

United States Government Required Supplementary Stewardship Information (Unaudited) for the Years Ended September 30, 2019, and 2018

Stewardship Investments

Stewardship investments focus on government programs aimed at providing long-term benefits by improving the nation's productivity and enhancing economic growth. These investments can be provided through direct federal spending or grants to state and local governments for certain education and training programs, R&D, and federally financed but not federally owned property, such as bridges and roads. When incurred, these investments are included as expenses in determining the net cost of operations. Stewardship investments for the current year and for the immediately preceding four years are shown in the table below.

Stewardship Investments for the Years Ended September 30, 2015, through 2019					
(In billions of dollars)	2019	2018	2017	2016	2015
Investments in non-federal physical property...	68.2	66.3	65.0	65.1	64.8
Investments in human capital	179.0	107.7	111.6	131.1	97.8
Research and development:					
Investments in basic research.....	38.7	40.1	36.5	35.5	29.4
Investments in applied research.....	41.5	38.2	32.7	32.5	28.8
Investments in development	88.7	75.0	68.2	64.9	63.3
Total investments	<u>416.1</u>	<u>327.3</u>	<u>314.0</u>	<u>329.1</u>	<u>284.1</u>

Non-Federal Physical Property

The government makes grants and provides funds for the purchase, construction, and/or major renovation of state and local government physical properties. Costs for non-federal physical property programs are included as expenses in the Statements of Net Cost and are reported as investments in the table. They are measured on the same accrual basis of accounting used in the *Financial Report*.

DOT, HUD, EPA, and DOD had \$58.6 billion (85.9 percent), \$3.9 billion (5.7 percent), \$3.3 billion (4.8 percent), and \$1.2 billion (1.7 percent), respectively, of the total non-federal physical property investments in fiscal year 2019.

Within DOT, the FHWA invested \$43.4 billion during fiscal year 2019, primarily via reimbursement from the Highway Trust Fund, for states' construction costs on projects related to the federal highway system. The main programs in which the states participate are the National Highway System, Interstate Systems, Surface Transportation, and Congestion Mitigation/Air Quality Improvement programs. The states' contribution is 10 percent for the Interstate System and 20 percent for most other programs.

Human Capital

The government runs several programs that invest in human capital. Those investments go toward increasing and maintaining a healthy economy by educating and training the general public. Costs do not include training expenses for federal workers.

Education, VA, DOL, HHS and DOI had \$152.6 billion (85.3 percent), \$14.2 billion (7.9 percent), \$6.2 billion (3.5 percent), \$2.0 billion (1.1 percent) and \$0.9 billion (0.5 percent), respectively, of the total human capital investments in fiscal year 2019. Historically, the changes in Education's annual human capital investments have been primarily attributable to fluctuations in the loan program subsidy estimate and loan modification costs.

Education administers a wide variety of programs related to general public education and training programs that are intended to increase or maintain national economic productive capacity. The Office of Federal Student Aid administers need-based financial assistance programs for students pursuing postsecondary education and makes available federal grants, direct loans, and work-study funding to eligible undergraduate and graduate students.

The significant human capital programs administered by VA include veterans rehabilitation and employment programs which are provided to service disabled veterans; they are designated to improve employability and promote independence for the disabled. They also include education and training programs intended to provide higher education to dependents that might not be able to participate otherwise.

The significant human capital programs administered by DOL relate to grants for job training and employment programs. Investments in human capital administered by HHS primarily relate to NIH research training and career development programs and Health Resources and Services Administration Health Workforce programs. Human Capital investments administered by DOI play a vital role in providing quality educational opportunities from early childhood throughout life, with consideration given to the mental, physical, emotional, spiritual, and cultural aspects of the people served.

Research and Development

Federal investments in R&D comprise those expenses for basic research, applied research, and development that are intended to increase or maintain national economic productive capacity or yield other future benefits.

- Investments in basic research are for systematic studies to gain knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.
- Investments in applied research are for systematic studies to gain knowledge or understanding necessary for determining the means by which a recognized and specific need may be met.
- Investments in development are the systematic use of the knowledge and understanding gained from research for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes.

With regard to basic research, HHS, NASA, NSF, and DOE had \$19.3 billion (49.9 percent), \$5.8 billion (15.1 percent), \$5.8 billion (14.9 percent), and \$5.3 billion (13.7 percent), respectively, of the total basic research investments in fiscal year 2019. Further, HHS, DOD, DOE, and NASA had \$18.6 billion (44.8 percent), \$8.5 billion (20.4 percent), \$6.3 billion (15.1

percent), and \$2.5 billion (6.0 percent), respectively, of the total applied research investments in fiscal year 2019. The DOD and NASA had \$80.2 billion (90.4 percent) and \$4.5 billion (5.1 percent), respectively, of total development investments in fiscal year 2019.

Within HHS, NIH-supported research seeks fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability. NIH supports extramural and intramural activities that span the spectra of medical research, including fundamental, disease-oriented, pre-clinical laboratory animal, observational, population-based, behavioral, social science, and translational research. NIH's clinical research activities aim to understand healthy and disease states, move laboratory findings into medical applications, as well as assess new treatments or compare different treatment approaches. NIH also regards the expeditious transfer of the results of its medical research for further development and commercialization of biomedical products as an important component to improve public health.

NASA R&D programs include activities to extend the knowledge of Earth, its space environment, and the universe, and to invest in new aeronautics and advanced space transportation technologies that support the development and application of technologies critical to the economic, scientific, and technical competitiveness of the U.S.

NSF's investment in basic and applied research support both the conduct of research and the necessary supporting infrastructure, including state-of-the-art instrumentation, equipment, computing resources, aircraft, and multi-user facilities such as digital libraries, observatories, and research vessels.

DOE R&D programs facilitate the creation, advancement, and deployment of new technologies and support the Department's mission to advance U.S. national security and economic growth through transformative science and technology innovation that promotes affordable and reliable energy through market solutions, and meets nuclear security and environmental cleanup challenges.

Major outputs of DOD R&D are scientific studies, investigations, research papers, hardware components, software codes, or limited construction of a weapon system component, to include non-system-specific development efforts. Development takes what has been discovered or learned from basic research and uses it to establish technological feasibility, assessment of operability, and production capability. Development is comprised of five stages: 1) advanced technology development, 2) advanced component development and prototypes, 3) system development and demonstration, 4) research, development, test and evaluation management support, and 5) operational systems development.