5 billion available for credit subsidy. Early solicitations for the guarantee program attracted many projects requesting 100 percent guarantees of DOE-supported loans. Consistent with Federal credit policies, loans with 100 percent guarantees in this program are financed by the Federal Financing Bank, and therefore do not involve private sector lenders. The program's "Financial Institutions Partnership Program" solicitation, however, invited private sector lenders to participate whereby DOE provided guarantees for up to 80 percent of loan amounts financed by private sector financial institutions. This structure utilized private sector expertise, expedited the lending/underwriting process, and leveraged the program's funds by sharing project risks with the private sector, while increasing private sector experience with financing new energy technologies. The program also added a new solicitation in 2010 specifically targeting projects in the United States that manufacture renewable energy systems or related components. While the authority for the temporary program to extend new loans expired September 30, 2011, DOE provided loan guarantees to 28 projects totaling over \$16 billion in guaranteed debt including: 12 solar generation, 4 solar manufacturing, 4 wind generation, 3 geothermal, 2 biofuels, and 3 transmission/energy storage projects. Four projects withdrew prior to any disbursement of funds. In

2014, DOE closed on two loan guarantees totaling \$6.5 billion to support the construction of two new commercial nuclear power reactors.

The Advanced Technology Vehicle Manufacturing (ATVM) Direct Loan program was created to support the development of advanced technology vehicles and associated components in the United States that would improve vehicle energy efficiency by at least 25 percent relative to a 2005 Corporate Average Fuel Economy standards baseline. In 2009, Congress appropriated \$7.5 billion in credit subsidy costs to support a maximum of \$25 billion in loans under ATVM. The program provides loans to automobile and automobile part manufacturers for the cost of re-equipping, expanding, or establishing manufacturing facilities in the United States, and for other costs associated with engineering integration.

The Budget also provides \$9 million in credit subsidy for the Tribal Indian Energy Loan Guarantee Program. The program will support clean energy development on Indian land.

Electric and Telecommunications Loans

Rural Utilities Service (RUS) programs of the United States Department of Agriculture (USDA) provide loans for rural electrification, telecommunications, distance learning, telemedicine, and broadband, and also provide grants for distance learning and telemedicine (DLT).

The Budget includes \$6 billion in direct loans for electricity distribution, construction of renewable energy facilities, transmission, and carbon capture projects on facilities to replace fossil fuels. The Budget also provides \$690 million in direct telecommunications loans, \$44 million in broadband loans, \$20 million in broadband grants, and \$25 million in DLT grants.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as healthcare clinics, police stations, and water systems. Direct loans are available at lower interest rates for the poorest communities. These programs have very low default rates. That coupled with the historically low funding costs for the Government has resulted in negative subsidy rates for these programs.

The program level for the Water and Wastewater treatment facility loan and grant program in the 2016 President's Budget is \$1.65 billion. These funds are available to communities of 10,000 or fewer residents.

The Community Facility (CF) Program targets grants and direct loans to rural communities with fewer than 20,000 residents. The 2016 Budget includes \$50 million for the CF grants to expand the community facility grant program to address ongoing needs and emerging priorities such as Promise Zones, Energy Sector Transition, and Strike Force Communities. These funds will allow USDA to be responsive to new needs in communities across rural America and target them in a flexible way. In addition, the Budget includes a program level of \$2.2 billion for CF direct loans.

USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, cooperatives, nonprofits, and farmers in creating new community infrastructure (i.e. educational and healthcare networks) and to diversify the rural economy and employment opportunities. In 2016, USDA proposes to provide \$792 million in loan guarantees and direct loans to entities that serve communities of 25,000 or less through the Intermediary Relending program and to entities that serve communities of 50,000 or less through the Business and Industry guaranteed loan program and the Rural Microentrepreneur Assistance program. These loans are structured to save or create jobs and stabilize fluctuating rural economies.

The Rural Business Service is also responsible for the Rural Energy for America program through which the Budget proposes \$60 million in funding to support \$485 million in loan guarantees and grants to promote energy efficiencies, renewable energy, and small business development in rural communities.

Transportation Infrastructure

Federal credit programs, offered through the Department of Transportation (DOT), fund critical transportation infrastructure projects, often using innovative financing methods. The two predominant programs are the program authorized by the Transportation Infrastructure Finance and Innovation Act (TIFIA) and the Railroad Rehabilitation and Improvement Financing (RRIF) program.

Established by the Transportation Equity Act of the 21st century (TEA-21) in 1998, the TIFIA program is designed to fill market gaps and leverage substantial private co-investment by providing supplemental and subordinate capital to projects of national or regional significance. Through TIFIA, DOT provides Federal credit assistance to highway, transit, rail, and intermodal projects. The 47 projects that have received TIFIA credit assistance represent almost \$72 billion of infrastructure investment in the United States. Government commitments in these partnerships constitute over \$19 billion in Federal assistance with a budgetary cost of approximately one billion dollars.

TIFIA can help advance qualified, large-scale projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues at a relatively low budgetary cost. Each dollar of subsidy provided for TIFIA can provide approximately \$10 in credit assistance, and leverage an additional \$20 to \$30 in non-Federal transportation infrastructure investment. Prior to the most recent surface transportation reauthorization, MAP-21, the demand for the TIFIA program far exceeded available resources. MAP-21 dramatically increased program resources in an effort to help meet demand, providing \$750 million in 2013 and \$1 billion for the program in 2014. In 2016, the President's Budget continues to build upon prior success by requesting \$1 billion for the TIFIA program. At the requested level, TIFIA could provide approximately \$10 billion in credit support for up to \$30 billion in new infrastructure projects. This funding will accelerate critical transportation

improvements and attract private investment by lowering financing costs and mitigating market imperfections.

DOT has also provided direct loans and loan guarantees to railroads since 1976 for facilities maintenance, rehabilitation, acquisitions, and refinancing. Federal assistance was created to provide financial assistance to the financially-challenged portions of the rail industry. However, following railroad deregulation in 1980, the industry's financial condition began to improve, larger railroads were able to access private credit markets, and interest in Federal credit support began to decrease.

Also established by TEA-21 in 1998, the RRIF program provides loans with an interest rate equal to the Treasury rate for similar-term securities. TEA-21 also stipulates that non-Federal sources pay the subsidy cost of the loan, thereby allowing the program to operate without Federal subsidy appropriations. The RRIF program assists projects that improve rail safety, enhance the environment, promote economic development, or enhance the capacity of the national rail network. While refinancing existing debt is an eligible use of RRIF proceeds, capital investment projects that would not occur without a RRIF loan are prioritized.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) increased the amount of total RRIF assistance available from \$3.5 billion to \$35 billion, and the Rail Safety Improvement Act (RSIA) extended the maximum loan term from 25 to 35 years. Since enactment of TEA-21, over \$1.7 billion in direct loans have been made under the RRIF program.

National Infrastructure Bank

To direct Federal resources for infrastructure to projects that demonstrate the most merit and may be difficult to fund under the current patchwork of Federal programs, the President has called for the creation of an independent, non-partisan National Infrastructure Bank (NIB), led by infrastructure and financial experts. The NIB would offer broad eligibility and unbiased selection for transportation, water, and energy infrastructure projects. Projects would have a clear public benefit, meet rigorous economic, technical and environmental standards, and be backed by a dedicated revenue stream. Geographic, sector, and size considerations would also be taken into account. Interest rates on loans issued by the NIB would be indexed to United States Treasury rates, and the maturity could be extended up to 35 years, giving the NIB the ability to be a "patient" partner side-by-side with State, local, and private co-investors. To maximize leverage from Federal investments, the NIB would finance no more than 50 percent of the total costs of any project.

International Credit Programs

Seven Federal agencies—the Department of Agriculture (USDA), the Department of Defense, the Department of State, the Department of the Treasury, the Agency for International Development (USAID), the Export-Import Bank, and the Overseas Private Investment Corporation (OPIC)—provide direct loans, loan guarantees, and in-

insurance to a variety of private and sovereign borrowers. These programs are intended to level the playing field for U.S. exporters, deliver robust support for U.S. goods and services, stabilize international financial markets, and promote sustainable development.

Leveling the Playing Field

Federal export credit programs counter official financing that foreign governments around the world, largely in Europe and Japan but also increasingly in emerging markets such as China and Brazil, provide their exporters, usually through export credit agencies (ECAs). The U.S. Government has worked since the 1970's to constrain official credit support through a multilateral agreement in the Organization for Economic Cooperation and Development (OECD). In its current form, this agreement has virtually eliminated direct interest rate subsidies, significantly constrained tied-aid grants, and standardized the fees for corporate and sovereign lending across all OECD ECAs—bringing the all-in costs of OECD export credit financing broadly in line with market levels. In addition to ongoing OECD negotiations, US government efforts resulted in the 2012 creation of the International Working Group (IWG) on export credits. This group includes China and other non-OECD providers of export credits in discussions on a broader framework that would bring common practices to ECAs throughout the world.

The Export-Import Bank provides export credits, in the form of direct loans or loan guarantees, to U.S. exporters who meet basic eligibility criteria and who request the Bank's assistance. USDA's Export Credit Guarantee Programs (also known as GSM programs) similarly help to level the playing field. Like programs of other agricultural exporting nations, GSM programs guarantee payment from countries and entities that want to import U.S. agricultural products but cannot easily obtain credit.

Stabilizing International Financial Markets

Consistent with U.S. obligations in the International Monetary Fund regarding global financial stability, the Exchange Stabilization Fund managed by the Department of the Treasury may provide loans or credits to a foreign entity or government of a foreign country. A loan or credit may not be made for more than six months in any 12-month period unless the President gives the Congress a written statement that unique or emergency circumstances require that the loan or credit be for more than six months.

Supporting our International Partners

The U.S. government, through USAID, can extend short-to-medium-term loan guarantees that cover potential losses that might be incurred by lenders if a country defaults on its borrowings; for example, the U.S. may guarantee another country's sovereign bond issuance. The purpose of this tool is to provide our sovereign international partners access to necessary, urgent, and relatively affordable financing during temporary periods of strain when they cannot access such financing on international financial markets, and to support critical

reforms that will enhance long term fiscal sustainability, often in concert with support from international financial institutions such as the International Monetary Fund. The long term goal of sovereign loan guarantees is to help lay the economic groundwork for our international partners to graduate to an unenhanced bond issuance on the international capital markets. For example, as part of the U.S. response to fiscal crises, the U.S. government has extended sovereign loan guarantees to Tunisia, Jordan, and Ukraine to enhance their access to capital markets, while promoting economic policy adjustment.

Using Credit to Promote Sustainable Development

Credit is an important tool in U.S. bilateral assistance to promote sustainable development. USAID's Development Credit Authority (DCA) allows USAID to use a variety of credit tools to support its development activities abroad. DCA provides non-sovereign loan guarantees in targeted cases where credit serves more effectively than traditional grant mechanisms to achieve sustainable development. DCA is intended to mobilize host country private capital to finance sustainable development in line with USAID's strategic objectives. Through the use of partial loan guarantees and risk sharing with the private sector, DCA stimulates private-sector lending for financially viable development projects, thereby leveraging host-country capital and strengthening sub-national capital markets in the developing world.

OPIC mobilizes private capital to help solve critical challenges such as renewable energy and infrastructure development, and in doing so, advances U.S. foreign policy. OPIC achieves its mission by providing investors with financing, guarantees, political risk insurance, and support for private equity investment funds. These programs are intended to create more efficient financial markets, eventually encouraging the private sector to supplant OPIC finance in developing countries.

Ongoing Coordination

International credit programs are coordinated through two groups to ensure consistency in policy design and credit implementation. The Trade Promotion Coordinating Committee (TPCC) works within the Administration to develop a National Export Strategy to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

The Interagency Country Risk Assessment System (ICRAS) standardizes the way in which most agencies that lack sufficient historical experience to budget for the cost associated with the risk of international lending. The cost of lending by these agencies is governed by proprietary U.S. Government ratings, which correspond to a set of default estimates over a given maturity. The methodology establishes assumptions about default risks in international lending using averages of international sovereign bond market data. The strength of this method is its link to the market and an annual update that adjusts the default estimates to reflect the most recent risks observed in the market.

Promoting Economic Growth and Poverty Reduction through Debt Sustainability

The Enhanced Heavily Indebted Poor Countries (HIPC) Initiative reduces the debt of some of the poor-

est countries with unsustainable debt burdens that are committed to economic reform and poverty reduction.

III. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance promotes stability in the U.S. financial system. Prior to the establishment of Federal deposit insurance, depository institution failures often caused depositors to lose confidence in the banking system and rush to withdraw deposits. Such sudden withdrawals caused serious disruption to the economy. In 1933, in the midst of the Great Depression, a system of Federal deposit insurance was established to protect depositors and to prevent bank failures from causing widespread disruption in financial markets.

Today, the Federal Deposit Insurance Corporation (FDIC) insures deposits in banks and savings associations (thrifts) using the resources available in its Deposit Insurance Fund (DIF). The National Credit Union Administration (NCUA) insures deposits (shares) in most credit unions through the National Credit Union Share Insurance Fund (SIF). (Some credit unions are privately insured.) As of September 30, 2014, the FDIC insured \$6.1 trillion of deposits at 6,589 commercial banks and thrifts, and the NCUA insured \$896 billion of shares at 6,350 credit unions.

Recent Reforms

Since its creation, the Federal deposit insurance system has undergone many reforms. As a result of the recent crisis, several reforms were enacted to protect both the immediate and longer-term integrity of the Federal deposit insurance system. The Helping Families Save Their Homes Act of 2009 (P.L. 111–22) provided NCUA with tools to protect the Share Insurance Fund and the financial stability of the credit union system. Notably, the Helping Families Save Their Homes Act:

- Established the Temporary Corporate Credit Union Stabilization Fund (TCCUSF), allowing NCUA to segregate the losses of corporate credit unions and providing a mechanism for assessing those losses to federally insured credit unions over an extended period of time;
- Provided flexibility to the NCUA Board by permitting use of a restoration plan to spread insurance premium assessments over a period of up to eight years or longer in extraordinary circumstances, if the SIF equity ratio fell below 1.2 percent; and
- Permanently increased the Share Insurance Fund's borrowing authority to \$6 billion.

The Dodd-Frank Wall Street Reform and Consumer Protection (Wall Street Reform) Act of 2010 included provisions allowing the FDIC to more effectively and efficiently manage the DIF. The Act requires the FDIC to achieve a minimum DIF reserve ratio (ratio of the deposit insurance fund balance to total estimated insured deposits) to 1.35 percent by 2020, up from 1.15 percent. In addition to raising the minimum reserve ratio, the Wall Street Reform Act also:

- Eliminated the FDIC's requirement to rebate premiums when the DIF reserve ratio is between 1.35 and 1.5 percent;
- Gave the FDIC discretion to suspend or limit rebates when the DIF reserve ratio is 1.5 percent or higher, effectively removing the 1.5 percent cap on the DIF; and
- Required the FDIC to offset the effect on small insured depository institutions (defined as banks with assets less than \$10 billion) when setting assessments to raise the reserve ratio from 1.15 to 1.35 percent.

In implementing the Wall Street Reform Act, the FDIC issued a final rule setting a long-term (i.e., beyond 2025) reserve ratio target of 2 percent, a goal that FDIC considers necessary to maintain a positive fund balance during economic crises while permitting steady long-term assessment rates that provide transparency and predictability to the banking sector. This rule, coupled with other provisions of the Wall Street Reform Act, will significantly improve the FDIC's capacity to resolve bank failures and maintain financial stability during economic downturns.

The Wall Street Reform Act also permanently increased the insured deposit level to \$250,000 per account at banks or credit unions insured by the FDIC or NCUA.

Recent Fund Performance

After seven consecutive quarters of negative balances, the DIF balance became positive on June 30, 2011, standing at \$3.9 billion on an accrual basis, then doubling to \$7.8 billion on September 30, 2011. As of September 30, 2014, the DIF fund balance stood at \$54.3 billion. The growth in the DIF balance is a result of fewer bank failures and higher assessment revenue. The reserve ratio on September 30, 2014 was 0.89 percent.

As of September 30, 2014, the number of insured institutions on the FDIC's "problem list" (institutions with the highest risk ratings) totaled 329, which represented a decrease of more than 62 percent from December 2010,

the peak year for bank failures during the recent crisis. Furthermore, the assets held by problem institutions decreased by nearly 74 percent.

The SIF ended September 2014 with assets of \$11.9 billion and an equity ratio of 1.30 percent. If the equity ratio increases above the normal operating level of 1.30 percent, a distribution is normally paid to member credit unions to reduce the equity ratio to the normal operating level. However, the Helping Families Save Their Homes Act requires that SIF dividends be directed to Treasury for the repayment of any outstanding TCCUSF loans before a distribution can be paid to member credit unions. In 2014, NCUA distributed SIF dividends of \$95 million to the TCCUSF. As of September 30, 2014, the TCCUSF had a \$2.6 billion loan outstanding from the Department of the Treasury.

The health of the credit union industry continues to improve. Consequently, the ratio of insured shares in problem institutions to total insured shares decreased to 1.4 percent in September 2014 from a high of 5.7 percent in December 2009. With the improving health of credit unions, NCUA has been steadily reducing SIF loss reserves. As of September 30, 2014, the SIF had set aside \$167.3 million in reserves to cover potential losses, a reduction of over 31 percent from the \$244 million set-aside as of September 30, 2013.

Restoring the Deposit Insurance Funds

Pursuant to the Wall Street Reform Act, the restoration period for the FDIC's DIF reserve ratio to reach 1.35 percent was extended to 2020. (Prior to the Act, the DIF reserve ratio was required to reach the minimum target of 1.15 percent by the end of 2016.) The Budget projects that changes in net provisions for losses coupled with higher resolution outlays in 2015 will slightly decrease the DIF reserve ratio to 0.83 percent at year-end. From 2016 on, however, it is expected to increase steadily, reaching the statutorily required level of 1.35 percent by 2020. In late 2009, the FDIC Board of Directors adopted a final rule requiring insured institutions to prepay quarterly risk-based assessments for the fourth quarter of CY 2009 and for all of CY 2010, 2011, and 2012. The FDIC collected approximately \$45 billion in prepaid assessments pursuant to this rule. Unlike a special assessment, the prepaid assessments did not immediately affect bank earnings; it was booked as an asset and amortized each quarter by that quarter's assessment charge. This prepaid assessment, coupled with annual assessments on the banking industry, provided the FDIC with ample operating cash flows to effectively and efficiently resolve bank failures during the short period in which the DIF balance was negative. Although the FDIC has authority to borrow up to \$100 billion from Treasury to maintain sufficient DIF balances, the Budget does not anticipate FDIC utilizing their borrowing authority because the DIF is projected to maintain positive operating cash flows over the entire 10-year budget horizon.

While the NCUA has successfully restored the reserve ratio of the SIF to the normal operating level, NCUA continues to seek compensation from the parties that created

and sold troubled assets to the failed corporate credit unions. As of September 30, 2014, NCUA's gross recoveries from securities underwriters total more than \$1.75 billion, helping to minimize losses and future assessments on federally insured credit unions. These recoveries have also accelerated repayment of the TCCUSF's outstanding U.S. Treasury borrowings.

Budget Outlook

The Budget estimates DIF net outlays of -\$78.2 billion (i.e. net inflows into the fund) over the 10-year budget window. As a result of updated economic assumptions and technical improvements to OMB's forecasting model, the projected net inflows between 2015 and 2024 are lower than the 2015 Mid-Session Review (MSR) projection by approximately \$3.7 billion. The latest public data on the banking industry led to a slight upward revision to bank failure estimates, which are consistent with long-term, historical averages in terms of failed bank assets as a percentage of GDP. With the higher bank failure projection, the Budget projects slightly higher FDIC premiums necessary to reach the minimum Wall Street Reform Act DIF reserve ratio of 1.35 percent. However, these changes combined with other model updates led to a decrease in the projected savings of the Deposit Insurance Fund relative to MSR.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures the pension benefits of workers and retirees in covered defined-benefit pension plans. PBGC operates two legally distinct insurance programs: single-employer plans and multiemployer plans.

Single-Employer Program. Under the single-employer program, PBGC pays benefits, up to a guaranteed level, when a company's plan closes without enough assets to pay future benefits. PBGC's claims exposure is the amount by which qualified benefits exceed assets in insured plans. In the near term, the risk of loss stems from financially distressed firms with underfunded plans. In the longer term, loss exposure results from the possibility that well-funded plans become underfunded due to inadequate contributions, poor investment results, or increased liabilities, and that the healthy firms sponsoring those plans become distressed.

PBGC monitors companies with underfunded plans and acts to protect the interests of the pension insurance program's stakeholders where possible. Under its Early Warning Program, PBGC works with companies to strengthen plan funding or otherwise protect the insurance program from avoidable losses. However, PBGC's authority to prevent undue risks to the insurance program is limited. Most private insurers can diversify or reinsure their catastrophic risks as well as flexibly price these risks. Unlike private insurers, federal law does not allow PBGC to deny insurance coverage to a defined-benefit plan or adjust premiums according to risk. Both types of PBGC premiums—the flat rate (a per person charge

paid by all plans) and the variable rate (paid by some underfunded plans) are set in statute.

Claims against PBGC's insurance programs are highly variable. One large pension plan termination may result in a larger claim against PBGC than the termination of many smaller plans. The future financial health of the PBGC will continue to depend largely on the termination of a limited number of very large plans.

Single employer plans generally provide benefits to the employees of one employer. When an underfunded single employer plan terminates, usually through the bankruptcy process, PBGC becomes trustee of the plan, applies legal limits on payouts, and pays benefits. The amount of benefit paid is determined after taking into account (a) the benefit that a beneficiary had accrued in the terminated plan, (b) the availability of assets from the terminated plan to cover benefits, and (c) the legal maximum benefit level set in statute. In 2014, the maximum annual payment guaranteed under the single-employer program was \$59,318 for a retiree aged 65. This limit is indexed for inflation.

PBGC's single-employer program has incurred substantial losses over the past 15 years from underfunded plan terminations. Table 20-1 shows the ten largest plan termination losses in PBGC's history. Nine of the ten happened since 2001.

Multiemployer Plans. Multiemployer plans are collectively bargained pension plans maintained by one or more labor unions and more than one unrelated employer, usually within the same or related industries. PBGC's role in the multiemployer program is more like that of a re-insurer; if a company sponsoring a multiemployer plan fails, its liabilities are assumed by the other employers in the collective bargaining agreement, not by PBGC, although employers can withdraw from a plan for an exit fee. PBGC becomes responsible for insurance coverage when the plan runs out of money to pay benefits at the statutorily guaranteed level, which usually occurs after all contributing employers have withdrawn from the plan, leaving the plan without a source of income. PBGC provides insolvent multiemployer plans with financial assistance in the form of loans sufficient to pay guaranteed benefits and administrative expenses. Since multiemployer plans do not receive PBGC assistance until their assets are fully depleted, financial assistance is almost never repaid. Benefits under the multiemployer program are calculated based on the benefit a participant would have received under the insolvent plan, subject to the legal multiemployer maximum set in statute. The maximum guaranteed amount depends on the participant's years of service and the rate at which benefits are accrued. In 2014, for example, for a participant with 30 years of service, PBGC guarantees 100 percent of the pension benefit up to a yearly amount of \$3,960. If the pension exceeds that amount, PBGC guarantees 75 percent of the rest of the pension benefit up to a total maximum guarantee of \$12,870 per year. This limit has been in place since 2011.

In recent years, many multiemployer pension plans have become severely underfunded as a result of investment market declines, employers withdrawing from

plans, and demographic challenges. In 2001, only 15 plans covering about 80,000 participants were under 40 percent funded using estimated market rates. By 2011, this had grown to almost 200 plans covering almost 1.5 million participants. While many plans have benefited from an improving economy and will recover, a small number of plans are severely underfunded and, absent any changes, projected to become insolvent within ten years.

As of September 30, 2014, the single-employer and multi-employer programs reported deficits of \$19.3 billion and \$42.4 billion, respectively. While both programs are projected to be unable to meet their long-term obligations under current law, the challenges facing the multiemployer program are more immediate. In its 2014 Annual Report, PBGC reported that it had just \$2 billion in accumulated assets from premium payments made by multiemployer plans, which it projected would be depleted by 2022. If the program runs out of cash, the only funds available to support benefits would be the premiums that continue to be paid by remaining plans; this could result in benefits being cut much more deeply, to a small fraction of current guarantee levels.

To address the problems facing the multiemployer program and the millions of Americans who rely on those plans for their retirement security, the Congress passed The Multiemployer Pension Reform Act, which was included in the Consolidated and Further Continuing Appropriations Act signed on December 16, 2014. The law includes significant reforms to the multiemployer pension plan system, including provisions that allow trustees of multiemployer plans facing insolvency to apply to the Department of Treasury to reduce benefits by temporarily or permanently suspending benefits. The law does not allow suspensions for individuals over age 80 or for those receiving a disability retirement benefit. A participant or beneficiary's monthly benefit cannot be reduced below 110 percent of the PBGC guarantee. It also increases PBGC premiums from the \$13 per person to \$26 beginning in 2015. While the legislation is an important first step, it will not be enough to improve PBGC's solvency for more than a very short period of time. PBGC now projects that it is likely to become insolvent by 2024, extending its previous projected insolvency date by only two years.

Premiums. Premium increases are needed to shore up solvency in both of PBGC's insurance programs. The Congress has raised premium rates in both the single employer and multiemployer program twice since 2012, but, as CBO and others have noted, rates still remain much lower than what a private financial institution would charge for insuring the same risk, and, more importantly, well below what is needed to ensure that PBGC can meet the goal of providing benefits to beneficiaries when plans fail. While any further premium increases need to be carefully crafted to avoid worsening PBGC's financial condition and harming workers' retirement security by driving healthy plans that pose little risk of presenting a claim to PBGC out of the system, premiums can be responsibly raised to shore up PBGC's balance sheet.

The 2016 Budget proposes to give the PBGC Board the authority to adjust premiums in both programs to

better account for the risk that different sponsors pose. Consistent with previous Administration proposals, the Board would be required to consult with stakeholders, including beneficiaries and pension plan sponsors, prior to setting a new premium schedule and to establish a hardship waiver and other limitations on plan-specific premium increases. PBGC would be directed to try to make the premiums counter-cyclical and any increase would be phased in gradually. In determining the new premium rates, the Board would consider a number of factors, including a plan's risk of losses to PBGC, the burden on plan sponsors, and the amount of a plan's underfunding. This proposal is estimated to generate \$19 billion over the next decade, which would be split between the single-employer and multiemployer programs in accordance with the size of each program's deficit after making adjustments for the expected long-term effects of the recent law.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency of the Department of Homeland Security (DHS). Flood insurance is available to homeowners and businesses in communities that have adopted and enforce appropriate floodplain management measures. Coverage is limited to buildings and their contents. By

the end of fiscal year 2014, the program had over 5.3 million policies in more than 22,200 communities with \$1.28 trillion of insurance in force.

Prior to the creation of the program in 1968, many factors made it cost prohibitive for private insurance companies alone to make affordable flood insurance available. In response, the NFIP was established to make affordable insurance coverage widely available, to combine a program of insurance with flood mitigation measures to reduce the nation's risk of loss from flood, and to minimize Federal disaster-assistance expenditures. The NFIP requires building standards and other mitigation efforts to reduce losses, and operates a flood hazard mapping program to quantify geographic variation in the risk of flooding. These efforts have made substantial progress. However, structures built prior to flood mapping and NFIP floodplain management requirements, which make up 21.5 percent of the total policies in force, currently pay less than fully actuarial rates.

A major DHS goal is to ensure property owners are compensated for flood losses through flood insurance, rather than through taxpayer-funded disaster assistance. The agency's marketing strategy aims to increase the number of Americans insured against flood losses and improve retention of policies among existing customers. The strategy includes:

1. Providing financial incentives to the private insurers that sell and service flood policies for the Federal Government to expand the flood insurance business.

Table 20-1. TOP 10 FIRMS PRESENTING CLAIMS (1975-2013)

Single-Employer Program

Firm	Fiscal Year(s) of Plan Termination(s)	Claims (by firm)	Percent of Total Claims (1975-2013)
1 United Airlines	2005	\$7,304,186,215	15.05%
2 Delphi	2009	6,387,164,573	13.16%
3 Bethlehem Steel	2003	3,702,771,656	7.63%
4 US Airways	2003, 2005	2,708,858,934	5.58%
5 LTV Steel*	2002, 2003, 2004	2,134,985,883	4.40%
6 Delta Air Lines	2006	1,720,156,505	3.54%
7 National Steel	2003	1,319,009,116	2.72%
8 Pan American Air	1991, 1992	841,082,434	1.73%
9 Trans World Airlines	2001	668,377,105	1.38%
10 Weirton Steel	2004	640,480,969	1.32%
Top 10 Total		\$27,427,073,390	56.50%
All Other Total		\$21,118,826,949	43.50%
TOTAL		\$48,545,900,339	100.00%

Sources: PBGC Fiscal Year Closing File (9/30/13), PBGC Case Management System, and PBGC Participant System (PRISM).

Due to rounding of individual items, numbers and percentages may not add up to totals.

Data in this table have been calculated on a firm basis and, except as noted, include all trusted plans of each firm.

Values and distributions are subject to change as PBGC completes its reviews and establishes termination dates.

* Does not include 1986 termination of a Republic Steel plan sponsored by LTV.

2. Conducting the national marketing and advertising campaign, FloodSmart, which uses TV, radio, print and online advertising, direct mailings, and public relations activities to help overcome denial and resistance and increase demand.
3. Fostering lender compliance with flood insurance requirements through training, guidance materials, and regular communication with lending regulators and the lending community.
4. Conducting NFIP training for insurance agents via instructor-led seminars, online training modules, and other vehicles.
5. Seeking opportunities to simplify and clarify NFIP processes and products to make it easier for agents to sell and for consumers to buy.

These strategies resulted in steady policy growth for many years, peaking in 2008 at 5.62 million policies. From 2009-2013, due to the severe downturn in the economy policy growth stagnated varying between 5.55 million and 5.61 million. However, in fiscal year 2014, when some of the largest premium increases were introduced in compliance with the Biggert-Waters legislation, policy counts dropped 4.3% to 5.3 million.

DHS also has a multi-pronged strategy for reducing future flood damage. The NFIP offers flood mitigation assistance grants to assist flood victims to rebuild to current building codes, including base flood elevations, thereby reducing future flood damage costs. In particular, flood mitigation assistance grants targeted toward repetitive and severe repetitive loss properties not only help owners of high-risk property, but also reduces the disproportionate drain these properties cause on the National Flood Insurance Fund, through acquisition, relocation, or elevation. DHS is working to ensure that the flood mitigation grant program is closely integrated, resulting in better coordination and communication with State and local governments. Further, through the Community Rating System, DHS adjusts premium rates to encourage community and State mitigation activities beyond those required by the NFIP. These efforts, in addition to the minimum NFIP requirements for floodplain management, save over \$1 billion annually in avoided flood damages.

Due to the catastrophic nature of flooding, with hurricanes Katrina and Sandy as notable examples, insured flood damages far exceeded premium revenue in some years and depleted the program's reserve account, which is a cash fund. On those occasions, the NFIP exercises its borrowing authority through the Treasury to meet flood insurance claim obligations. While the program needed appropriations in the early 1980s to repay the funds borrowed during the 1970's, it was able to repay all borrowed funds with interest using only premium dollars between 1986 and 2004. In 2005, however, hurricanes Katrina, Rita, and Wilma generated more flood insurance claims than the cumulative number of claims from 1968 to 2004. Hurricane Sandy in 2012 also generated significant flood

insurance claims. As a result, the Administration and Congress have increased the borrowing authority to \$30.4 billion. The program's debt is currently \$24 billion.

The catastrophic nature of the 2005 hurricane season also triggered an examination of the program, and the Administration worked with the Congress to improve the program. On July 6, 2012, the Biggert Waters Flood Insurance Reform Act of 2012 (BW-12) was signed into law. In addition to reauthorizing the NFIP for 5 years, the bill also requires the NFIP generally to move to full risk-based premium rates and strengthens the NFIP financially and operationally. In 2013, the NFIP began phasing in risk-based premiums for certain properties, as required by the law. In March 2014, the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA) was signed into law, further reforming the NFIP and revising many sections of BW-12. Notably, HFIAA repealed many of the largest premium increases introduced by BW-12 and required refunds, introduced a phase-in to higher full-risk premiums for structures newly mapped into the Special Flood Hazard Area, and created a Flood Insurance Advocate.

Crop Insurance

Subsidized Federal crop insurance, administered by USDA's Risk Management Agency (RMA) on behalf of the Federal Crop Insurance Corporation (FCIC), assists farmers in managing yield and revenue shortfalls due to bad weather or other natural disasters, and is commonly known as "multi-peril crop insurance" (MPCI). The program is a cooperative partnership between the Federal Government and the private insurance industry. Private insurance companies sell and service crop insurance policies. The Federal Government, in turn, pays private companies a subsidy to cover expenses associated with selling and servicing these policies. For the 2016 Budget, the payments to the companies are projected to be \$2.4 billion in combined subsidies. The Federal Government also provides reinsurance on MPCI policies through the Standard Reinsurance Agreement (SRA). However, the private companies also rely on commercial reinsurance for premium retained after reinsurance provided by the SRA. Last, the Federal Government also subsidizes premiums for farmers as a way to encourage farmers to participate in the program and purchase higher levels of coverage.

The 2016 Budget includes two proposals that are designed to optimize the current crop insurance program so that it will continue to provide a quality safety net at a lower cost:

1. Reduce premium subsidy by 10 percentage points for revenue coverage that includes additional coverage for the price at harvest. This would simplify revenue insurance by reducing indemnity payments based on the higher of the market price right before planting or the harvest price. This would, in turn, reduce the potential for "windfall" profits from this additional coverage. Under this coverage, farmers pay an out-of-pocket premium which more closely matches the market price of the coverage purchased. As a result, the number farmers choosing the more expensive coverage for price hedging will decrease.

Over 10 years the government will save \$14.6 billion, of which 9 percent will be from subsidies that the government pays the insurance companies.

2. Reform the prevented planting program by: adjusting payment rates for prevented planting to reflect rates suggested in a recent USDA study, eliminating prevented planting optional +5 and +10 coverage, and requiring a 60 percent transitional yield be applied to the producer's Actual Production History (APH) who receives a prevented planting payment. This is expected to save \$1.4 billion over 10 years and improve the accuracy of the prevented planting coverage as well as promote additional food production.

The most basic type of crop insurance is catastrophic coverage (CAT), which compensates the farmer for losses in excess of 50 percent of the individual's average yield at 55 percent of the expected market price. The CAT premium is entirely subsidized, and farmers pay only an administrative fee. Higher levels of coverage, called "buy-up," are also available. A portion of the premium for buy-up coverage is paid by FCIC on behalf of producers and varies by coverage level - generally, the higher the coverage level, the lower the percent of premium subsidized. The remaining (unsubsidized) premium amount is owed by the producer and represents an out-of-pocket expense.

For 2014, the 10 principal crops, (barley, corn, cotton, grain sorghum, peanuts, potatoes, rice, soybeans, tobacco, and wheat) accounted for over 83 percent of total liability, and approximately 86 percent of the total U.S. planted acres of the 10 crops were covered by crop insurance. Producers can purchase both yield and revenue-based insurance products which are underwritten on the basis of a producer's APH. Revenue insurance programs protect against loss of revenue resulting from low prices, low yields, or a combination of both. Revenue insurance has enhanced traditional yield insurance by adding price as an insurable component. In the current program, the farmer can opt to cover the projected or the harvest price. Traditional revenue insurance only protects against a projected price, where the farmer is guaranteed a price at the time of planting. Revenue coverage that protects the price at the time of harvest guarantees the price to the farmer for the higher of the projected price or the harvest price. The harvest price protection policies are more costly than traditional revenue coverage and therefore more heavily subsidized by the government. Almost all farmers choose the harvest price option because taxpayers pay such a large portion of the extra premium and in some cases this heavy subsidy results in windfall profits to the farmer.

In addition to price and revenue insurance, FCIC has made available other plans of insurance to provide protection for a variety of crops grown across the United States. For example, "area plans" of insurance offer protection based on a geographic area (most commonly, a county), and do not directly insure an individual farm. Often, the loss trigger is based on an index, such as a rainfall or vegetative index, which is established by a Government entity (for example, NOAA or USGS). One

such plan is the pilot Rainfall and Vegetation Index plan, which insures against a decline in an index value covering Pasture, Rangeland, and Forage. These pilot programs meet the needs of livestock producers who purchase insurance for protection from losses of forage produced for grazing or harvested for hay. In 2014, there were 20,356 Rainfall and Vegetation Index policies earning premium, covering about 53 million acres of pasture, rangeland and forage. As of December 2014, there was about \$1 billion in liability, with \$155 million in indemnities paid to livestock producers who purchased coverage.

A crop insurance policy also contains coverage compensating farmers when they are prevented from planting their crops due to weather and other perils. When an insured farmer can't plant the planned crop within the planting time period because of excessive drought or moisture, the farmer may file a prevented planting claim, which pays the farmer a portion of the full coverage level. It is optional for the farmer to plant a second crop on the acres. If the farmer does, the prevented planting claim on the first crop is reduced and the farmer's APH is recorded for that year. If the farmer does not plant a second crop, the farmer gets the full prevented planting claim, and the farmer's APH is held harmless for premium calculation purposes the following year. USDA recently conducted a study to determine if the prevented planting costs were accurately priced for all crops and have considered policy changes for prevented planting based on the study's findings.

RMA is continuously working to develop new products and to expand or improve existing products in order to cover more agricultural commodities. Under section 508(h) of the Federal Crop Insurance Act, RMA may advance payment of up to 50 percent of expected reasonable research and development costs for FCIC Board approved Concept Proposals prior to the complete submission of the policy or plan of insurance. Numerous private products have been approved through the 508(h) authority, including Downed Rice Endorsement, Machine Harvested Cucumbers, APH Olive, Camelina, Pulse Crop Revenue, Fresh Market Beans, and Louisiana Sweet Potato.

Last, the Agricultural Act of 2014 (2014 Farm Bill) expanded FCIC's authority to approve products developed under the 508(h) process, authorized new plans, and mandated specific research and development priorities. For example, in 2015 RMA will offer the Supplemental Coverage Option for major crops and the Stacked Risk Income Protection for upland cotton. These "area" plans were mandated by the 2014 Farm Bill and supplement an underlying MPC policy. In addition, FCIC recently approved a Peanut Revenue plan and a Whole Farm Revenue Protection plan as authorized by the 2014 Farm Bill. More recently, RMA announced the APH Yield Exclusion option available to producers in 2015. This option allows producers to exclude unusually low yields from their yield history. Research and Development priorities set forth in the 2014 Farm Bill include biomass and sweet sorghum energy insurance, catastrophic programs for swine and poultry, margin coverage for catfish, and insurance for organic crops. In any instances RMA contracts with qualified entities to develop feasibility studies or develop the products.

For more information and additional crop insurance program details, please reference RMA's web site: (www.rma.usda.gov).

Insurance against Security-Related Risks

Terrorism Risk Insurance

The Terrorism Risk Insurance Program (TRIP) was authorized under P.L. 107-297 to help ensure the continued availability of property and casualty insurance following the terrorist attacks of September 11, 2001. TRIP's initial three-year authorization enabled the Federal Government to establish a system of shared public and private compensation for insured property and casualty losses arising from certified acts of foreign terrorism. In 2005, Congress passed a two-year extension (P.L. 109-144), which narrowed the Government's role by increasing the private sector's share of losses, reducing lines of insurance covered by the program, and adding a threshold event amount triggering Federal payments.

In 2007, Congress enacted a further seven-year extension of TRIP and expanded the program to include losses from domestic as well as foreign acts of terrorism (P.L. 110-318). For all seven extension years, TRIP maintained a private insurer deductible of 20 percent of the prior year's direct earned premiums, an insurer co-payment of 15 percent of insured losses of up to \$100 billion above the deductible, and a \$100 million minimum event cost triggering Federal coverage. The 2007 extension also required Treasury to recoup 133 percent of all Federal payments made under the program up to \$27.5 billion, and accelerated deadlines for recoupment of any Federal payments made before September 30, 2017.

In January 2015, Congress passed the Terrorism Risk Insurance Extension Act of 2015 (P.L. 114-1), which extended TRIP for six more years, through December 31, 2020 and made several program changes to further reduce Federal liability. Over the first five extension years, the loss

threshold that triggers Federal assistance will be increased by \$20 million each year to \$200 million in 2019, and the Government's share of losses above the deductible will decrease from 85 to 80 percent over the same period. The 2015 extension also requires Treasury to recoup 140 percent of all Federal payments made under the program up to a mandatory recoupment amount which increases by \$2 billion each year until 2019 when the threshold will be set at \$37.5 billion. Effective January 1, 2020, the mandatory recoupment amount will be indexed to a running three-year average of the aggregate insurer deductible of 20 percent of direct-earned premiums. These programmatic reforms will facilitate, over the longer term, full transition of the program to the private sector. The Budget baseline includes the estimated Federal cost of providing terrorism risk insurance, reflecting the 2015 TRIA extension. Using market data synthesized through a proprietary model, the Budget projects annual outlays and recoupment for TRIP. While the Budget does not forecast any specific triggering events, the Budget includes estimates representing the weighted average of TRIP payments over a full range of possible scenarios, most of which include no notional terrorist attacks (and therefore no TRIP payments), and some of which include notional terrorist attacks of varying magnitudes. On this basis, the Budget projects net spending of \$1.3 billion over the 2016–2020 period and \$1.2 billion over the 2016–2025 period.

Aviation War Risk Insurance

In December 2014, Congress sunset the premium aviation war risk insurance program, thereby sending U.S. air carriers back to the commercial aviation insurance market for all of their war risk insurance coverage. The non-premium program is authorized through December 31, 2018. It provides aviation insurance coverage for aircraft used in connection with certain Government contract operations by a Department or Agency that agrees to indemnify the Secretary of Transportation for any losses covered by the insurance.

Chart 20-1. Face Value of Federal Credit Outstanding

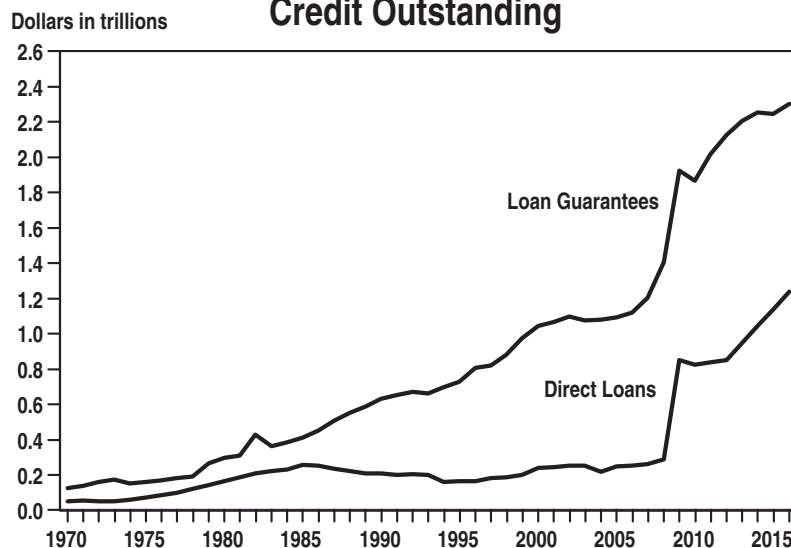


Table 20-2. ESTIMATED FUTURE COST OF OUTSTANDING DIRECT LOANS AND LOAN GUARANTEES

(In billions of dollars)

Program	Outstanding 2013	Estimated Future Costs of 2013 Outstanding ¹	Outstanding 2014	Estimated Future Costs of 2014 Outstanding ¹
Direct Loans:²				
Federal Student Loans	623	-54	734	-37
Education Temporary Student Loan Purchase Authority	90	-13	84	-13
Farm Service Agency, Rural Development, Rural Housing	53	6	54	6
Rural Utilities Service and Rural Telephone Bank	54	2	56	2
Troubled Asset Relief Program (TARP) ³	18	6	3	1
State Housing Finance Authority Direct Loans	9	1	9	1
Export-Import Bank	18	2	22	3
Advance Technology Vehicle Manufacturing, Title 17 Loans	14	2	15	2
Housing and Urban Development	11	7	14	8
Disaster Assistance	8	1	7	2
Transportation Infrastructure Finance and Innovation Act Loans	7	*	9	*
Small Business Lending Fund (SBLF) ³	4	-*	3	*
Public Law 480	4	2	4	2
Agency for International Development	3	1	3	1
Other direct loan programs ³	30	10	30	9
Total direct loans	947	-27	1,046	-15
Guaranteed Loans:²				
FHA Mutual Mortgage Insurance Fund	1,142	32	1,132	25
Department of Veterans Affairs (VA) Mortgages	349	8	398	9
Federal Student Loan Guarantees	264	*	242	*
FHA General and Special Risk Insurance Fund	148	9	153	9
Farm Service Agency, Rural Development, Rural Housing	112	5	124	5
Small Business Administration (SBA) Business Loan Guarantees ⁴	93	3	99	2
Export-Import Bank	62	2	63	2
International Assistance	21	2	24	2
Commodity Credit Corporation Export Loan Guarantees	5	*	4	*
Title 17 Loan Guarantees	3	*	3	*
Government National Mortgage Association (GNMA) ⁴ .....	.....	*	.....	*
Other guaranteed loan programs ³	9	1	11	1
Total guaranteed loans	2,207	62	2,253	55
Total Federal credit	3,154	35	3,298	40

* \$500 million or less.

¹ Future costs represent balance sheet estimates of allowance for subsidy cost, liabilities for loan guarantees, and estimated uncollectible principal and interest.² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as Tennessee Valley Authority loan guarantees. Defaulted guaranteed loans that result in loans receivable are included in direct loan amounts.³ As authorized by the statute, table includes TARP and SBLF equity purchases, and International Monetary Fund (IMF) transactions resulting from the 2009 Supplemental Appropriations Act. Future costs for TARP and IMF transactions are calculated using the discount rate required by the Federal Credit Reform Act adjusted for market risks, as directed in legislation.⁴ To avoid double-counting, outstandings for GNMA and SBA secondary market guarantees, and TARP FHA Letter of Credit program are excluded from the totals.

Table 20-3. DIRECT LOAN SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2014-2016

(In millions of dollars)

Agency and Program	2014 Actual			2015 Enacted			2016 Proposed		
	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels
Agriculture:									
Agricultural Credit Insurance Fund Program Account	3.35	75	2,219	1.46	42	2,919	0.47	15	2,879
Farm Storage Facility Loans Program Account	-2.52	-4	154	-3.00	-10	320	-1.64	-5	320
Rural Electrification and Telecommunications Loans Program Account	-3.36	-98	2,905	-5.34	-169	3,163	-4.60	-307	6,690
Distance Learning, Telemedicine, and Broadband Program .....	.....	.....	.....	18.69	10	55	21.87	10	44
Rural Water and Waste Disposal Program Account	-0.87	-7	827	-0.61	-7	1,200	2.61	24	918
Rural Community Facilities Program Account	-13.21	-123	930	-12.41	-223	1,800	-8.04	-177	2,200
Multifamily Housing Revitalization Program Account	48.43	6	14	55.30	10	19	50.59	15	30
Rural Housing Insurance Fund Program Account	4.32	38	888	8.76	88	1,002	8.31	84	1,011
Rural Microenterprise Investment Program Account	6.26	1	18	12.81	2	10	11.33	4	32
Intermediary Relending Program Fund Account	21.61	4	19	30.80	6	19	27.62	3	10
Rural Economic Development Loans Program Account	8.45	7	86	12.77	5	41	13.39	12	93
Commerce:									
Fisheries Finance Program Account	-7.38	-7	91	-4.39	-6	124	-2.30	-4	154
Education:									
College Housing and Academic Facilities Loans Program Account	3.09	3	111	5.94	19	303	6.67	19	303
TEACH Grant Program Account	13.75	15	106	16.57	14	86	11.64	12	101
Federal Perkins Loan Program Account .....	.....	.....	.....	.....	.....	.....	-18.72	-877	4,684
Federal Direct Student Loan Program Account	-15.14	-22,509	148,659	-3.85	-5,502	142,932	-8.80	-13,208	150,015
Energy:									
Title 17 Innovative Technology Loan Guarantee Program	-4.20	-259	6,184	² 2.26	142	6,281	² 0.43	28	6,500
Advanced Technology Vehicles Manufacturing Loan Program Account .....	.....	.....	.....	² 15.64	156	1,000	² 5.00	75	1,500
Health and Human Services:									
Consumer Operated and Oriented Plan Program Contingency Fund	41.45	165	397	48.22	42	88	.....	.....	.....
Homeland Security:									
Disaster Assistance Direct Loan Program Account .....	.....	.....	.....	96.35	63	65	91.05	46	50
Housing and Urban Development:									
FHA-Mutual Mortgage Insurance Program Account .....	.....	.....	.....	0.00	.....	19	0.00	.....	5
FHA-General and Special Risk Program Account .....	.....	.....	1	-10.83	-87	803	-10.96	-66	600
State:									
Repatriation Loans Program Account	63.06	2	2	52.65	1	2	53.18	1	2
Transportation:									
Federal-aid Highways	6.05	447	7,391	7.32	943	12,883	7.71	943	12,231
Railroad Rehabilitation and Improvement Program .....	.....	.....	.....	0.00	.....	600	0.00	.....	600
Treasury:									
Community Development Financial Institutions Fund Program Account	-1.81	-3	217	² 0.40	3	775	² 0.30	3	1,025
Veterans Affairs:									
Veterans Housing Benefit Program Fund	-8.83	*	5	-20.66	-50	244	-25.42	-88	345
Native American Veteran Housing Loan Program Account ..	-12.51	-1	8	-13.02	-2	13	-13.98	-2	14
International Assistance Programs:									
Overseas Private Investment Corporation Program Account	-14.67	-55	378	-3.74	-22	600	-5.80	-41	700
Small Business Administration:									
Disaster Loans Program Account	8.50	26	302	12.43	137	1,100	12.10	133	1,100
Business Loans Program Account	18.64	5	26	10.12	3	25	8.87	3	35

Table 20-3. DIRECT LOAN SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2014-2016—Continued
(In millions of dollars)

Agency and Program	2014 Actual			2015 Enacted			2016 Proposed		
	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels
Export-Import Bank of the United States:									
Export-Import Bank Loans Program Account	-6.37	-124	1,948	-9.01	-272	3,020	-10.10	-103	1,020
National Infrastructure Bank:									
National Infrastructure Bank Program Account .....	.....	.....	.....	.....	.....	.....	² 11.57	116	1,000
Total	N/A	-22,396	173,886	N/A	-4,664	181,511	N/A	-13,332	196,211

N/A = Not applicable

* \$500,000 or less.

¹ Additional information on credit subsidy rates is available in the Federal Credit Supplement.

² Rate reflects notional estimate. Estimates will be determined at the time of execution, and will reflect the terms of the contracts and other characteristics.

Table 20–4. LOAN GUARANTEE SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2014–2016

(In millions of dollars)

Agency and Program	2014 Actual			2015 Enacted			2016 Proposed		
	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels	Subsidy rate ¹	Subsidy budget authority	Loan levels
Agriculture:									
Agricultural Credit Insurance Fund Program Account	0.30	9	3,013	0.34	13	3,546	0.31	11	3,543
Commodity Credit Corporation Export Loans Program Account..	–1.11	–23	2,041	–0.76	–41	5,500	–0.82	–45	5,500
Rural Water and Waste Disposal Program Account	0.71	*	7	0.59	*	15	0.55	*	16
Rural Community Facilities Program Account	4.97	6	127	4.78	6	135	2.36	2	64
Rural Housing Insurance Fund Program Account	–0.14	–27	19,187	–0.60	–146	24,150	–0.17	–42	24,200
Rural Business Program Account	6.99	76	1,084	5.15	59	1,144	4.06	45	1,106
Rural Business Investment Program Account .....	.....	.....	.....	10.19	*	*	9.71	4	41
Rural Energy for America Program	27.43	15	56	10.58	3	30	6.60	30	455
Biorefinery Assistance Program Account	26.64	43	161	40.32	77	191	² 22.42	50	225
Commerce:									
Economic Development Assistance Programs .....	.....	.....	.....	.....	.....	.....	7.06	5	70
Health and Human Services:									
Health Resources and Services	2.81	*	3	2.67	*	6	2.67	*	4
Housing and Urban Development:									
Indian Housing Loan Guarantee Fund Program Account	0.52	3	709	1.30	11	851	0.63	7	1,151
Native Hawaiian Housing Loan Guarantee Fund Program Account	0.53	*	11	0.62	*	25	0.51	*	25
Native American Housing Block Grant	12.10	1	12	11.21	3	27	11.46	3	27
Community Development Loan Guarantees Program Account..	2.56	2	86	1.50	3	200	0.00	.....	300
FHA-Mutual Mortgage Insurance Program Account	–6.62	–9,849	148,813	–5.92	–8,927	150,867	–3.45	–6,527	189,038
FHA-General and Special Risk Program Account	–3.84	–585	15,272	–4.18	–626	14,980	–3.71	–573	15,387
Interior:									
Indian Guaranteed Loan Program Account	5.76	6	98	6.65	7	100	5.88	7	113
Transportation:									
Minority Business Resource Center Program	1.76	*	4	2.27	*	15	2.50	*	18
Maritime Guaranteed Loan (Title XI) Program Account	9.33	30	325	9.25	42	454	.....	.....	.....
Veterans Affairs:									
Veterans Housing Benefit Program Fund	–0.02	–20	98,535	0.27	277	102,733	0.25	270	108,016
International Assistance Programs:									
Loan Guarantees to Israel Program Account .....	.....	.....	.....	.....	.....	3,814	.....	.....	.....
Loan Guarantees to Ukraine Program Account	19.38	194	1,000	44.00	440	1,000	26.07	261	1,000
MENA Loan Guarantee Program Account	8.61	237	2,750	.....	.....	.....	.....	.....	.....
Development Credit Authority Program Account	3.31	25	769	6.30	37	581	4.53	50	1,106
Overseas Private Investment Corporation Program Account....	–10.87	–313	2,868	–5.45	–135	2,480	–6.39	–178	2,780
Small Business Administration:									
Business Loans Program Account	0.24	74	30,002	0.11	45	42,250	0.00	.....	52,000
Business Loans Program (legislative proposal) .....	.....	.....	.....	.....	.....	.....	² 25.13	1,257	5,000
Export-Import Bank of the United States:									
Export-Import Bank Loans Program Account	–1.46	–269	18,520	–3.13	–734	23,468	–4.39	–1,178	26,863
National Infrastructure Bank:									
National Infrastructure Bank Program Account .....	.....	.....	.....	.....	.....	.....	² 8.85	18	200
Total	N/A	–10,365	345,453	N/A	–9,586	378,562	N/A	–6,523	438,248
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS									
Government National Mortgage Association:									
Guarantees of Mortgage-backed Securities Loan Guarantee Program Account	–0.22	–665	302,149	–0.28	–832	297,000	–0.29	–958	330,200
Secondary Market Guarantee Program	0.00	.....	5,394	0.00	.....	12,000	0.00	.....	12,000
Total, secondary guaranteed loan commitments	N/A	–665	307,543	N/A	–832	309,000	N/A	–958	342,200

N/A = Not applicable.

* \$500,000 or less.

¹ Additional information on credit subsidy rates is available in the Federal Credit Supplement.² Rate reflects notional estimate. Estimates will be determined at the time of execution, and will reflect the terms of the contracts and other characteristics.

Table 20–5. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES¹
(In billions of dollars)

	Actual								Estimate	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Direct Loans:										
Obligations	42.5	75.6	812.9	246.0	296.3	191.1	174.4	174.0	181.5	196.2
Disbursements	41.7	41.1	669.4	218.9	186.7	170.0	157.5	155.4	159.6	168.4
New subsidy budget authority ²	1.4	3.7	140.1	–9.2	–15.7	–27.2	–29.8	–22.4	4.6	–13.4
Reestimated subsidy budget authority ^{2,3}	3.4	–0.8	–0.1	–125.1	–66.8	16.8	–19.7	–0.8	19.4	.....
Total subsidy budget authority	4.8	–1.3	140.0	–134.3	–82.5	–10.4	–49.4	–23.2	24.0	–13.4
Loan guarantees:										
Commitments ⁴	270.2	367.7	879.2	507.3	446.7	479.7	536.6	350.8	390.6	450.2
Lender disbursements ⁴	251.2	354.6	841.5	494.8	384.1	444.3	491.3	335.6	341.1	375.3
New subsidy budget authority ²	5.7	–1.4	–7.8	–4.9	–7.4	–6.9	–17.9	–13.7	–8.8	–5.6
Reestimated subsidy budget authority ^{2,3}	–6.8	3.6	0.5	7.6	–4.0	–4.9	20.8	1.2	–1.1	.....
Total subsidy budget authority	–1.1	2.2	–7.2	2.8	–11.4	–11.8	2.8	–12.5	–9.9	–5.6

¹As authorized by statute, table includes TARP and SBLF equity purchases, and International Monetary Fund (IMF) transactions resulting from the 2009 Supplemental Appropriations Act.

²Credit subsidy costs for TARP and IMF transactions are calculated using the discount rate required by the Federal Credit Reform Act adjusted for market risks, as directed in legislation.

³Includes interest on reestimate.

⁴To avoid double-counting, the face value of GNMA and SBA secondary market guarantees and the TARP FHA Letter of Credit program are excluded from the totals.

