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## PERFORMANCE AND MANAGEMENT

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## 6. SOCIAL INDICATORS

The social indicators presented in this chapter illustrate in broad terms how the Nation is faring in selected areas in which the Federal Government has significant responsibilities. Indicators are drawn from six selected domains: economic, demographic and civic, socioeconomic, health, security and safety, and environment and energy. The indicators shown in the tables in this chapter were chosen in consultation with statistical and data experts from across the Federal Government. These indicators are only a subset of the vast array of available data on conditions in the United States. In choosing indicators for these tables, priority was given to measures that are broadly relevant to Americans and consistently available over an extended period. Such indicators provide a current snapshot while also making it easier to draw comparisons and establish trends.

The measures in these tables are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies because they do not show the direct results of Government activities. However, they do provide a quantitative picture of the progress (or lack of progress) toward some of the ultimate ends that Government policy is intended to promote, and the baseline on which future policies are set. Subsequent chapters in the Performance and Management section of this volume discuss approaches toward assessing the impacts of Government programs and improving the quality of Government.

The President has made it clear that policy decisions should be based upon evidence—evidence that identifies the Nation's greatest needs and challenges and evidence about which strategies are working to overcome those challenges. The social indicators in this chapter provide useful information both for prioritizing budgetary and policymaking resources and for evaluating how well existing approaches are working.

*Economic:* The 2008-2009 economic downturn produced the worst labor market in more than a generation. The employment-population ratio dropped sharply from its pre-recession level, and real GDP per person also declined. The economy is steadily recovering, with the unemployment rate declining to 7.9 percent in January 2012 from a high of 10 percent in October 2009, and real GDP per person roughly regaining its level prior to the recession. However, the employment-population ratio remains low by historical standards, while the continuing effects of the recession are reflected in high rates of marginally attached and underemployed workers.

Over the entire period from 1960 to 2012, the primary pattern has been one of economic growth and rising living standards. Real GDP per person has approximately tripled as technological progress and the accumulation of human and physical capital have increased the Nation's productive capacity. The stock of physical capital including consumer durable goods like cars and appliances amounted to \$51 trillion in 2011, more than four times the size of the capital stock in 1960, after accounting for inflation.

But national saving, a key determinant of future prosperity because it supports capital accumulation, fell from 6.1 percent in 2000 to 2.9 percent in 2005 as Federal budget surpluses turned to deficits, and fell even further in the recession that followed, turning negative in 2010. Meanwhile, the labor force participation rate, also critical for growth, has declined for more than a decade, reflecting the beginning of a trend in which the baby boomer generation retires.

The United States continues to be a leader in innovation. Patents by U.S. inventors have increased three-fold since 1960. National Research and Development (R&D) spending has hovered between 2.3 percent and 2.8 percent of GDP for the past 50 years.

*Demographic and Civic:* The U.S. population has steadily increased from 1970, where it numbered 204 million, to 314 million in 2012. The foreign born population has increased rapidly since 1970, quadrupling from about 10 million in 1970 to over 40 million in 2011. The U.S. population is getting older, due in part to the aging of the baby boomers and to improvements in medical technology. From 1970 to 2011, the percent of the population over age 65 increased from 9.8 to 13.3, and the percent over age 85 more than doubled.

The composition of American households and families has evolved considerably over time. The percent of Americans who have ever married continued to decline as it has over the last five decades. Average family sizes have also fallen over this period, a pattern that is typical among developed countries. After increasing for over three decades, births to unmarried women age 15-17 and the fraction of single parent households reached a turning point in 1995. From 1995 to 2010, the number of births per 1,000 unmarried women age 15-17 fell from 30.1 to 16.8, a level below that of 1970. Meanwhile, the fraction of single parent households stopped increasing in 1995, stabilizing at a little over 9 percent.

Charitable giving among Americans, measured by the average charitable contribution per itemized tax return,

has generally increased over the past 50 years.<sup>1</sup> However, the effects of the 2008-2009 recession are evident in the sharp drop in charitable giving from 2005 to 2010. More Americans are volunteering. In 1990, 20 percent of Americans volunteered at least once; in 2011, 27 percent volunteered. The political participation of Americans, measured by the voting rate in Presidential elections, declined from about 63 percent in 1964 to 57 percent in 1972. It fell further in the 1996 and 2000 elections, reaching a low of only 50 percent in 1996. However, the Presidential voting rate rebounded in the 2004 and 2008 elections, averaging almost 58 percent.

*Socioeconomic:*

Education is a critical component of the Nation's economic growth and competitiveness, while also benefiting society in areas such as health, crime, and civic engagement. Between 1960 and 1980, the percentage of 25-34 year olds who have graduated from high school increased from 58 percent to 84 percent, a gain of 13 percentage points per decade. Progress has slowed since then with only a four percentage point gain over the past 30 years. But the percentage of 25-34 year olds who have graduated from college continues to rise, from only 11 percent in 1960 to over 31 percent in 2011. Measures of math and reading achievement show little if any improvement in mathematics and reading for American 17-year olds over the period from 1970 to 2010. The percentage of graduate degrees in science and engineering fell by half in the period between 1960 to 1980, from 22 percent to 11 percent, and was only 12 percent in 2011.

While national prosperity has grown considerably over the past 50 years, these gains have not been shared equally. Real disposable income per capita roughly tripled since 1960, and more than doubled since 1970. But real income for the median household increased only 22 percent from 1970 to 2000, and has declined by 9 percent since 2000. The income share of the top 1 percent of taxpayers, approximately 9 percent in 1980, rose to 21 percent in 2005 before dipping slightly in 2010. In contrast, the income share of the bottom 50 percent of taxpayers declined from 18 percent in 1980 to 12 percent in 2010. The poverty rate, after falling rapidly in the 1960s due to a strong economy and large expansions in Social Security, has since remained relatively steady despite the advances in real disposable income per capita. From 2005 to 2011, the poverty rate, the percentage of food-insecure households, and the percentage of Americans receiving benefits from the Supplemental Nutrition Assistance Program (formerly known as the Food Stamp Program), increased as Americans struggled with the economic downturn.

After slowly increasing from 1960 to 2005, homeownership rates dropped somewhat following the 2008 housing crisis, but remain close to the historical average. The

<sup>1</sup>This measure includes charitable giving only among those who claim itemized deductions. It is therefore influenced by changes in tax laws and in the characteristics of those who itemize.

share of families with children and severe housing cost burdens, however, more than doubled from 8 percent in 1980 to 18 percent in 2011.

*Health:*

America has by far the most expensive health care system in the world, yet much higher rates of uninsured than other countries with comparable wealth. National health expenditures as a share of GDP have increased from about 5 percent in 1960 to almost 18 percent in 2011. This increase in health care spending has corresponded with improvements in medical technology that have improved health, but the rate of spending increase in the United States is far greater than that in other Organization for Economic Cooperation and Development (OECD) countries which have experienced comparable health improvements. Despite high health care costs, over 21 percent of adults and 9 percent of children were without health insurance in 2011. In 2010 the President signed the Affordable Care Act into law. The Affordable Care Act is expected to reduce the number of uninsured by about 27 million by 2022.<sup>2</sup>

Some key indicators of national health have improved since 1960. Life expectancy at birth increased by nine years over the last five decades, from 69.7 in 1960 to 78.7 in 2011. Infant mortality fell from 26 to approximately 6 per 1,000 live births, with a precipitous decline occurring in the 1970s.

Improvement in health behaviors among Americans has been mixed. While the percent of adults who smoke cigarettes in 2011 was less than half of that in 1970, rates of obesity have soared. In 1980, 15 percent of adults and 6 percent of children were obese; in 2010, 35 percent of adults and 17 percent of children were obese. Adult obesity continued to rise even as the share of adults engaging in regular physical activity increased from 15 percent in 2000 to 21 percent in 2011.

*Security and Safety:*

The last three decades have witnessed a remarkable decline in crime. From 1980 to 2011, the property crime rate dropped by 72 percent while the murder rate was cut by over half. Road transportation has also become safer. Safety belt use increased by 15 percentage points from 2000 to 2012, and the annual number of highway fatalities fell by 38 percent from 1970 to 2011 despite the increase in the population.

*Environment and Energy:*

The Nation's future well-being and prosperity depend on stewardship of our natural resources, the environment, and on our ability to bring about a clean energy economy. Substantial progress has been made on air quality in the United States, with the concentration of particulate matter falling 28 percent from 2000 to 2010. Moving forward, the greatest environmental challenge is reducing

<sup>2</sup>Congressional Budget Office. 2013. "The Budget and Economic Outlook: Fiscal Years 2013 to 2023." Washington, DC: Congressional Budget Office.

greenhouse gas emissions. The President announced a target reduction of 17 percent in greenhouse gas emissions between 2005 and 2020, with an ultimate reduction of 83 percent between 2005 and 2050. From 2005 to 2010, gross greenhouse gas emissions fell by 5.3 percent. Gross greenhouse gas emissions per capita and per unit of GDP have fallen by 9.5 and 8.6 percent, respectively. However, annual mean CO<sub>2</sub> concentration, a global measure of climate change, has increased roughly between three- and five-fold since 1960.

While technological advances and a shift in production patterns mean that Americans now use about half as much energy per real dollar of GDP as they did 50 years ago, rising income levels mean that per capita consumption has remained roughly constant over the last 40 years. The percent of U.S. electricity production that is from renewable sources has grown since 2005, but remains only 12.7 percent.

Table 6-1. SOCIAL INDICATORS

Calendar Years		1960	1970	1980	1990	1995	2000	2005	2010	2011	2012
<b>Economic</b>											
General Economic Conditions											
1	Real GDP per person (2005 dollars) <sup>1</sup> .....	15,648	20,802	25,618	32,085	34,082	39,718	42,646	42,169	42,620	43,352
2	Real GDP per person change, 5-year annual average .....	0.7	2.3	2.6	2.3	1.2	3.1	1.4	-0.2	-0.3	N/A
3	Consumer Price Index <sup>2</sup> .....	15.1	19.3	38.5	59.9	68.2	76.6	86.8	96.9	100.0	N/A
4	Private goods producing (%) .....	N/A	N/A	N/A	39.7	37.2	33.7	32.1	29.5	30.8	N/A
5	Private services producing (%) .....	N/A	N/A	N/A	60.3	62.8	66.3	67.9	70.5	69.2	N/A
Jobs and Unemployment											
6	Labor force participation rate (%) .....	59.4	60.4	63.8	66.5	66.6	67.1	66.0	64.7	64.1	63.7
7	Employment (millions) .....	65.8	78.7	99.3	118.8	124.9	136.9	141.7	139.1	139.9	142.5
8	Employment-population ratio (%) .....	56.1	57.4	59.2	62.8	62.9	64.4	62.7	58.5	58.4	58.6
9	Payroll employment change - December to December (millions) .....	-0.4	-0.5	0.3	0.3	2.2	2.0	2.5	1.0	1.8	1.8
10	Payroll employment change - 5-year annual average (millions) .....	0.7	2.0	2.7	2.4	1.6	2.9	0.4	-0.8	-0.9	-0.9
11	Civilian unemployment rate (%) .....	5.5	4.9	7.1	5.6	5.6	4.0	5.1	9.6	8.9	8.1
12	Unemployment plus marginally attached and underemployed (%) .....	N/A	N/A	N/A	N/A	10.1	7.0	8.9	16.7	15.9	14.7
13	Receiving Social Security disabled-worker benefits (% of population) <sup>3</sup> .....	0.9	2.0	2.8	2.5	3.3	3.7	4.5	5.5	5.7	5.8
Infrastructure, Innovation, and Capital Investment											
14	Nonfarm output per hour (average 5 year % change) .....	1.8	2.1	1.1	1.5	1.5	2.8	3.1	1.8	1.8	N/A
15	Corn for grain production (billion bushels) .....	3,907	4,152	6,639	7,934	7,400	9,915	11,112	12,447	12,358	10,725
16	Real net stock of fixed assets and consumer durable goods (billions of 2010\$) <sup>4</sup> .....	11,564	16,879	23,258	30,765	34,227	40,281	46,389	50,673	51,117	N/A
17	Population served by secondary wastewater treatment or better (%) <sup>5</sup> .....	N/A	41.6	56.4	63.7	61.1	71.4	74.3	72.0	N/A	N/A
18	Electricity net generation (kWh per capita) .....	4,202	7,486	10,076	12,170	12,594	13,475	13,723	13,335	13,177	N/A
19	Patents issued to U.S. residents (per 1,000 population) .....	42.3	50.6	41.7	56.1	68.2	103.6	88.5	132.5	131.9	N/A
20	Net national saving rate (% of GDP) .....	10.3	8.1	7.2	3.9	4.7	6.1	2.9	-0.7	-0.6	N/A
21	R&D spending (% of GDP) .....	2.6	2.5	2.3	2.6	2.5	2.7	2.6	2.8	2.7	N/A
<b>Demographic and Civic</b>											
Population											
22	Total population (millions) .....	N/A	204.0	227.2	249.6	266.3	282.2	295.5	309.3	311.6	313.9
23	Foreign born population (millions) <sup>6</sup> .....	9.7	9.6	14.1	19.8	N/A	31.1	37.5	40.0	40.4	N/A
24	17 years and younger (%) .....	N/A	N/A	28.0	25.7	26.1	25.7	24.9	24.0	23.7	23.5
25	65 years and older (%) .....	N/A	9.8	11.3	12.5	12.7	12.4	12.4	13.1	13.3	N/A
26	85 years and older (%) .....	N/A	0.7	1.0	1.2	1.4	1.5	1.6	1.8	1.8	N/A
Household Composition											
27	Ever married (% of age 15 and older) <sup>7</sup> .....	78.0	75.1	74.1	73.8	72.9	71.9	70.9	69.3	69.2	68.8
28	Average family size <sup>8</sup> .....	3.7	3.6	3.3	3.2	3.2	3.2	3.1	3.2	3.1	3.1
29	Births to unmarried women age 15-17 (per 1,000) .....	N/A	17.1	20.6	29.6	30.1	23.9	19.4	16.8	N/A	N/A
30	Single parent households (%) .....	4.4	5.2	7.5	8.3	9.1	8.9	8.9	9.1	9.1	9.3
Civic Engagement											
31	Average charitable contribution per itemized tax return (2010 dollars) <sup>9</sup> .....	2,063	2,046	2,361	2,968	3,155	4,188	4,287	3,650	N/A	N/A
32	Voting for President (% of voting age population) <sup>10</sup> .....	63.4	57.0	55.1	56.4	49.8	52.1	56.7	58.3	N/A	N/A
33	Persons volunteering (% age 16 and older) <sup>11</sup> .....	N/A	N/A	N/A	20.4	N/A	N/A	28.8	26.3	26.8	N/A

TABLE 6-1. SOCIAL INDICATORS—Continued

Calendar Years		1960	1970	1980	1990	1995	2000	2005	2010	2011	2012
<b>Socioeconomic</b>											
Education											
34	High school graduates (% of age 25–34) <sup>12</sup> .....	58.1	71.5	84.2	84.1	N/A	83.9	86.4	87.2	87.9	N/A
35	College graduates (% of age 25–34) <sup>13</sup> .....	11.0	15.5	23.3	22.7	N/A	27.5	29.9	31.1	31.5	N/A
36	Reading achievement score (age 17) <sup>14</sup> .....	N/A	285	285	290	288	288	283	286	N/A	N/A
37	Math achievement score (age 17) <sup>15</sup> .....	N/A	304	298	305	306	308	305	306	N/A	N/A
38	Science and engineering graduate degrees (% of total graduate degrees) .....	22.0	17.2	11.2	14.7	14.2	12.6	12.7	12.1	12.4	N/A
39	Receiving special education services (% of age 3–21 public school students) .....	N/A	N/A	10.1	11.4	12.4	13.3	13.7	13.0	N/A	N/A
Income, Savings, and Inequality											
40	Real median income: all households (2011 dollars) .....	N/A	45,146	46,024	49,950	49,935	54,841	53,371	50,831	50,054	N/A
41	Real disposable income per capita average (2011 dollars) <sup>1, 4</sup> .....	12,457	17,450	21,716	27,132	28,724	33,272	36,100	37,242	37,463	37,646
42	Adjusted gross income share of top 1% of all taxpayers .....	N/A	N/A	8.5	14.0	14.6	20.8	21.2	18.9	N/A	N/A
43	Adjusted gross income share of lower 50% of all taxpayers .....	N/A	N/A	17.7	15.0	14.5	13.0	12.9	11.7	N/A	N/A
44	Personal saving rate (% of disposable personal income) <sup>1</sup> .....	7.2	9.4	9.8	6.5	5.2	2.9	1.5	5.1	4.2	3.6
45	Poverty rate (%) <sup>16</sup> .....	22.2	12.6	13.0	13.5	13.8	11.3	12.6	15.1	15.0	N/A
46	Food-insecure households (% of all households) <sup>17</sup> .....	N/A	N/A	N/A	N/A	11.9	10.5	11.0	14.5	14.9	N/A
47	Supplemental Nutrition Assistance Program (formerly Food Stamps) <sup>18</sup> .....	N/A	3.3	9.5	8.2	9.9	6.1	8.9	13.5	14.6	14.9
48	Median wealth of households, age 55–64 (in thousands of 2011 dollars) <sup>18,4</sup> .....	75	N/A	148	170	169	234	299	185	N/A	N/A
Housing											
49	Homeownership among families with children (%) .....	61.9	62.9	64.4	64.2	65.0	66.2	66.9	65.1	64.6	N/A
50	Families with children and severe housing cost burden (%) <sup>20</sup> .....	N/A	N/A	8.0	10.0	12.0	11.0	14.5	17.9	18.3	N/A
51	Families with children and inadequate housing (%) <sup>21</sup> .....	N/A	N/A	9.0	9.0	7.0	7.0	5.4	5.3	5.5	N/A
<b>Health</b>											
Health Status											
52	Life expectancy at birth <sup>22</sup> .....	69.7	70.8	73.7	75.4	75.8	76.8	77.6	78.7	78.7	N/A
53	Infant mortality (per 1,000 live births) <sup>22</sup> .....	26.0	20.0	12.6	9.2	7.6	6.9	6.9	6.1	6.1	N/A
54	Low birthweight [<2,500 gms] (% of babies) <sup>22</sup> .....	7.7	7.9	6.8	7.0	7.3	7.6	8.2	8.1	8.1	N/A
55	Activity limitation (% of age 5–17) <sup>23</sup> .....	N/A	N/A	N/A	N/A	N/A	7.0	8.0	9.2	9.3	N/A
56	Activity limitation (% of aged 18 and over) <sup>24</sup> .....	N/A	N/A	N/A	N/A	N/A	27.9	29.1	29.9	29.8	N/A
57	Difficulties with activities of daily living (% of age 65 and over) <sup>25</sup> .....	N/A	N/A	N/A	N/A	N/A	6.3	6.2	6.8	7.3	N/A
Health Behavior											
58	Engaged in regular physical activity (% of age 18 and older) <sup>26</sup> .....	N/A	N/A	N/A	N/A	N/A	15.0	16.6	20.7	21.0	N/A
59	Obesity (% of age 20–74 with BMI 30 or greater) <sup>27</sup> .....	13.3	14.6	15.1	23.3	N/A	31.1	34.1	35.3	N/A	N/A
60	Obesity (% of age 2–19) <sup>28</sup> .....	N/A	5.1	5.5	10.0	N/A	13.9	15.4	16.9	N/A	N/A
61	Cigarette smokers (% of age 18 and older) .....	N/A	39.2	32.7	25.3	24.6	23.1	20.8	19.3	19.0	N/A
62	Excessive alcohol use (% of age 18 and older) <sup>29</sup> .....	N/A	N/A	N/A	N/A	N/A	8.7	8.9	10.1	9.4	N/A
Access to Health Care											
63	Total national health expenditures (% of GDP) <sup>30</sup> .....	5.2	7.2	9.2	12.5	13.9	13.8	16.1	17.9	17.9	17.9
64	Persons without health insurance (% of age 18–64) .....	N/A	N/A	N/A	N/A	N/A	16.4	19.0	21.8	21.2	N/A
65	Persons without health insurance (% of age 17 and younger) .....	N/A	N/A	N/A	N/A	N/A	10.7	10.3	9.8	9.4	N/A
66	Children age 19–35 months with recommended vaccinations (%) <sup>31</sup> .....	N/A	N/A	N/A	N/A	55.1	72.8	76.1	72.7	73.6	N/A
<b>Security and Safety</b>											
Crime											
67	Property crimes (per 100,000 households) <sup>32</sup> .....	N/A	N/A	49,610	34,890	31,547	19,043	15,947	12,542	13,871	N/A
68	Violent crime victimizations (per 100,000 population age 12 or older) <sup>33</sup> .....	N/A	N/A	4,940	4,410	7,068	3,749	2,842	1,928	2,254	N/A
69	Murder rate (per 100,000 persons) .....	5.1	7.9	10.2	9.4	8.2	5.5	5.6	4.8	4.7	N/A
Transportation Safety											
70	Safety belt use (%) .....	N/A	N/A	N/A	N/A	N/A	71	82	85	84	86
71	Highway fatalities .....	36,399	52,627	51,091	44,599	41,817	41,945	43,510	32,999	32,367	N/A
<b>Environment and Energy</b>											
Air Quality and Greenhouse Gases											
72	Ground level ozone (ppm) based on 247 monitoring sites .....	N/A	N/A	0.101	0.089	0.090	0.082	0.080	0.073	N/A	N/A
73	Particulate matter 2.5 (ug/m3) based on 646 monitoring sites .....	N/A	N/A	N/A	N/A	N/A	13.6	13.0	10.0	N/A	N/A

TABLE 6-1. SOCIAL INDICATORS—Continued

Calendar Years		1960	1970	1980	1990	1995	2000	2005	2010	2011	2012
74	Annual mean atmospheric CO <sub>2</sub> concentration (Mauna Lao, Hawaii; ppm/yr)	0.5	1.1	1.7	1.2	2.0	1.6	2.5	2.4	1.8	N/A
75	Gross greenhouse gas emissions (teragrams CO <sub>2</sub> equivalent) <sup>34</sup> .....	N/A	N/A	N/A	6,175	N/A	N/A	7,204	6,822	N/A	N/A
76	Net greenhouse gas emissions, including sinks (teragrams CO <sub>2</sub> equivalent) .....	N/A	N/A	N/A	5,293	N/A	N/A	6,118	5,747	N/A	N/A
77	Gross greenhouse gas emissions per capita (metric tons CO <sub>2</sub> equivalent) .....	N/A	N/A	N/A	24.7	N/A	N/A	24.3	22.0	N/A	N/A
78	Gross greenhouse gas emissions per 2005\$ of GDP (kilograms CO <sub>2</sub> equivalent) .....	N/A	N/A	N/A	0.769	N/A	N/A	0.570	0.521	N/A	N/A
Energy											
79	Energy consumption per capita (million Btu) .....	250	331	344	338	342	350	339	316	312	N/A
80	Energy consumption per 2005\$ GDP (thousand Btu per 2005\$) .....	15.9	15.9	13.4	10.5	10.0	8.8	7.9	7.5	7.3	N/A
81	Electricity net generation from renewable sources, all sectors (% of total) .....	19.7	16.4	12.4	11.8	11.5	9.4	8.8	10.4	12.7	N/A

N/A=Number is not available.

<sup>1</sup> Data for 2012 reflect 2012 Q3.

<sup>2</sup> Adjusted CPI-U. 2011=100.

<sup>3</sup> Gross prevalence rate for persons receiving Social Security disabled-worker benefits among the estimated population insured in the event of disability at end of year. Gross rates do not account for changes in the age and gender composition of the insured population over time.

<sup>4</sup> Data adjusted by OMB to real 2010 dollars for indicator 16, and to 2011 dollars for indicators 41 and 48.

<sup>5</sup> Data correspond to years 1962, 1972, 1982, 1992, 1996, 2000, 2004, 2008.

<sup>6</sup> Data source for 1960 to 2000 is the decennial census; data source for 2006, 2010, and 2011 is the American Community Survey.

<sup>7</sup> For 1960, age 14 and older.

<sup>8</sup> Average size of family households. Family households are those in which there is someone present who is related to the householder by birth, marriage, or adoption.

<sup>9</sup> Charitable giving reported as itemized deductions on Schedule A.

<sup>10</sup> Data correspond to years 1964, 1972, 1980, 1992, 1996, 2000, 2004, 2008.

<sup>11</sup> Refers to those who volunteered at least once during a one-year period, from September of the previous year to September of the year specified. For 1990, refers to 1989 estimate from the CPS Supplement on volunteers.

<sup>12</sup> For 1960, includes those who have completed 4 years of high school or beyond. For 1970 and 1980, includes those who have completed 12 years of school or beyond. For 1990 onward, includes those who have completed a high school diploma or the equivalent.

<sup>13</sup> For 1960 to 1980, includes those who have completed 4 or more years of college. From 1990 onward, includes those who have a bachelor's degree or higher.

<sup>14</sup> Data correspond to years 1971, 1980, 1990, 1994, 1999, 2004, and 2008.

<sup>15</sup> Data correspond to years 1973, 1982, 1990, 1994, 1999, 2004, and 2008.

<sup>16</sup> The poverty rate does not reflect noncash government transfers.

<sup>17</sup> Food-insecure classification is based on reports of three or more conditions that characterize households when they are having difficulty obtaining adequate food, out of a total of 10 such conditions.

<sup>18</sup> 2012 reflects average monthly participation from January through September 2012.

<sup>19</sup> Data values shown are 1962, 1983, 1989, 1995, 2001, 2004, and 2010. For 1962, the data source is the SFCC; for subsequent years, the data source is the SCF.

<sup>20</sup> Expenditures for housing and utilities exceed 50 percent of reported income. Some data interpolated.

<sup>21</sup> Inadequate housing has moderate to severe physical problems, usually poor plumbing or heating or upkeep problems. Some data interpolated.

<sup>22</sup> Data for 2011 are preliminary.

<sup>23</sup> Total activity limitation includes special education and other limitations, including limitations in children's ability to walk, care for themselves, or perform other activities.

<sup>24</sup> Activity limitation among adults aged 18 and over is defined as having a basic action difficulty in one or more of the following: movement, emotional, sensory (seeing or hearing), or cognitive.

<sup>25</sup> Activities of daily living include include bathing or showering, dressing, getting in or out of bed or a chair, using the toilet, and eating.

<sup>26</sup> Participation in leisure-time aerobic and muscle-strengthening activities that meet 2008 Federal physical activity guidelines.

<sup>27</sup> BMI refers to body mass index.

<sup>28</sup> Percentage at or above the sex- and age-specific 95th percentile BMI cutoff points from the 2000 CDC growth charts.

<sup>29</sup> Percent of age 18 and over who had five or more drinks in a day on at least 12 days in the past year.

<sup>30</sup> 2012 values are projected.

<sup>31</sup> Recommended vaccine series changed over time. 1995 and 2000 data correspond with the 4:3:1:3:3 recommended series; 2005 data correspond with the 4:3:1:3:3:1 series; 2010 and 2011 data correspond with the 4:3:1:3:3:1:4 series.

<sup>32</sup> Property crimes, including burglary, motor vehicle theft, and property theft, reported by a sample of households. Includes property crimes both reported and not reported to law enforcement.

<sup>33</sup> Violent crimes include rape, robbery, aggravated assault, and simple assault. Includes crimes both reported and not reported to law enforcement. Due to methodological changes in the enumeration method for NCVS estimates from 1993 to present, use caution when comparing 1980 and 1990 criminal victimization estimates to future years. Estimates from 1995 and beyond include a small number of victimizations, referred to as series victimizations, using a new counting strategy. High-frequency repeat victimizations, or series victimizations, are six or more similar but separate victimizations that occur with such frequency that the victim is unable to recall each individual event or describe each event in detail. Including series victimizations in national estimates can substantially increase the number and rate of violent victimization; however, trends in violence are generally similar regardless of whether series victimizations are included. See Methods for Counting High-Frequency Repeat Victimizations in the National Crime Victimization Survey for further discussion of the new counting strategy and supporting research.

<sup>34</sup> The gross emissions indicator does not include sinks, which are processes (typically naturally occurring) that remove greenhouse gases from the atmosphere. Gross emissions are therefore more indicative of trends in energy consumption and efficiency than are net emissions.

Table 6–2. SOURCES FOR SOCIAL INDICATORS

	Indicator	Source
<b>Economic</b>		
General Economic Conditions		
1	Real GDP per person (2005 dollars) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
2	Real GDP per person change, 5-year annual average .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
3	Consumer Price Index .....	Bureau of Labor Statistics, BLS Consumer Price Index Program. <a href="http://www.bls.gov/cpi">http://www.bls.gov/cpi</a>
4	Private goods producing (%) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
5	Private services producing (%) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
Jobs and Unemployment		
6	Labor force participation rate (%) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
7	Employment (millions) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
8	Employment-population ratio (%) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
9	Payroll employment change - December to December (millions) .....	Bureau of Labor Statistics, Current Employment Statistics program. <a href="http://www.bls.gov/ces/">http://www.bls.gov/ces/</a>
10	Payroll employment change - 5-year annual average (millions) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
11	Civilian unemployment rate (%) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
12	Unemployment plus marginally attached and underemployed (%) .....	Bureau of Labor Statistics, Current Population Survey. <a href="http://www.bls.gov/cps">http://www.bls.gov/cps</a>
13	Receiving Social Security disabled-worker benefits (% of population) .....	Social Security Administration, Office of Research, Evaluation, and Statistics, Annual Statistical Supplement to the Social Security Bulletin, tables 4.C1 5.A4. <a href="http://www.ssa.gov/policy/docs/statcomps/supplement/">http://www.ssa.gov/policy/docs/statcomps/supplement/</a>
Infrastructure, Innovation, and Capital Investment		
14	Nonfarm output per hour (average 5 year % change) .....	Bureau of Labor Statistics, Major Sector Productivity Program. <a href="http://www.bls.gov/lpc/">http://www.bls.gov/lpc/</a>
15	Corn for grain production (billion bushels) .....	National Agricultural Statistics Service, Agricultural Estimates Program. <a href="http://www.nass.usda.gov/">http://www.nass.usda.gov/</a>
16	Real net stock of fixed assets and consumer durable goods (billions of 2010\$) ....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
17	Population served by secondary wastewater treatment or better (%) .....	U.S. Environmental Protection Agency, Clean Watersheds Needs Survey. <a href="http://water.epa.gov/scitech/datait/databases/cwns/index.cfm">http://water.epa.gov/scitech/datait/databases/cwns/index.cfm</a>
18	Electricity net generation (kWh per capita) .....	U.S. Energy Information Administration, Annual Energy Review Table 8.2a (Col. 16) divided by Table D1 (Col. 1). <a href="http://www.eia.gov/totalenergy/data/annual/index.cfm">http://www.eia.gov/totalenergy/data/annual/index.cfm</a>
19	Patents issued to U.S. residents (per 1,000 population) .....	U.S. Patent and Trademark Office, Electronic Information Products Division, Patent Technology Monitoring Team. <a href="http://www.uspto.gov/products/catalog/ptmd/patent_statistics.jsp">http://www.uspto.gov/products/catalog/ptmd/patent_statistics.jsp</a>
20	Net national saving rate (% of GDP) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national">http://www.bea.gov/national</a>
21	R&D spending (% of GDP) .....	National Science Foundation, National Patterns of R&D Resources. <a href="http://www.nsf.gov/statistics/natlpatterns/">http://www.nsf.gov/statistics/natlpatterns/</a>
<b>Demographic and Civic</b>		
Population		
22	Total population (millions) .....	U.S. Census Bureau, Population Division, Vintage 2012 Population Estimates (2012), Vintage 2011 Population Estimates (2010-2011), 2000-2010 Intercensal Estimates (2000-2005), 1990-1999 Intercensal Estimates (1990-1995), 1980-1990 Intercensal Estimates (1980), 1970-1980 Intercensal Estimates (1970).
23	Foreign born population (millions) xx/ .....	U.S. Census Bureau, Population Division, Decennial Census and American Community Survey. <a href="http://www.census.gov/prod/www/abs/decennial/">http://www.census.gov/prod/www/abs/decennial/</a> and <a href="http://www.census.gov/acs">http://www.census.gov/acs</a>
24	17 years and younger (%) .....	U.S. Census Bureau, Population Division, Vintage 2012 Population Estimates (2012), Vintage 2011 Population Estimates (2010-2011), 2000-2010 Intercensal Estimates (2000-2005), 1990-1999 Intercensal Estimates (1990-1995), 1980-1990 Intercensal Estimates (1980), 1970-1980 Intercensal Estimates (1970)
25	65 years and older (%) .....	U.S. Census Bureau, Population Division, Vintage 2012 Population Estimates (2012), Vintage 2011 Population Estimates (2010-2011), 2000-2010 Intercensal Estimates (2000-2005), 1990-1999 Intercensal Estimates (1990-1995), 1980-1990 Intercensal Estimates (1980), 1970-1980 Intercensal Estimates (1970)
26	85 years and older (%) .....	U.S. Census Bureau, Population Division, Vintage 2012 Population Estimates (2012), Vintage 2011 Population Estimates (2010-2011), 2000-2010 Intercensal Estimates (2000-2005), 1990-1999 Intercensal Estimates (1990-1995), 1980-1990 Intercensal Estimates (1980), 1970-1980 Intercensal Estimates (1970)
Household Composition		
27	Ever married (% of age 15 and older) .....	U.S. Census Bureau, Current Population Survey. <a href="http://www.census.gov/hhes/families/">http://www.census.gov/hhes/families/</a>
28	Average family size .....	U.S. Census Bureau, Current Population Survey. <a href="http://www.census.gov/hhes/families/">http://www.census.gov/hhes/families/</a>
29	Births to unmarried women age 15-17 (per 1,000) .....	Centers for Disease Control and Prevention, National Vital Statistics Report. <a href="http://www.cdc.gov/nchs/nvss.htm">http://www.cdc.gov/nchs/nvss.htm</a>
30	Single parent households (%) .....	U.S. Census Bureau, Current Population Survey. <a href="http://www.census.gov/hhes/families/">http://www.census.gov/hhes/families/</a>
Civic Engagement		
31	Average charitable contribution per itemized tax return (2010 dollars) .....	U.S. Internal Revenue Service, Statistics of Income - Individual Income Tax Returns (IRS Publication 1304). <a href="http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Income-Tax&gt;Returns-Publication-1304-(Complete-Report)">http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Income-Tax&gt;Returns-Publication-1304-(Complete-Report)</a>

TABLE 6-2. SOURCES FOR SOCIAL INDICATORS—Continued

	Indicator	Source
32	Voting for President (% of voting age population) .....	The Office of the Clerk of the U.S. House of Representatives and the U.S. Census Bureau, Current Population Survey. <a href="http://www.census.gov/cps/">http://www.census.gov/cps/</a>
33	Persons volunteering (% age 16 and older) .....	U.S. Census Bureau, Current Population Survey. <a href="http://www.census.gov/cps/">http://www.census.gov/cps/</a>
	<b>Socioeconomic</b>	
	<b>Education</b>	
34	High school graduates (% of age 25-34) .....	U.S. Census Bureau, Decennial Census and American Community Survey. <a href="http://www.census.gov/prod/www/abs/decennial/">http://www.census.gov/prod/www/abs/decennial/</a> and <a href="http://www.census.gov/acs/">http://www.census.gov/acs/</a>
35	College graduates (% of age 25-34) .....	U.S. Census Bureau, American Community Survey. <a href="http://www.census.gov/acs/">http://www.census.gov/acs/</a>
36	Reading achievement score (age 17) .....	National Center for Education Statistics, National Assessment of Educational Progress. <a href="http://nces.ed.gov/nationsreportcard/">http://nces.ed.gov/nationsreportcard/</a>
37	Math achievement score (age 17) .....	National Center for Education Statistics, National Assessment of Educational Progress. <a href="http://nces.ed.gov/nationsreportcard/">http://nces.ed.gov/nationsreportcard/</a>
38	Science and engineering graduate degrees (% of total graduate degrees) .....	National Center for Education Statistics, Integrated Postsecondary Education Data System. <a href="http://nces.ed.gov/ipeds/">http://nces.ed.gov/ipeds/</a>
39	Receiving special education services (% of age 3-21 public school students) ....	National Center for Education Statistics, Digest of Education Statistics, 2012. <a href="http://nces.ed.gov/programs/digest/d12/tables/dt12_046.asp">http://nces.ed.gov/programs/digest/d12/tables/dt12_046.asp</a>
	<b>Income, Savings, and Inequality</b>	
40	Real median income: all households (2011 dollars) .....	U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. <a href="http://www.census.gov/hhes/www/income/data/historical/household/">http://www.census.gov/hhes/www/income/data/historical/household/</a>
41	Real disposable income per capita average (2005 dollars) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national/">http://www.bea.gov/national/</a>
42	Adjusted gross income share of top 1% of all taxpayers .....	U.S. Internal Revenue Service, Statistics of Income. <a href="http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Statistical-Tables-by-Tax-Rate-and-Income-Percentile">http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Statistical-Tables-by-Tax-Rate-and-Income-Percentile</a>
43	Adjusted gross income share of lower 50% of all taxpayers .....	U.S. Internal Revenue Service, Statistics of Income. <a href="http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Statistical-Tables-by-Tax-Rate-and-Income-Percentile">http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Statistical-Tables-by-Tax-Rate-and-Income-Percentile</a>
44	Personal saving rate (% of disposable personal income) .....	Bureau of Economic Analysis, National Economic Accounts Data. <a href="http://www.bea.gov/national/">http://www.bea.gov/national/</a>
45	Poverty rate (%) .....	U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. <a href="http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html">http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html</a>
46	Food-insecure households (% of all households) .....	Economic Research Service, Household Food Security in the United States report series. <a href="http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/readings.aspx">http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/readings.aspx</a>
47	Supplemental Nutrition Assistance Program (formerly Food Stamps) .....	Food and Nutrition Service, USDA
48	Median wealth of households, age 55-64 (in thousands of 2010 dollars) .....	Board of Governors of the Federal Reserve System, Survey of Consumer Finances Chartbook. <a href="http://www.federalreserve.gov/econresdata/scf/scfindex.htm">http://www.federalreserve.gov/econresdata/scf/scfindex.htm</a>
	<b>Housing</b>	
49	Homeownership among families with children (%) .....	U.S. Census Bureau, American Housing Survey. <a href="http://www.census.gov/housing/ahs">http://www.census.gov/housing/ahs</a>
50	Families with children and severe housing cost burden (%) .....	U.S. Census Bureau, American Housing Survey as tabulated by the Housing and Urban Development's Office of Policy Development and Resesarch. <a href="http://www.census.gov/housing/ahs">http://www.census.gov/housing/ahs</a>
51	Families with children and inadequate housing (%) .....	U.S. Census Bureau, American Housing Survey as tabulated by the Housing and Urban Development's Office of Policy Development and Resesarch. <a href="http://www.census.gov/housing/ahs">http://www.census.gov/housing/ahs</a>
	<b>Health</b>	
	<b>Health Status</b>	
52	Life expectancy at birth .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System (mortality), Health, United States, 2012 forthcoming, Table 18. <a href="http://www.cdc.gov/nchs/nvss.htm">http://www.cdc.gov/nchs/nvss.htm</a>
53	Infant mortality (per 1,000 live births) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System (natality), Health, United States, 2012 forthcoming, Table 13. <a href="http://www.cdc.gov/nchs/nvss.htm">http://www.cdc.gov/nchs/nvss.htm</a>
54	Low birthweight [<2,500 gms] (% of babies) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System (natality), Health, United States, 2012 forthcoming, Table 6. <a href="http://www.cdc.gov/nchs/nvss.htm">http://www.cdc.gov/nchs/nvss.htm</a>
55	Activity limitation (% of age 5-17) .....	Office of Special Education and Rehabilitative Services. <a href="http://www2.ed.gov/about/offices/list/osep/index.html">http://www2.ed.gov/about/offices/list/osep/index.html</a>
56	Activity limitation (% of age 18 and over) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
57	Difficulties with activities of daily living (% of age 65 and over) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (for 2000 and 2005), Health, United States, 2008, Table 58, age-adjusted. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
	<b>Health Behavior</b>	
58	Engaged in regular physical activity (% of age 18 and older) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, Health, United States, 2012 forthcoming, Table 67, age adjusted. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>

TABLE 6-2. SOURCES FOR SOCIAL INDICATORS—Continued

	Indicator	Source
59	Obesity (% of age 20-74 with BMI 30 or greater) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, Health, United States, 2012 forthcoming, Table 68, age adjusted. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
60	Obesity (% of age 2-19) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
61	Cigarette smokers (% of age 18 and older) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, Health, United States, 2012 forthcoming, Table 54, age adjusted. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
62	Excessive alcohol use (% of age 18 and older) .....	Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, Health, United States, 2012 forthcoming, Table 62, age adjusted. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
<b>Access to Health Care</b>		
63	Total national health expenditures (% of GDP) .....	Centers for Medicare and Medicaid Services, National Health Expenditures Data. <a href="http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html">http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html</a>
64	Persons without health insurance (% of age 18-64) .....	U.S. Census Bureau, Current Population Survey Annual Social and Economic Supplement. <a href="http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html">http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html</a>
65	Persons without health insurance (% of age 17 and younger) .....	U.S. Census Bureau, Current Population Survey Annual Social and Economic Supplement. <a href="http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html">http://www.census.gov/hhes/www/poverty/publications/pubs-cps.html</a>
66	Children age 19-35 months with recommended vaccinations (%) .....	Centers for Disease Control and Prevention, National Immunization Survey. <a href="http://www.cdc.gov/nchs/nhis.htm">http://www.cdc.gov/nchs/nhis.htm</a>
<b>Security and Safety</b>		
<b>Crime</b>		
67	Property crimes (per 100,000 households) .....	Bureau of Justice Statistics, National Crime Victimization Survey. <a href="http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&amp;tid=32">http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&amp;tid=32</a>
68	Violent crime victimizations (per 100,000 population age 12 or older) .....	National Crime Victimization Survey. <a href="http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&amp;tid=32">http://bjs.ojp.usdoj.gov/index.cfm?ty=tp&amp;tid=32</a>
69	Murder rate (per 100,000 persons) .....	Federal Bureau of Investigation, Uniform Crime Reports, Crime in the United States. <a href="http://www.fbi.gov/about-us/cjis/ucr/ucr">http://www.fbi.gov/about-us/cjis/ucr/ucr</a>
<b>Transportation Safety</b>		
70	Safety belt use (%) .....	Bureau of Transportation Statistics, National Transportation Statistics (as compiled from Safety Belt and Helmet Use in 2002 and Traffic Safety Facts). <a href="http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html">http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html</a>
71	Highway fatalities .....	Bureau of Transportation Statistics, National Transportation Statistics. <a href="http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html">http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html</a>
<b>Environment and Energy</b>		
<b>Air Quality and Greenhouse Gases</b>		
72	Ground level ozone (ppm) based on 247 monitoring sites .....	U.S. Environmental Protection Agency, Latest Findings on National Air Quality. <a href="http://www.epa.gov/airtrends/reports.html">http://www.epa.gov/airtrends/reports.html</a>
73	Particulate matter 2.5 (ug/m3) based on 646 monitoring sites .....	U.S. Environmental Protection Agency, Latest Findings on National Air Quality. <a href="http://www.epa.gov/airtrends/reports.html">http://www.epa.gov/airtrends/reports.html</a>
74	Annual mean atmospheric CO2 concentration (Mauna Loa, Hawaii; ppm/yr) .....	National Oceanic and Atmospheric Administration. <a href="http://www.esrl.noaa.gov/gmd/ccgg/trends/#mlo_data">http://www.esrl.noaa.gov/gmd/ccgg/trends/#mlo_data</a>
75	Gross greenhouse gas emissions (teragrams CO2 equivalent) .....	U.S. Environmental Protection Agency, 2010 Inventory of Greenhouse Gases. <a href="http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html">http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html</a>
76	Net greenhouse gas emissions, including sinks (teragrams CO2 equivalent) .....	U.S. Environmental Protection Agency, 2010 Inventory of Greenhouse Gases. <a href="http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html">http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html</a>
77	Gross greenhouse gas emissions per capita (metric tons CO2 equivalent) .....	U.S. Environmental Protection Agency, 2010 Inventory of Greenhouse Gases. <a href="http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html">http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html</a>
78	Gross greenhouse gas emissions per 2005\$ of GDP (kilograms CO2 equivalent) .....	U.S. Environmental Protection Agency, 2011 Inventory of Greenhouse Gases. <a href="http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html">http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html</a>
<b>Energy</b>		
79	Energy consumption per capita (million BTU) .....	U.S. Energy Information Administration, Annual Energy Review, Table 1.5, Col. 2. <a href="http://www.eia.gov/totalenergy/data/annual/index.cfm">http://www.eia.gov/totalenergy/data/annual/index.cfm</a>
80	Energy consumption per 2005\$ GDP (thousand BTU per 2005\$) .....	U.S. Energy Information Administration, Annual Energy Review, Table 1.5, Col. 10. <a href="http://www.eia.gov/totalenergy/data/annual/index.cfm">http://www.eia.gov/totalenergy/data/annual/index.cfm</a>
81	Electricity net generation from renewable sources, all sectors (% of total) .....	U.S. Energy Information Administration, Annual Energy Review, Table 8.2a. <a href="http://www.eia.gov/totalenergy/data/annual/index.cfm">http://www.eia.gov/totalenergy/data/annual/index.cfm</a>

## 7. DELIVERING A HIGH-PERFORMANCE GOVERNMENT

The Federal government has a positive impact on the quality of American lives. It influences the safety of the communities in which we live, the roads on which we drive, and the airplanes in which we fly. It enables those harmed by natural disasters to recover faster and increases access to capital for entrepreneurs and small business owners. The Federal government enables more young people to go to college and get jobs, and more seniors to maintain their quality of life. The men and women of the armed forces defend our nation and the Federal government, in turn, attends to the needs of military families and the veterans who so ably served. The responsibilities of agencies are vast, varied, and significant. The Department of the Interior, for example, is the largest supplier and manager of water in 17 states, delivers irrigation to 31 million people and one out of every five western farmers, and manages lands that produce over 30 percent of the nation's energy.

The Federal government has the ability and responsibility to improve the quality of the lives of the American people, the safety of our communities, and the strength of our economy.

### **A Culture of Performance Improvement**

Because government can have such a positive impact on the quality of people's lives, good management of programs is essential. The challenge agencies face is using their tools of program delivery, such as grants, contracts, regulation, information collection, and information dissemination, in ways that yield the highest return on taxpayer dollars. The Obama Administration expects agencies to use evidence to set priorities and find increasingly effective and cost-effective practices. It expects them to test new practices to identify those that successfully solve problems, advance opportunities, and boost productivity. It expects agency leaders to adjust and re-allocate resources or change practices as new evidence is obtained, and to constantly ask if lower cost options are available to accomplish the same or higher levels of performance. Finally, it expects agencies to share information with the public to enhance accountability and facilitate understanding of the services the government provides.

To fulfill these expectations, the Obama Administration has emphasized six practices:

1. goal-setting;
2. frequent measurement of performance and other indicators;
3. ongoing analysis;
4. use of evidence in decision-making;
5. data-driven reviews; and
6. information dissemination that is timely, accessible, and user-friendly.

These six practices are essential for finding what works and what needs fixing. They support agency efforts to achieve better outcomes for each dollar spent. These six practices help clarify what agencies are trying to accomplish, why they are focused on those goals, how they plan to accomplish those goals, and how well they achieve them. Effective communication about our performance goals, progress, and results strengthens democratic decision-making and builds a culture of continuous improvement in government.

To emphasize and enhance these performance practices across the Federal government, in 2009 the Obama Administration directed agency leaders to set high-priority performance goals (Priority Goals). The Priority Goals represent a small number of specific, ambitious, outcome-focused goals selected by agency leaders. They are near-term implementation priorities each agency is working to accomplish within two years, without new legislation or funding.

Agencies set new Priority Goals every two years. The current set was established for FY 2012-2013. The Deputy Secretary (or Chief Operating Officer) of each agency is responsible for running quarterly progress reviews and designating a senior official responsible for driving progress on each Priority Goal. Goal Leaders are expected to select strategies using appropriately rigorous evidence, set milestones, and assess progress at least once a quarter. Every quarter, major agencies report progress on their Priority Goals on Performance.gov.

Complementing Agency Priority Goals, the Administration has also selected 14 Federal Cross-Agency Priority (CAP) Goals to deliver on the President's commitment. CAP Goals have been set for: exports; entrepreneurship and small businesses; energy efficiency; broadband; science, technology, engineering, math education; job training; and transitioning returning veterans to civilian jobs. CAP Goals have also been set to improve sustainability, cybersecurity, and other aspects of Federal government operations.

### **Doing What Works; Fixing What Doesn't**

The following examples illustrate how adoption of these six practices is translating to tangible improvements in the lives of the American people. These examples represent a small subset of the vast contributions Federal agencies make to people, communities, and the economy.

#### ***Strengthening the Economy with Faster Patent Processing.***

Timely, high-quality processing of patent applications cultivates and protects innovation and boosts economic prosperity. The backlog of patent applications has been reduced to the lowest level in years despite increases in

filings last year and this year. From its peak, of approximately 764,000 in January 2009, the patent backlog has been reduced to approximately 595,078 in February 2013. [http://goals.performance.gov/goal\\_detail/DOC/338](http://goals.performance.gov/goal_detail/DOC/338)

### **Broader Broadband Coverage.**

Access to broadband capabilities is growing at a rapid rate, providing a strong foundation for economic growth, job creation, and global competitiveness. As of June 2012, 81% of Americans have access to advanced wireless broadband and the ability to enjoy minimum download speeds of at least 6 megabits per second, up from 36% in mid-2010. When wired connections are included, availability jumps to almost 96%. <http://goals.performance.gov/node/38578>

### **Energy Efficiency.**

Energy efficiency is one of the least expensive, most cost-effective ways to enhance the nation's energy security, save money for American households, reduce dependence on oil, and ensure a clean environment. The Federal government is pursuing strategic opportunities to boost energy efficiency in four areas: buildings, industry, transportation, and federal operations. Energy productivity improved by more than 6 percent from the fourth quarter of calendar year 2010 through the fourth quarter of 2012: the total quarterly average energy consumption held steady at 24.55 quadrillion British Thermal Units (BTUs), while the quarterly average GDP increased from \$13,181 billion (\$2005) to \$13,506. As one example of federally supported actions in the buildings sector, over 1.2 million homes of American families have been retrofitted since 2009, with annual per household energy savings from each retrofit between \$250 to \$450 dollars. As a result of this effort, more than 30 trillion BTUs of energy per year have been saved, and approximately 3 million metric tons of greenhouse gases (carbon dioxide equivalent) have been reduced annually. <http://goals.performance.gov/node/38504>

### **Renewable Energy.**

The Federal government continues to support increased renewable energy production capacity on Federal lands. Since the U.S. Department of the Interior first set a goal in FY 2010 to develop all appropriate sources of renewable and conventional energy on U.S. public lands and waters, the department has authorized over 10,900 megawatts of solar, wind, and geothermal energy projects on or crossing Interior lands. This approved capacity, if fully developed, could generate enough energy to power millions of homes. In contrast, for thirty years prior to setting this goal, between 1978 and 2009, Interior approved only a small number of wind and geothermal renewable energy projects, estimated to provide for development of about 1,500 megawatts of renewable energy. [http://goals.performance.gov/goal\\_detail/DOI/379](http://goals.performance.gov/goal_detail/DOI/379)

### **Reducing Water Shortages and Costs.**

The Nation faces an increasing set of water resource challenges: aging infrastructure, rapid population growth, depletion of groundwater resources, and climate variability and change. Water issues and challenges are increasing in the West, even in "normal" years, due in part to prolonged drought and shifting population patterns. Traditional water management approaches no longer meet today's need. The Department of the Interior's Bureau of Reclamation is working closely with other governments, private entities, and individuals to identify practices that will increase water conservation capacity in western states. Since FY 2010, the Bureau has funded projects that have increased conservation capability by over 600,000 acre-feet and will continue this important work in FY 2014. [http://goals.performance.gov/goal\\_detail/DOI/382](http://goals.performance.gov/goal_detail/DOI/382)

### **Safer, Lower-Cost Health Care.**

Hospital-acquired infections (HAIs) are a significant cause of morbidity and mortality in the United States,

**A Case Study:** The National Highway Transportation and Safety Administration (NHTSA) has long taken a goal-focused, data-driven, evidence-based approach to reduce traffic fatalities. It integrates performance measurements, retrospective evaluations, and experiments into its operations.

Since its inception, NHTSA has worked with states to code every fatal accident in the country, noting characteristics of the operator, equipment, environmental situation (e.g., traffic light), and jurisdiction. It complements this performance information with information about accident costs, enabling the agency and its delivery partners to detect performance variations and target actions to situations likely to be the most costly and risky.

NHTSA supports ongoing performance measurement with occasional studies and experiments. For example, it analyzes how changes in state law, such as allowing police to stop and check drivers for seat belt use, correlate with changes in traffic fatalities. Currently, it is running an experiment to see if lessons learned from its highly successful enforcement-and-marketing campaign to increase seat belt use, "Click-It-or-Ticket," can be used to reduce distracted driving in a different campaign, "Cell Phone in One Hand, Ticket in the Other." NHTSA initially tested its distracted driving campaign in two municipalities. Distracted driving dropped by a third in one (Syracuse) and over 50% in the other (Hartford). NHTSA is now testing if the results can be replicated in larger areas, an eight-county region of California and the state of Delaware. <http://www.distraction.gov/content/dot-action/enforcement.html>

accounting for an estimated 1.7 million infections in hospital patients, 99,000 associated deaths in 2002, and approximately \$28 to \$33 billion dollars in excess health-care expenditures. Two of the most serious, common, and preventable infections are central line-associated bloodstream infections (CLABSI) and catheter-associated urinary tract infections. The Department of Health and Human Services is working hard with the private sector, other levels of government, and medical professionals to cut the number of infections. In October 2012, as part of a 4-year nationwide initiative, over 1,000 hospital intensive care units achieved a 41 percent reduction in the CLABSI rates. This equates to more than 2,000 CLABSIs prevented, more than 500 lives saved, and over \$34 million in excess costs avoided. The Budget includes an increase of \$12 million within the Centers for Disease Control and Prevention (CDC) to expand reporting of HAIs through CDC's National Healthcare Safety Network to more than 1,800 additional healthcare sites. [http://goals.performance.gov/goal\\_detail/HHS/375](http://goals.performance.gov/goal_detail/HHS/375)

#### ***Fewer Homeless Veterans.***

The Departments of Veterans Affairs and the Housing and Urban Development have been working together to eliminate veterans' homelessness by 2015. The Annual Homeless Assessment Report to Congress estimates the number of sheltered and unsheltered homeless persons on a single night in January. In 2012, the annual homeless count estimated 62,619 homeless veterans, down 7.2 percent from 2011 and 18 percent from 2010. [http://goals.performance.gov/goal\\_detail/VA/331](http://goals.performance.gov/goal_detail/VA/331)

#### ***Violent Crime Reduction in Tribal Communities.***

The Bureau of Indian Affairs in the Department of the Interior is working with tribal communities to reduce violent crime. At the end of FY 2011, violent crime had declined an average of 35 percent across four high-crime reservations in just two years. One year later, violent crime is down across all four tribal communities – an average 55% reduction in violent crime incidents relative to the 2009 baseline. Interior will continue its community policing programs, maintaining efforts at the four reservations and focusing on an additional two communities. To promote adoption of these promising practices by all tribal communities, the bureau has prepared a “Crime-Reduction Best Practices Handbook.” <http://www.bia.gov/cs/groups/xojs/documents/text/idc-018678.pdf>.

#### ***Saving Taxpayer Dollars with Paperless Treasury Transactions.***

Treasury has cut the number of paper claims it handles from a high of 195.5 million in 2007 to 41 million in 2012, saving the Federal government an average of \$100 million annually. [http://goals.performance.gov/goal\\_detail/TREAS/335](http://goals.performance.gov/goal_detail/TREAS/335)

#### ***Faster Social Security Disability Hearing Decisions.***

The Social Security Administration has reduced the average processing time for a hearing before an

Administrative Law Judge from an all-time high of 532 days in August 2008 to 362 days as of September 2012. [http://goals.performance.gov/goal\\_detail/SSA/357](http://goals.performance.gov/goal_detail/SSA/357)

In addition, the Administration is building on previous efforts to eliminate waste, reduce duplication, and save costs. Agencies are making noteworthy progress addressing fragmentation in areas as diverse as exports and veterans' homelessness. For example, in February 2012, the President issued a memorandum directing the Export Promotion Cabinet to work across agencies to identify overlap and duplication and to maximize the combined effectiveness of their programs and initiatives in support of the Administration's strategic trade and investment priorities.

#### **Looking Forward**

Experience over the last four years reinforced prior evidence about the benefits of the six management practices. It is also refining our understanding of smarter ways to apply these practices:

#### ***Goal Ownership Improves Results.***

Goals and measures are merely words unless someone assumes responsibility for managing their progress. The designation of goal leaders for each Priority Goal, and quarterly reviews run by Chief Operating Officers, assure high-level attention to Priority Goal execution. Many goal leaders, in turn, are clarifying who needs to do what by when to achieve a national goal. In forthcoming strategic plans, agencies will expand on this best practice of assigning clear goal ownership by identifying the lead office responsible for each strategic objective.

#### ***Improvement is the Objective, not Target Attainment.***

Ambitious goals energize people and encourage creativity, innovation, and cross-organization collaboration that can lead to better outcomes and higher productivity. By definition, ambitious goals are hard to meet. Therefore, when progress on a goal is less than expected, agencies are accountable for understanding why and having a cogent evidence-based strategy to improve. Also, agencies that meet all of their ambitious targets will be asked to set more ambitious targets in the future.

#### ***Diagnostic Analyses, Experiments, and Other Studies Make Measurement Actionable.***

Analysis turns performance measurement into actionable information. While it is good to know if a national trend is moving in the right direction, that knowledge alone does not suggest a next step. Finding variations in trends or outliers can lead to the discovery of better practices. The Department of Housing and Urban Development has taken this approach in its efforts to reduce veterans' homelessness. (See <http://goals.performance.gov/delivering-better-results-using-frequent-data-driven-reviews>.)

Agencies are applying a variety of data diagnostics to prepare for quarterly Priority Goal performance reviews,

strategy selection, and other data-driven discussions. They are increasingly complementing analyses of their performance and operational data with other studies, replication demonstrations, and experiments to find increasingly effective and cost-effective approaches, discussed in greater detail in the next chapter.

***Transparency Motivates, Educates, and Facilitates Cooperation.***

Transparency strengthens accountability to the public, and can also lead to improved outcomes, greater productivity, and better decision-making. Performance.gov makes it easier for the public to see how, why, and what the Federal Government is trying to accomplish. The site also supports collaboration on shared goals and facilitates learning across and beyond agencies, including soliciting feedback from the public. In the future, efforts will be undertaken to test use of the website to facilitate coordination among goal allies, enlist ideas and assistance to accelerate progress on goals, and enhance public understanding of the work of the Federal government.

***Attention to Audience Enables Delivery Partners and Others To Make Better Choices.***

Federal agencies depend on a wide variety of partners to improve public outcomes. Therefore, agencies must consider how performance information can best be provided to support their needs. In education, for example, key audiences for performance information include state education departments, local school superintendents, school principals, teachers, parents, non-profit organizations, and for-profit companies. All need performance information but need it delivered, displayed, and analyzed in different ways, often for different purposes. Agencies are being asked to think strategically about their delivery partners' information needs and to return data to data suppliers with value added through analyses in order to achieve better results.

***Leveraging Networks Boosts Returns.***

Formal and informal networks, both within and outside government, are invaluable resources for leveraging the impact of government action. The Administration has

been building and strengthening networks, such as the Partnership for Patients, to facilitate sharing of actionable data and speed adoption of evidence-based practices. Formal networks within government, such as the Performance Improvement Council (PIC) and the Chief Human Capital Officers' Council (CHCOC), function as valuable learning networks to identify and exchange information about best practices. Smaller working groups, such as the PIC working group on quarterly data-driven progress reviews, tackle shared challenges. The PIC and CHCOC are working together to use Employee Viewpoint Survey data to improve employee engagement and organizational performance. Several evidence-building learning networks have also been created and are discussed in the next chapter.

***Emphasizing Outcomes Improves Results.***

Alignment to outcome-focused goals helps ensure organizations focus on what matters most to the public. Maintaining a line of sight toward those outcomes supports an agency's ability to identify better practices, rather than assuming its current approach is best. Goals focused on areas such as reducing hospital-acquired infections or boosting energy efficiency also enlist expertise, ideas, and assistance from external allies. Building on the success of Priority Goals, in the coming year, agencies will identify outcome-focused strategic objectives in their strategic plans and begin to use them as a mechanism for improving results across their agency. Each year, agencies will review progress on the strategic objectives, and, using the evidence, identify opportunities for improvement.

***Conclusion***

Smarter Federal performance management practices are translating to better value for the American people. At the same time, the Federal government is doing business smarter, improving quality while cutting costs. By adopting proven management practices, such as ambitious goals set by leaders combined with frequent data-driven reviews, Federal agencies are continually improving their ability to serve the American people.

## 8. PROGRAM EVALUATION AND DATA ANALYSIS

The Administration is committed to using taxpayer dollars effectively and efficiently. Central to that commitment is a culture where agencies constantly (1) ask and answer questions that help them find, implement, spread, and sustain effective programs and practices, (2) identify and fix or eliminate ineffective programs and practices, (3) test promising programs and practices to see if they are effective and can be replicated, and (4) find lower cost ways to achieve positive impacts. The Federal fiscal situation necessitates improvements in efficiency and at times doing more with less, not only to reduce budget deficits, but also to build confidence that Americans are receiving maximum value for their hard-earned tax dollars. More fundamentally, government programs are typically designed to address particular policy challenges. Without measurement and testing, those challenges are more likely to persist and opportunities to try other approaches are squandered.

OMB's *May 2012 "Use of Evidence and Evaluation in the 2014 Budget" memo* encouraged a broad-based set of activities to better integrate evidence and rigorous evaluation in budget, management, and policy decisions, such as adopting more evidence-based structures for grant programs, building evaluation capacity, making better use of data within government agencies, and developing tools to better communicate what works. The memo stated that: "Where evidence is strong, we should act on it. Where evidence is suggestive, we should consider it. Where evidence is weak, we should build the knowledge to support better decisions in the future."

The best government programs use a broad range of analytical and management tools, i.e. an "evidence infrastructure," to learn what works (and what doesn't) and improve results. In doing so, they create a culture of continuous feedback and improvement.

- It is a culture that keeps asking, "How can we do things better?" and approaches public policy and management challenges with humility about what we know or don't know about what works.
  - It is a culture that values rapid, operationally-focused experiments that can quickly boost program efficiency, effectiveness and customer service, while at the same time equally valuing longer-term evaluation focused on more fundamental questions about program strategy.
  - It is a culture that sees program evaluation and performance measurement as valuable, complementary tools, since each has different strengths.
  - It is a culture that believes in using data to drive decision-making and is not satisfied with anecdotal evidence, since intuition about what works is often wrong.
- It is a culture where people are open to changing their minds and practices based upon evidence.
  - It is a culture that is committed to publically disseminating results from evaluations in an open and transparent manner, never suppressing evidence because it is politically inconvenient.
  - It is a culture that sees improved program performance not as a destination that can be reached with the right tool or strategy, but as a process of ongoing program refinement, since new challenges will always arise and new knowledge and innovations can always bring better outcomes and efficiencies.

Among the most important analytical tools is program evaluation, which can produce rigorous evidence about program effectiveness. For example, evaluations using experimental or quasi-experimental methods can identify the effects of programs in situations where doing so is difficult using other tools. Qualitative evidence can complement this work by providing insight into how programs and practices can be implemented successfully. And less rigorous tools can shed light on important issues. For example, descriptive regression analyses of administrative data can reveal important patterns that inform decisions, such as how to better match recipients with appropriate services. Agencies also often use statistical time series data, such as those presented in Chapter 6, "Social Indicators," of this volume, to take a broad look at societal and economic trends over time. They also use this information to prioritize among policy interests and budgetary resources, to inform the design of policies, and to provide the benchmarks that are used to assess the effects of policy changes.

### Role of Performance Measurement

Performance measurement is another critical analytical and management tool. By tracking inputs, outputs, outcomes and measures of efficiency, programs can generate data that managers can then use to improve program performance. Simply collecting performance data, after all, is unlikely to change anything in itself. Performance data are useful when the data is high quality and actively used to ask and answer questions about what's being achieved, identify the most pressing program challenges, set goals, monitor results, and celebrate progress. This is the process of moving from performance measurement to performance management.

Too often, though, performance measurement and program evaluation are seen as completely separate tools, with agency experts housed in separate units that work independently of each other. Bridging that divide will be important in order to take advantage of the synergy between the two approaches. For example, evaluation's main

strength lies in its ability to generate rigorous insights about program effectiveness, so that programs can be adapted and improved. But evaluation, especially when focused on longer-term outcomes, by definition takes time to produce insights. Performance measurement, on the other hand, harnesses readily available program data and uses it to set goals, track performance and improve results.

### **Role of Program Evaluation**

Performance measures are an essential resource for agencies to understand ongoing, real-time program performance so they can use that information to build a culture of continuous improvement, but they often do not tell us a lot about some key questions. Program evaluations (of all types) and other data analytics provide context for the performance measures and help us better understand what can be learned from them. In addition, rigorous impact evaluations, in particular those with random assignment to program and control groups, can provide better evidence of whether a program works and whether an alternative practice might work better. For example, if a job training program has a high job placement rate, is it because it is effective or because it attracts those easiest to place in jobs? An evaluation could compare the employment of participants to comparable individuals who did not participate in the program in order to isolate the effects of the training from other factors.

Evaluations can answer a wide-range of germane questions such as whether workers are safer in facilities that are inspected more frequently, whether one approach to turning around low-performing schools is more effective than another, whether outcomes for families are substantially improved in neighborhoods that receive intensive services, whether no-fee debit cards increase savings among the unbanked, and whether re-employment services are cost-effective.

This Administration is strongly encouraging appropriately rigorous evaluations to determine the impact of programs and practices on outcomes. In many policy debates, stakeholders come to the table with deep disagreements about the effectiveness or ineffectiveness of particular interventions. Evaluations that are sufficiently rigorous, relatively straightforward, and free from political interference are especially valuable in such circumstances. Historically, evaluations have generally not been built into program designs. And once a program is up and running, building a constituency for evaluation is hard. As a result, the active use of evidence and evaluation to manage and improve programs is too rare. The Administration is committed to addressing these challenges, but will need help from Congress and other stakeholders.

### **Operationalizing an Evidence Infrastructure**

Developing and supporting the use of evidence and evaluation in decision-making requires a coordinated effort between those charged with managing the operations of a program and those responsible for using data and evaluation to understand a program's effectiveness. It requires consistent messages from leaders at different

levels of an agency—e.g., policy officials, program and performance managers, strategic planning and budget staff, evaluators, and statistical staff—to ensure that evidence is valued, collected or built, analyzed, understood, and appropriately acted upon. No one individual in an agency has the knowledge and skills necessary to develop research designs that address actionable questions, understand different types of evidence, interpret evidence, and develop and implement effective, evidence-based practices. Rather, it takes an agency leadership team to oversee these efforts and to build and sustain a culture of learning. It also takes a team of “implementers” at the program level to encourage the use of evidence and data so that it reaches program management.

Who is on these teams and how their work is divided depends upon the specific needs, personnel, and structure of a given agency. Success of these teams depends on including leadership at the agency and bureau level capable of supporting and requiring programs' use of data and evaluation in program operations. This leadership team, working together with OMB and Congress, can make sure that the right questions are being asked about the program's effectiveness and its operations. Program managers are responsible for creating a culture where all operational decisions and internal and external communications of progress are based on evidence and data. In order to do so, the program managers need a team of both data analysts and evaluators. These individuals can provide the data and analysis and package it in a way that helps inform the program's operational and policy decisions, including understanding the different types of evidence available and its implications for decisions, as well as identifying the need for new descriptive data and evaluation studies.

The Administration and Congress have made progress in basing Federal decision-making on data and evidence, but more progress is needed. Chapter 7, “Delivering High-Performance Government,” in this volume discusses how Administration efforts are helping focus agencies on setting high-priority goals and measuring their progress on those goals.

### **Tiered-Evidence Grant Programs and Innovation Funds**

Because many Federal dollars flow to States, localities, and other entities through competitive and formula grants, grant reforms are an important component of strengthening the use of evidence in government. The goals include encouraging a greater share of grant funding to be spent on approaches with strong evidence of effectiveness and building more evaluation into grant-making so that we keep learning more about what works.

Among the most exciting advancements in this area are so-called “tiered-evidence” or “innovation fund” grant designs. The Administration has adopted multi-tiered grant programs in the areas of education interventions, teenage pregnancy prevention, social innovations, voluntary home visitations for parents, workforce interventions, international assistance efforts, and science, technology, engineering, and mathematics programs. These

initiatives are designed to focus money on practices with strong evidence but still allow for new innovation. For example, in a three-tiered grant model, grantees that use practices with strong evidence qualify for the top, “scale up” tier and receive the most funding. Grantees that use approaches with more limited evidence qualify for the middle, “validation” tier. They can receive more limited funding along with support for evaluation. And grantees using innovative but untested approaches may qualify for the third tier, “proof of concept” and receive the least funding, but also support for evaluation.

A good example of this approach is the Department of Education’s Investing in Innovation Fund (i3). The i3 fund invests in high-impact, potentially transformative education interventions, ranging from new ideas with significant potential to those with strong evidence of effectiveness that are ready to be scaled up. Applicants to i3 are eligible for funding to develop, validate, or scale up their program. In fact, the Department recently issued proposed regulations that would allow its other competitive grant programs to adopt this three-tiered model.

With a multi-tiered grant structure, organizations understand that in order to be considered for funding they must provide credible evaluation results that show promise and/or be ready to subject their models to analysis. The goal is that, over time, more programs move up tiers as evidence for new innovations becomes stronger.

### **Pay for Success**

The Administration is also investing in Pay for Success. In the Pay for Success model, philanthropic and other private investors provide up-front funding for preventive services and the government does not pay unless and until there are results. The Pay for Success model is particularly well-suited to cost-effective interventions that produce government savings, since those savings can be used to pay for results. For example, over the past year, the Department of Justice launched Pay for Success projects in which more effective prisoner re-entry interventions can reduce not just recidivism, but also the cost of the interventions, and a portion of those savings can be used to pay back the investors. In addition, the Department of Labor has launched an effort to target effective workforce systems that lead to improvements in a range of employment and educational outcomes, like job placement and job retention, paying out only after outcomes are achieved. The Administration is promoting the Pay for Success model in several other Federal programs, including housing, energy, and education, and is proposing a new \$300 million fund in the Treasury to create incentives for States, localities and not-for-profits to invest in programs that will produce Federal savings.

### **Examples of Evaluations and Innovative Pilots**

The Administration supports evaluations with rigorous research designs that address questions critical to program design, and supports strengthened agency capacity to support such evaluations, especially in tight budget times. The Budget supports new evaluations across the Federal Government to analyze program im-

pacts, including how to structure student aid in order to increase college access for low-income students; how to strengthen the impact of Federal technical assistance to small businesses; and how to use increased local flexibility in housing assistance to increase employment and self-sufficiency.

The Departments of Labor and Education are supporting joint pilots to test interventions and systemic reforms with the potential to improve education and employment outcomes at lower cost to taxpayers. The Departments of Education, Labor, and Health and Human Services and the Social Security Administration have launched a joint initiative, PROMISE, to test interventions that improve outcomes for children with disabilities and their families, which may yield substantial savings through reduced long-term reliance on the Supplemental Security Income program and other public services.

In addition, OMB’s Partnership Fund for Program Integrity Innovation has tested promising solutions developed collaboratively by Federal agencies, States, and other stakeholders to improve payment accuracy, improve administrative efficiency, and enhance service delivery in benefit programs that serve overlapping populations. For example, a pilot administered by the Centers for Medicare & Medicaid Services is testing how shared services solutions can reduce administrative costs and potentially fraud to States and the Federal Government by enabling multiple States to reuse the same standards and systems for activities such as enrolling providers. Evaluation of these pilots will help determine which strategies lead to better results at lower cost, allowing Federal and State governments to identify the most promising strategies that warrant expansion.

Rigorous evaluation will be a central component of the Administration’s Performance Partnership pilots, which will enable leading edge States and localities to demonstrate better ways to use resources, by giving them flexibility to pool discretionary funds across multiple Federal programs serving similar populations and communities in exchange for greater accountability for results. For example, the 2014 Budget would authorize up to 13 State or local performance partnership pilots to improve outcomes for disconnected youth. Pilot projects would support innovative, efficient, outcome-focused strategies using blended funding from separate youth-serving programs in the Departments of Education, Labor, Health and Human Services, Housing and Urban Development, Justice, and other agencies. Evaluations would help us learn whether these strategies yield better outcomes and would inform future program reforms.

### **Evaluation Capacity, Learning Networks, and Administrative Data**

Research and evaluation are part of any comprehensive effort to use data and evidence to serve the American people in more cost-effective ways. Funding for research and evaluation should not be viewed as a luxury but rather as an essential element of running effective government programs. However, new funding for research and evaluation is only part of the Administration’s efforts

to re-invigorate evaluation activities across the Federal Government. The Administration is also pulling up its sleeves and working to better utilize existing research and evaluation resources. It is building agency capacity for a robust evaluation and data analytics infrastructure by supporting agencies in standing up central evaluation offices, empowering existing evaluation offices, institutionalizing policies that lead to strong evaluations, and hiring evaluation and data analytics experts into key administrative positions.

In addition, an inter-agency working group of evaluators across the Federal Government is sharing best practices, such as helping spread effective procurement practices, developing common evidence standards, and better integrating evaluation and performance measurement efforts. Other cross-agency groups are forming learning networks around related program areas that will share relevant research about what works and develop tools and evaluation strategies that can benefit multiple agencies. During development of the President's 2014 Budget, multi-agency learning networks involving both program and evaluation experts have formed around enforcement programs, economic development activities, and financial literacy. Each of these groups proposes to invest modest amounts to create a coordinated, efficient strategy to improve related evaluation activities across agencies. For example, the Department of Transportation plans to lead an interagency effort to determine how enforcement funding provided to States best drives positive safety outcomes.

Another part of the evaluation and data analytics infrastructure is helping agencies make better use of "administrative data," i.e., data collected for the administration of a program. Administrative data, especially when linked across programs or to survey data and with strong privacy protections, can sometimes make both performance measurement and rigorous program evaluations much more informative and much less costly. For example, data from an early childhood program linked to the data from juvenile justice systems or K-16 educational systems shed light on the long-term effects of interventions in ways that would be cost-prohibitive in a long-term survey follow-up. Linking records across programs also enables policy makers to better understand how families access combinations of government assistance programs, such as food assistance and unemployment insurance, during times of economic challenges. The Departments of Health and Human Services and Housing and Urban Development, for instance, are sharing data to analyze how housing interventions, including efforts to reduce homelessness, affect the health care use and costs of residents. Also, the Departments of Veterans Affairs and Housing and Urban Development are streamlining reporting by homelessness programs to create a more comprehensive picture of homelessness trends and interventions.

Data linkage can be a powerful tool for improving agency management—looking at available information to find patterns, relationships, anomalies, and other features to inform priority-setting, program design, and hypothesis formulation. Administrative data also can be used in conducting low-cost rigorous evaluations, for example, as dis-

cussed in the Coalition for Evidence-Based Policy's 2012 brief, "*Rigorous Program Evaluations on a Budget: How Low-Cost Randomized Controlled Trials Are Possible in Many Areas of Social Policy.*" A number of States and localities, such as those participating in the *Actionable Intelligence for Social Policy Initiative* are creating capacity to link data across multiple systems so that researchers and government decision-makers can work together to analyze problems. Their pioneering work, which provides strong safeguards to protect privacy, can help other States, localities, and Federal agencies harness data for learning and better decision-making.

### **Rapid Experimentation**

This culture of integrating data and evidence into decision-making is growing not only in the Federal Government, but also among private sector firms, foundations, and other levels of government. Innovative firms in the private sector, including a few industry leaders, have adopted a culture of learning where each year they run hundreds of rapid, low-cost experiments designed to improve their operations and get better results using data from their extensive administrative data systems. One of the lessons of their work is that improving on the status quo is difficult and that most experiments that test improvements fail, so it is critical to run many tests to learn what works. There is perhaps great potential in the public sector to make use of such analytics, although realizing this potential will also take a concerted effort to hire and retain skilled data analysts and research method experts, increased attention to the multiple legal and policy contexts that make data access a continued challenge, infrastructure investments that support this sort of analysis by more people across the organization, and continued emphasis on defining and collecting useful outcome data.

### **Common Evidence Standards and "What Works" Repositories**

To ensure that policymakers, program managers, and practitioners have reliable information about what works that is informed by rigorous research, OMB and Federal agencies are working together to develop common standards for research and evaluation and for using results from different types of high quality studies to identify effective programs, improve programs, and encourage innovation in the development of new approaches. For example, the Department of Education and National Science Foundation have developed a set of standards that clarifies how different types of studies contribute to the evidence base, including basic research and impact evaluations, and sets expectations for the evidence that different types studies should seek to generate. Other agencies such as the Department of Labor and components of the Department of Health and Human Services are having discussions about augmenting these standards and creating a common framework for judging evidence on the effectiveness of programs and practices. Common research standards and evidence frameworks across agencies can facilitate evaluation contracting, information collection clearance, and the strengthening or creation of research

clearinghouses and repositories about “what works.” “What works” repositories synthesize evaluation findings in ways that make research useful to decision-makers, researchers, and practitioners in the field. Furthermore, as Federal innovation funds and other programs provide financial incentives for using evidence, these repositories will continue to evolve and provide useful tools for understanding what interventions are ready for replication, expansion, and greater investment. Information in the repositories also indicates the implementation contexts of programs and strategies evaluated, and areas where more innovation or more evaluation is needed.

### **Increasing the Use of Evidence**

The Administration is committed to producing more and better empirical evidence. There is, however, perhaps an even greater need to increase demand for data and evidence in Federal decision-making processes. One piece of this is the process of setting high-priority goals and measuring progress towards meeting them, as described in Chapter 7, “Delivering High-Performance Government,” in this volume. This goal-setting and performance measurement is beginning to increase the demand for data, its analysis, and complementary evaluations, as leaders running frequent data-driven reviews to achieve progress on ambitious goals search for increasingly effective and efficient practices to speed progress toward the goals they have set. But more can be done.

Often the focus is on producing better evidence, but not on making that evidence useful for busy, non-technical decision-makers. Some policy areas lack rich evidence, but in areas with rich evidence decision-makers are not able to sort through the myriad of evaluation reports and analyses, especially when they point in different directions. There is a tremendous need for careful, systematic, and credible analyses of which interventions have a high return and which ones do not. At the Federal level, work described above on common evidence standards and improving “what works” repositories, such as the Department of Education’s *What Works Clearinghouse*, the Department of Justice’s *CrimeSolutions.gov*, Substance Abuse and Mental

Health Services Administration’s *National Registry of Evidenced-based Programs and Practices* (NREPP), and the Department of Labor’s new Clearinghouse of Labor Evaluation and Research (CLEAR) are helpful steps towards making evidence more useful for decision-makers.

State, local, and tribal governments face a similar need to prioritize programs that achieve the best results. One particularly interesting model (that has played a role in shaping state legislative decisions) is the Washington State Institute for Public Policy. The Institute provides a good example of how a centralized evaluation and research entity can conduct systematic reviews of existing evaluation research to identify policies, practices, and strategies that are most likely to give taxpayers a return on their investment. It was created by the Washington State legislature to carry out practical, non-partisan research—at legislative direction—of importance to Washington State. The Institute has its own policy analysts and economists, specialists from universities, and consultants with whom it engages to conduct policy analysis. It conducts a systematic review of evidence and has a methodology for comparing the relative return-on-investment of alternative interventions. The Institute presents the results of its analysis in a straightforward, user-friendly manner that is accessible to politicians, policy-makers, and the public. The Institute provides a potential model for Federal, State, local, and tribal government, as well as for not-for-profit and for-profit organizations and is currently being adapted to 13 other States. An example of an assessment of the evidence for options to improve statewide outcomes in a variety of areas, including child maltreatment, crime, and education can be found *at the Institute’s website*.

The President has made it clear that policy decisions should be driven by evidence—evidence about what works and what does not, and evidence that identifies the greatest needs and opportunities to solve great challenges. By instilling a culture of learning into Federal programs, the Administration will build knowledge so that spending decisions are based not only on good intentions, but also on strong evidence that yield the highest social returns on carefully targeted investments.



## 9. BENEFIT-COST ANALYSIS

### I. INTRODUCTION

Federal Government policies and programs make use of our Nation's limited resources to achieve important social goals, including economic growth, job creation, education, national security, environmental protection, and public health. Many Federal programs require governmental expenditures, such as those funding early childhood education or job training. Moreover, many policies entail social expenditures that are not reflected in budget numbers. For example, environmental, energy efficiency, and workplace safety regulations impose compliance costs on the private sector. In all cases, the American people expect the Federal Government to design programs and policies to manage and allocate scarce fiscal resources prudently, and to ensure that programs achieve the maximum benefit to society and do not impose unjustified or excessive costs.

A crucial tool used by the Federal Government to achieve these objectives is benefit-cost analysis, which provides a systematic accounting of the social benefits and costs of Government policies. Executive Order 13563, issued in January 2011, makes a firm commitment to cost-benefit analysis and to ensuring that the benefits of regulations justify the costs. It states, among other things, that each agency must "use the best available techniques to quantify anticipated present and future benefits and costs as accurately as possible." It also states that agencies must "propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify.)"

The assessment of benefits and costs of a government policy is meant to offer a concrete description of the an-

tipated consequences of the policy. Such an accounting helps policymakers to design programs to be both efficient and effective and to avoid unnecessary or unjustified costs and burdens. That accounting also allows the American people to see the expected consequences of programs and to hold policymakers accountable for their actions. While quantification and monetization of benefits and costs produce significant analytic challenges, serious efforts have been made to meet those challenges. Those efforts are continuing. Executive Order 13563 also states, "each agency may consider (and discuss qualitatively) values that are difficult or impossible to quantify, including equity, human dignity, fairness, and distributive impacts." Importantly, there is a close relationship between open government and benefit-cost analysis. Because analysis is often improved by public comments, public participation and consideration of benefits and costs are tightly connected in practice.

Especially in a difficult economic period, it is important to analyze both benefits and costs and to take steps to eliminate unnecessary burdens, which may have adverse effects on job creation and growth. Executive Order 13563 calls for such steps with its efforts to discipline the flow of new regulations and its requirement of retrospective analysis of existing significant rules. Retrospective analysis has recently become a central part of the regulatory process as agencies identify outdated or redundant regulations and is helping to eliminate billions of dollars in regulatory burdens, in areas including environmental protection, transportation, labor, health care, and agriculture.

### II. BENEFIT-COST ANALYSIS OF FEDERAL REGULATIONS

#### Overview of Benefit-Cost Analysis of Federal Regulation

For over three decades, benefit-cost analysis has played a critical role in the evaluation and design of significant Federal regulatory actions. While there are precursors in earlier administrations, the Reagan Administration was the first to establish a broad commitment to benefit-cost analysis in regulatory decision making through its Executive Order 12291. The Clinton Administration continued that commitment when it updated the principles and processes governing regulatory review in Executive Order 12866, which continues in effect today. Executive Order 12866 requires executive agencies to catalogue and assess the benefits and costs of significant regulatory actions. It also requires agencies (1) to undertake regulatory action only on the basis of a "reasoned determination" that the benefits justify the costs and (2) to choose the regulatory approach that

maximizes net social benefits, that is, benefits minus costs (unless the law governing the agency's action requires another approach). Executive Order 13563, issued in January 2011, reaffirms the requirements of Executive Order 12866 and imposes a set of important additional requirements designed to promote sound analysis, to increase flexibility, to promote public participation, to harmonize conflicting and redundant requirements, and to ensure scientific integrity.

Operating under the broad framework established by Executive Orders 13563 and 12866, the Office of Management and Budget requires careful analysis of the benefits and costs of significant rules; identification of the approach that maximizes net benefits; detailed exploration of reasonable alternatives, alongside assessments of their costs and benefits; cost-effectiveness; and attention to unquantifiable benefits and costs as well as to distributive impacts. Central goals are to ensure that regulations

will be effective in achieving their purposes and that they do not impose excessive costs. As noted, it is especially important to maximize net benefits, and to avoid unjustified burdens, in a period of economic difficulty. Notably, Executive Order 13563 specifically refers to “job creation,” and where feasible, agencies have recently devoted a great deal of attention to the anticipated job impacts (whether positive or negative) of regulations.

Reviewing agencies’ benefit-cost analyses and working with agencies to improve them, OMB provides a centralized repository of analytical expertise in its Office of Information and Regulatory Affairs (OIRA). OMB’s guidance to agencies on how to do benefit-cost analysis for proposed regulations is contained in its Circular A–4. OMB Circular A–4 directs agencies to specify the goal of a regulatory intervention, to consider a range of regulatory approaches for achieving that goal and to estimate the benefits and costs of each alternative considered. To the extent feasible, agencies are required to monetize benefits and costs, so that they are expressed in comparable units of value. This process enables the agency to identify (and generally to choose) the approach that maximizes the total net benefits to society generated by the rule.

For example, consider a regulation that sets a standard to reduce air pollution emissions. The agency should attempt to quantify both the benefits and costs of reduced air pollution emissions. It should consider a range of emission reductions to determine the optimal one that maximizes net benefits. Careful benefit-cost analysis enables the agency to determine the optimal standard. It helps to

show that some approaches would be insufficient and that others would be excessive.

Quantification and monetization of the relevant variables can present serious analytic challenges. OIRA and other federal agencies have developed a range of strategies for meeting those challenges; many of them are sketched in OMB Circular A–4. Efforts continue to be made to improve current analyses and to disclose and test their underlying assumptions. In some cases, identification of benefits and costs will leave significant uncertainties. But much of the time, an understanding of benefits and costs will rule out some possible courses of action, and will show where, and why, reasonable people might differ. Such an understanding will also help to identify the most effective courses of action and to eliminate unjustified costs and burdens—in the process potentially helping to promote competitiveness, innovation, job creation, and economic growth.

**The Benefits and Costs of Federal Regulation in FY 2011**

Each year, OMB reports to Congress agencies’ estimates of the benefits and costs of major regulations. Table 9–1 presents the benefit and cost estimates for the 234 major non-budgetary rules reviewed by OMB in FY 2011.<sup>1</sup> Of those, agencies monetized both the benefits and costs for 12.

<sup>1</sup> FY 2011 is the most recent period for which such a summary is available. These estimates were reported in OMB, 2012 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities. A detailed description of the assumptions and calculations underlying these estimates is provided in that Report.

**Table 9–1. ESTIMATES OF THE TOTAL ANNUAL BENEFITS AND COSTS OF MAJOR RULES REVIEWED BY OMB IN 2011**  
(In billions of 2001 dollars)

Rule	Agency	Benefits	Costs
Institutional Eligibility under the Higher Education Act of 1965; Student Assistance General Provisions .....	ED	Not Estimated	0.1
Program Integrity: Gainful Employment Measures .....	ED	Not Estimated	0.1
Energy Efficiency Standards for Clothes Dryers and Room Air Conditioners .....	DOE	0.2–0.3	0.1–0.2
Energy Efficiency Standards for Residential Furnaces, Central air conditioners and Heat Pumps .....	DOE	0.7–1.8	0.5–0.7
Energy Efficiency Standards for Residential Refrigerators, Refrigerator-Freezers, and Freezers .....	DOE	1.7–3.0	0.8–1.3
Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act Amendments Act .....	EEOC	Not Estimated	0.1–0.2
Administrative Simplification: Adoption of Authoring Organizations for Operating Rules and Adoption of Operating Rules for Eligibility and Claims Status (CMS–0032-IFC) .....	HHS	0.9–1.1	0.3–0.6
Medical Loss Ratios .....	HHS	Not Estimated	0.1
SAFE Mortgage Licensing Act: Minimum Licensing Standards and Oversight Responsibilities (FR–5271-F–03) .....	HUD	Not Estimated	0.1–0.6
Increased Safety Measures for Oil and Gas Operations on the Outer Continental Shelf (OCS) .....	DOI	Not Estimated	0.1
Migratory Bird Hunting; 2011–12 Migratory Game Bird Hunting Regulations: Early Season .....	DOI	0.2–0.3	Not Estimated
Migratory Bird Hunting; 2011–12 Migratory Game Bird Hunting Regulations: Late Season .....	DOI	0.2–0.3	Not Estimated
Improved Fee Disclosure for Pension Plan Participants .....	DOL	0.8–3.3	0.2–0.4
Statutory Exemption for Provision of Investment Advice .....	DOL	5.8–15.1	1.6–4.2
Wage Methodology for the Temporary Non-Agricultural Employment H–2B Program .....	DOL	Not Estimated	Not Estimated
Ejection Mitigation .....	DOT	1.5–2.4	0.4–1.4
Real-Time System management Information Program .....	DOT	0.2	0.1
Commercial Medium- and Heavy-Duty On-Highway Vehicles and Work Truck Fuel Efficiency Standards .....	DOT and EPA	2.2–2.6	0.3–0.5
Management of Federal Agency Disbursements .....	TREAS	0.1	Not Estimated
Regulations Governing Practice Before the Internal Revenue Service .....	TREAS	Not Estimated	Not Estimated
Cross State Air Pollution Rule (CAIR Replacement Rule) .....	EPA	20.5–59.7	0.7
Oil Pollution Prevention: Spill Prevention, Control, and Countermeasure Rule Requirements - Amendments for Milk Containers .....	EPA	0	–0.1
Water Quality Standards (Numeric Nutrient Criteria) for Florida’s Lakes and Flowing Waters .....	EPA	<0.1	0.1–0.2

Most of the benefits and costs reported in Table 9–1 are expressed as ranges, and sometimes as wide ranges, because of uncertainty about the likely consequences of rules. Quantification and monetization raise difficult conceptual and empirical questions. Prospective benefit-cost analysis requires predictions about the future—both about what will happen if the regulatory action is taken and what will happen if it is not. What the future holds is typically not known for certain. A standard goal of the agency’s analysis is to produce both a central “best estimate,” which reflects the expected value of the benefits and costs of the rule, as well as a description of the ranges of plausible values for benefits, costs, and net benefits. These estimates inform the decisionmakers and the public of the degree of uncertainty associated with the regulatory decision. The process of public scrutiny can sometimes reduce that uncertainty. Despite these uncertainties, benefit-cost analysis often reduces the range of reasonable approaches—and simultaneously helps to inform the decision about which approach is most reasonable.

**Cost-per-life-saved of Health and Safety Regulation**

For regulations intended to reduce mortality risks, another analytic tool that can be used to assess regulations, and to help avoid unjustified burdens cost-effectiveness analysis is. Some agencies develop estimates of the “net cost per life saved” for regulations intended to improve public health and safety. To calculate this figure, the costs of the rule minus any monetized benefits other than mor-

tality reduction are placed in the numerator, and the expected reduction in mortality in terms of total number of lives saved is placed in the denominator. This measure avoids any assignment of monetary values to reductions in mortality risk. It still reflects, however, a concern for economic efficiency, insofar as choosing a regulatory option that reduces a given amount of mortality risk at a lower net cost to society would conserve scarce resources compared to choosing another regulatory option that would reduce the same amount of risk at greater net costs.

Table 9–2 presents the net cost per life saved for recent health and safety rules for which calculation is possible. The net cost per life saved is calculated using 3 percent discount rate and using agencies’ best estimates for costs and expected mortality reduction where those were provided by the agency.

This table is designed to be illustrative rather than definitive, and continuing work must be done to ensure that estimates of this kind are complete and not misleading. For example, some mortality-reducing rules have a range of other benefits, including reductions in morbidity, and it is important to include these benefits in cost-effectiveness analysis. Other rules have benefits that are exceedingly difficult to quantify but nonetheless essential to consider; consider rules that improve water quality or have aesthetic benefits. Nonetheless, it is clear that some rules are far more cost-effective than others, and it is valuable to take steps to catalogue variations and to increase the likelihood that scarce resources will be used as effectively as possible.

**Table 9–2. ESTIMATES OF THE NET COSTS PER LIFE SAVED OF SELECTED HEALTH AND SAFETY RULES REVIEWED BY OMB IN FISCAL YEARS 2010-2011**

(In millions of 2001 dollars)

Rule	Agency	Net Cost per Life Saved	Notes
Cranes and Derricks in Construction .....	DOL/OSHA	\$4.9	The agency estimates that the rule will prevent 22 fatalities and 175 nonfatal injuries annually. Total costs associated with the rule are \$150 million annually (using 3% discount rate). The monetized value of the injuries prevented is \$11 million and the property damage prevented is valued at \$7 million.
Ejection Mitigation .....	DOT/NHTSA	\$0.2	The agency estimates that the rule will prevent 374 equivalent lives (using 3% discount rate).
Pipeline Safety: Distribution Integrity Management .....	DOT/PHMSA	Negative	Benefits from reduced injuries, reduced property damages, and reduced lost gas exceeds costs.
Positive Train Control .....	DOT/FRA	\$235.1	The agency estimates the present value of fatality reduction benefits is \$267 million over 20 years using a VSL of \$6 million. The agency also estimates the total non-fatality related benefits over 20 years of \$407 million. The total costs associated with the rule are \$880 million annually.
Cross State Air Pollution Rule (CAIR Replacement) .....	EPA/AR	Negative	Morbidity and visibility benefits exceed costs.
Lead; Amendments to the Opt-out and Recordkeeping Provisions in the Renovation, Repair, and Painting Program .....	EPA/OPPTS	Negative	Morbidity benefits exceed costs.
National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants .....	EPA/AR	Negative	Morbidity benefits exceed costs.
National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (Diesel) .....	EPA/AR	\$0.9 - \$2.2	The agency estimates that the rule will prevent 110 to 270 fatalities annually. Total costs associated with the rule are \$355 million annually at 3% discount rate. The monetized value of the morbidity benefits is \$66 million.
National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (Existing Stationary Spark Ignition Gas Fired) ..	EPA/AR	\$1.2 - \$3.1	The agency estimates that the rule will prevent 56 to 140 fatalities in 2013. Total costs associated with the rule are \$244 million annually at 3% discount rate. The monetized value of the morbidity benefits is \$36 million.
Review of the National Ambient Air Quality Standards for Sulfur Dioxide .....	EPA/AR	Negative	Morbidity benefits exceed costs.

### III. BENEFIT-COST ANALYSIS OF BUDGETARY PROGRAMS

As noted, Executive Orders 13563 and 12866 require agencies, to the extent permitted by law, to “propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.” OIRA works actively with agencies to promote compliance with this requirement.

Historically, benefit-cost analysis of Federal budgetary programs has been more limited than that of regulatory policy. Increasingly, though, the Federal Government explicitly employs benefit-cost analysis to ensure that projects and spending programs have benefits in excess of costs, maximize net benefits, and allocate federal dollars most efficiently across potential projects.

In the 1936 Flood Control Act, for example, Congress stated as a matter of policy that the Federal government should undertake or participate in flood control projects if the benefits exceeded the costs, where the lives and social security of people are at stake. By the late 1970s, the Army Corps of Engineers had begun to use benefit-cost analysis to improve the return on investment at a given project site. The Corps did this by designing projects based on increments of work whose benefits exceeded their costs. More recently, the Budget has used benefits and costs, along with other criteria, to develop an overall program for the Corps that yields the greatest net benefits or cost effectiveness.

Benefit-cost analysis can also be used to evaluate programs retrospectively to determine whether they should be either expanded or discontinued and how they can be improved. Chapter 8, “Program Evaluation and Data Analytics”, in this volume discusses current efforts to improve program evaluation. Evidence that an activity can yield substantial net benefits has motivated the creation and expansion of a number of programs. For example,

longitudinal studies have shown that each dollar spent on quality pre-school programs serving disadvantaged children yields substantially more than a dollar (in present value) in higher wages, reduced crime, and reduced use of public services. These findings motivated an expansion of funding for high-quality pre-school programs. Evidence has also spurred the decision to expand funding for nurse-family partnerships, finding that each dollar spent in the program leads to more than a dollar of benefits mostly in reduced government expenditures on health care, educational and social services, and criminal justice, and that the highest returns were present in serving the most disadvantaged families. Similarly, GAO has concluded that the Women, Infants, and Children (WIC) program produces monetary benefits that exceed its costs by reducing the incidence of low birth weight and iron deficiency, which are linked to children’s behavior and development.

The Regulatory Right-to-Know Act requires OMB to report the social costs and benefits of the budget rules. These rules implement Federal budgetary programs as required or authorized by Congress. Budgetary programs primarily cause income transfers, usually from taxpayers to program beneficiaries. In FY 2011, OMB reviewed 30 budgetary rules. Of these, the Department of Health and Human Services promulgated 15 rules, and the Department of Agriculture seven rules.<sup>2</sup> We recognize that markets embed distortions and that the transfers are not lump-sum, thereby creating social benefits or costs by altering prices.

<sup>2</sup> The estimates of budgetary effects were reported in OMB, 2012 Report to Congress on the Benefits and Costs of Federal Regulations and Unfunded Mandates on State, Local, and Tribal Entities. A detailed description of the assumptions and calculations underlying these estimates is provided in that Report.

### IV. IMPROVING BENEFIT-COST ANALYSIS

#### A Culture of Retrospective Review

Prospective analysis of benefits and costs is an indispensable means of obtaining an understanding of the likely consequences of regulation. But that analysis, even if done carefully and subject to public scrutiny, will rest on assumptions that may change over time. Regulations should be reviewed retrospectively to ensure that they are achieving their intended goals and are not producing excessive costs or unintended adverse effects. Executive Order 13563 expressly recognizes this by requiring agencies to undertake “retrospective analysis” of existing significant rules.

Building on Executive Order 13563, Executive Order 13610, “Identifying and Reducing Regulatory Burdens”, issued in May 12, 2012, institutionalizes the regulatory lookback and requires agencies to prioritize lookback “initiatives that will produce significant quantifiable monetary savings or significant quantifiable reductions in paperwork burdens.”<sup>3</sup> The Executive Order calls on

agencies to “give special consideration to initiatives that would reduce unjustified regulatory burdens or simplify or harmonize regulatory requirements imposed on small businesses.” Additionally, agencies are required to focus on “cumulative burdens” and to “give priority to reforms that would make significant progress in reducing those burdens.”

Retrospective review is most naturally understood as a way of assessing rules that have been in operation and on the books for a sufficient period to allow careful study. A retrospective analysis can show that a rule that was well-designed at the inception is now excessive, redundant, or producing unintended harm, perhaps as a result of changed circumstances, such as new technologies or new regulations. Retrospective review can also be critical in evaluating the validity of assumptions or methods used in prospective analysis.

[www.whitehouse.gov/the-press-office/2012/05/10/executive-order-identifying-and-reducing-regulatory-burdens](http://www.whitehouse.gov/the-press-office/2012/05/10/executive-order-identifying-and-reducing-regulatory-burdens)

<sup>3</sup> See Executive Order 13610, May 10, 2012, available at <http://>

For example, the EPA has eliminated the obligation for many states to require air pollution vapor recovery systems at local gas stations because duplicative vapor recovery systems have been built into modern vehicles. The anticipated annual savings are about \$87 million.

Retrospective analysis has long been recommended by those interested in empirical assessment of regulations, including Michael Greenstone, former chief economist at the Council of Economic Advisers: “The single greatest problem with the current system is that most regulations are subject to a cost-benefit analysis only in advance of their implementation. This is the point when the least is known and any analysis must rest on many unverifiable and potentially controversial assumptions.”<sup>4</sup> To address this problem, retrospective analysis can help show what works and what does not, and in the process can promote the streamlining or elimination of less effective rules as well as the strengthening or expansion of those rules that are more effective.

### Clear Summaries and Tables with Key Information

In order to improve analysis of the potential effects of regulations, and simultaneously to improve accountability, OMB has called for a clear, salient, publicly accessible executive summary of both benefits and costs. The summary should be written in a “plain language” manner designed to be understandable to the public. For all economically significant regulations, Executive Orders 13563 and 12866 require agencies to provide a description of the need for the regulatory action and a clear summary of the analysis of costs and benefits, both qualitative and quantitative. The summary often includes an accounting of benefits and costs of alternative approaches, and where relevant, an analysis of distributional impacts on subpopulations (such as disabled people or those with low income). As noted, some benefits and costs can be quantified and monetized, while some can be described in qualitative terms.

<sup>4</sup> Greenstone, Michael. “Toward a Culture of Persistent Regulatory Experimentation and Evaluation.” In *New Perspectives on Regulation*, David Moss and John Cisternino (Eds.). Cambridge, MA: The Tobin Project, Inc., 2009. P. 113.

### Public Participation and Collaboration in the Regulatory Process

Executive Order 13563 states that “regulations shall be based, to the extent feasible and consistent with law, on the open exchange of information and perspectives....” To promote that open exchange, Executive Order 13563 directs agencies to provide the public with timely access to regulatory analyses and supporting documents on *regulations.gov* to ensure a meaningful opportunity for public comment.

The Internet provides an ideal vehicle for making information public and, under Executive Order 13563, the Administration has committed to publish as much as possible online in a format that can be retrieved, downloaded, indexed, and searched by commonly-used web search applications. Importantly, this commitment promotes public accessibility of the analysis of benefits and costs, together with the supporting materials, in order to ensure that the analysis is subject to public scrutiny. That process of scrutiny can help to improve the analysis, thereby refining our understanding of the anticipated effects of regulation.

Agencies now publish a great deal of information relevant to rulemaking and benefit-cost analysis, including underlying data, online and in downloadable, as well as traditional, formats. Executive Order 13563 directs agencies to use *regulations.gov* to make the online record as complete as possible and to take all necessary steps to make relevant material available to the public for comment.<sup>5</sup>

Executive Order 13563 requires that the public should generally receive a comment period of at least 60 days for proposed regulatory actions. Even where statutes necessitate shorter comment periods, agencies can seek public comment and respond in a timely fashion to suggestions about potential improvements in rules and underlying analyses.

<sup>5</sup> Available at: [http://www.whitehouse.gov/omb/assets/inforeg/edocket\\_final\\_5-28-2010.pdf](http://www.whitehouse.gov/omb/assets/inforeg/edocket_final_5-28-2010.pdf)



## 10. IMPROVING THE FEDERAL WORKFORCE

The United States has overcome great challenges throughout our history because Americans of every generation have stepped forward to aid their Nation through service, both in civilian Government and in the Armed Forces. A high-performing government depends on an engaged, well-prepared, and well-trained workforce with the right set of skills for the missions the government needs to achieve. Today's Federal public servants come from all walks of life and from every corner of America to carry forward that proud American tradition. Eighty-five percent of Federal employees live and work outside of the Washington, D.C. metropolitan area. Many Federal employees have made remarkable contributions to our society; notably, more than 50 current or former federal employees have received Nobel Prizes. Whether defending our homeland, restoring confidence in our financial system and supporting a historic economic recovery effort, providing health care to our veterans, conducting diplomacy abroad, providing relief to Hurricane Sandy victims, or searching for cures to the most vexing diseases, we are fortunate to be able to rely upon a skilled workforce committed to public service.

Today's Federal workforce confronts tight fiscal resources, rapidly changing problems, and new technologies. This chapter discusses trends in Federal employment, composition, and compensation, and presents the Administration's plans for achieving the talented Federal workforce needed to serve the American people effectively and efficiently.

### Trends in Federal Workforce Size

The size of the Federal civilian workforce relative to the country's population has declined dramatically over the last several decades, notwithstanding occasional upticks due, for example, to military conflicts and the administration of the Census. In overall terms, today's workforce remains the size it was under President Reagan.

Since the 1950s and 1960s, the U.S. population increased by 77 percent, the private sector workforce increased 137 percent, while the size of the Federal workforce rose just 10 percent, with 92 residents for every Federal worker. Since the 1980s, both the population and private sector workforce has increased 25 percent, but the Federal workforce has not grown at all, and in the 1980s and 1990s there were 119 residents for every Federal worker. Except for employment peaks associated with the decennial census, Federal employment, in absolute terms, increased slightly in the 1980s and then dropped in the 1990s. This overall downward trend began to reverse itself in 2001, following the September 11 attack. Following that tragic event, the Federal workforce expanded to deal with national security and homeland safety issues and to serve our veterans.

Between 2001 and 2010, security agency employment grew, while non-security employment declined. For example, civilians working for the Department of Defense grew by more than 92,000; the Department of Veterans Affairs (VA) grew by 78,000 with much of that increase attributable to medical care to provide for our returning service members; Customs and Border Protection also grew more than 30,000 to keep our citizens safe at home.

By 2012, the ratio of residents to Federal workers had increased to 148. Relative to the private sector, the Federal workforce is less than half the size it was back in the 1950s and 1960s. Table 10-2 shows actual Federal civilian full-time equivalent (FTE) levels in the Executive Branch by agency for 2011 and 2012, with estimates for 2013 and 2014. Estimated employment levels for 2014 result in an estimated 0.3 percent increase compared to prior year estimates. Most of the growth is in VA to continue strengthening medical care for returning service members. Additional increases are expected at the Department of Justice for enhancements in cybersecurity and increased background checks for firearm purchases, and at the Department of Homeland Security to support the strengthening of border protection and to support immigration reform.

Other increases are narrowly focused and frequently supported by congressionally authorized fees, not tax payer dollars. Increased fee receipts support timely commercialization of innovative technologies through faster and higher-quality patent reviews at the Patent and Trade Office of the Department of Commerce, stronger food safety measures at the Food and Drug Administration of the Department of Health and Human Services, and enhancements to create stronger, more stable financial markets consistent with the Wall Street Reform Act. Commitments to activate new Federal prisons already constructed with funding appropriated as early as 2001 and as recently as 2010 result in limited necessary personnel increases at the Department of Justice in 2013 and 2014. And stepping up Internal Revenue Service (Treasury) program integrity efforts to ensure companies and individuals are paying their fair share is an investment that more than pays for itself.

In contrast, the workforce decreased in agencies such as the U.S. Department of Agriculture (USDA), US Environmental Protection Agency (EPA) and the National Aeronautics and Space Administration (NASA), to correspond with decreases in funding. The Forest Service and the Natural Resources Conservation Service at the USDA are finding workforce efficiencies to meet budget reductions; decreases at the EPA reflect strong efforts in workforce restructuring to better manage and reduce personnel costs; and NASA will reduce its workforce in response

to budget reductions from changes in human space flight missions, including the retirement of the Space Shuttle.

Beneath many of the agency totals are programs that pursue aggressive actions to reduce and reallocate staff from lower to higher priority programs. Some agencies have imposed hiring freezes, and many are offering early retirement and separation incentives. For example, the General Services Administration offered more than 2,400 employee buyouts and early retirement packages in order to contain costs and provide the opportunity to better match employee skills with job requirements.

Chart 10-1 shows Federal civilian employment (excluding the U.S. Postal Service) as a share of the U.S. resident population from 1958 to 2012. The chart shows overall declines in both security and non-security agencies.

In recent years, the Executive Branch has had great success hiring veterans. In November 2009, President Obama signed Executive Order 13518, establishing the Veterans Employment Initiative. Through this initiative and the strategies used by the Council on Veterans Employment, the Executive Branch continues to benefit from retaining the dedication, leadership, and skills veterans have honed in the fast-paced, dynamic environments of the Army, Marines, Navy, Air Force, and Coast Guard.

In FY 2009, veterans made up 24 percent of the total new hires in the Federal Government. By the end of FY 2012, veterans made up 29 percent of new hires. The total number of veterans employed by the Government also increased. In FY 2009, there were 512,240 veterans in the Federal Government – 26 percent of our workforce. By the end of FY 2012, the number of veterans had grown to 611,784, or 30 percent of the Federal workforce.

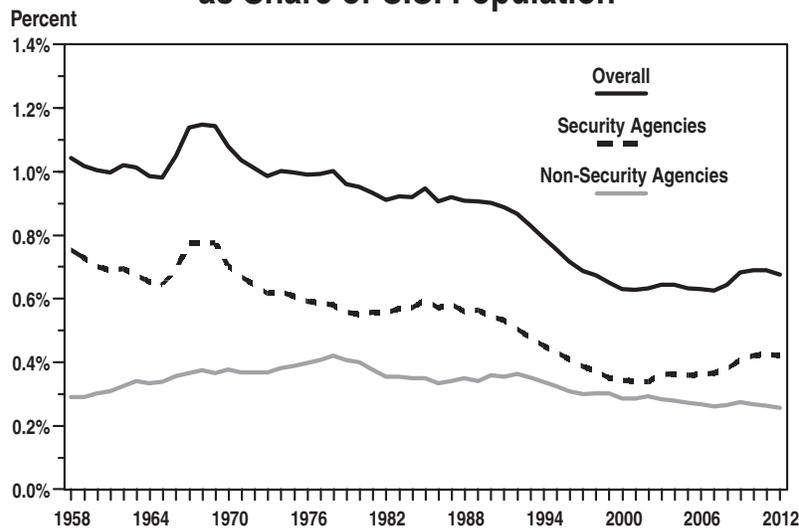
### Federal Pay Trends

After more than a decade when the percentage increases in annual Federal pay raises did not keep pace with the percentage increase in private sector pay raises, Congress passed the Federal Employees Pay Comparability Act of 1990 (FEPCA) pegging Federal pay raises, as a default, to changes in the Employment Cost Index (ECI). The law gives the President the authority to propose alternative pay adjustments for both base and locality pay. Presidents have regularly supported alternative pay plans.

Chart 10-2 shows how the Federal pay scale has compared to the ECI since 1976. Prior to FEPCA the Federal pay scale fell sharply relative to the ECI. The Federal pay scale rose relative to the ECI in the early 1990s, but fell relative to ECI during most of the middle and late 1990s. The Federal pay scale rose quite a bit relative to ECI in the 2000s, but has fallen sharply relative to ECI in the last few years.

In late 2010, as one of several steps the Administration took to put the Nation on a sustainable fiscal path, the President proposed and Congress enacted a two-year freeze on across-the-board pay adjustments for civilian Federal employees, saving \$60 billion over 10 years. The President also issued a memorandum directing agencies to freeze pay schedules and forgo general pay increases for civilian Federal employees in administratively determined pay systems. Additionally, on his first day in office, the President froze salaries for all senior political appointees at the White House, and in 2010, the President eliminated bonuses for all political appointees across the Administration. The Office of Personnel Management (OPM) and the Office of Management and Budget (OMB) directed agencies to limit individual performance awards for almost all employees starting in fiscal years 2011 and 2012.

**Chart 10-1. Federal Civilian Workforce as Share of U.S. Population**



Source: Office of Personnel Management.  
 Notes: Security agencies include the Department of Defense, the Department of Homeland Security, the Department of State, and the Department of Veterans Affairs. Non-Security agencies include the remainder of the Executive Branch.

For 2014, the President proposes a one percent pay increase for General Schedule employees, which is below the private sector Employment Cost Index increase of 1.8%. This increase reflects the tight budget constraints we now face while also recognizing the critical role these employees play in our everyday lives. In comparison to the baseline, the 1.0% pay increase saves approximately \$18 billion over 10 years and \$1 billion in FY 2014 within the BCA caps, which can then be reallocated to programs and services the American people depend on.

The 2014 budget also continues last year’s proposal to dedicate an additional 1.2 percent of employees’ pay (phased-in at 0.4 percent over three years) toward their pensions. This proposal would require existing employees, or those rehired with five or more years of creditable service, to contribute 1.2 percentage points more to their pensions. During 2012, the Middle Class Tax Relief and Job Creation Act increased employee contributions to Federal defined benefit retirement plans, including the Federal Employees’ Retirement System, by 2.3 percentage points, effective for individuals joining the Federal work force after December 31, 2012 who have less than five years of creditable civilian service. Neither this proposal nor the 2012 Act would change the amount of each employee’s benefit. This proposal would result in \$20 billion in mandatory savings over 10 years.

**Composition of the Federal Workforce and Factors Affecting Pay**

Federal worker compensation receives a great deal of attention, in particular, in how it compares to that of private sector workers. Comparisons of the pay and benefits of Federal employees and private sector employees, for example, should account for factors affecting pay, such as

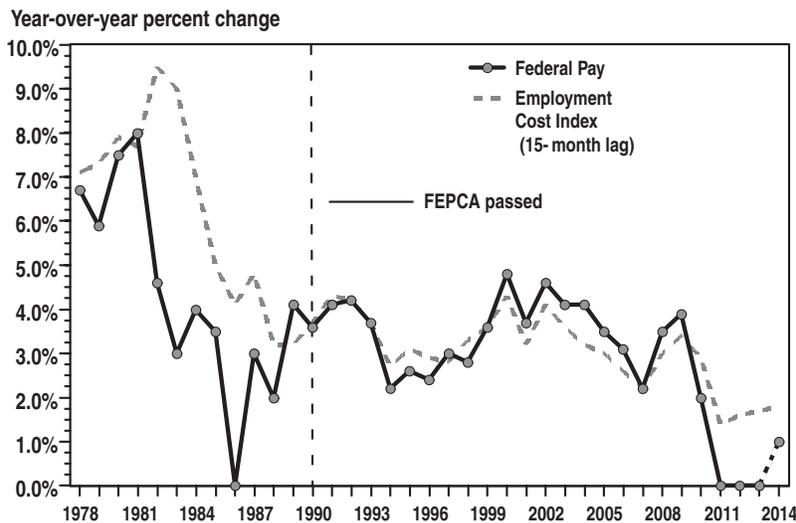
differences in skill levels, complexity of work, scope of responsibility, size of the organization, location, experience level, and exposure to personal danger.

A series of reports done in January 2012 by the Congressional Budget Office (CBO) accounted for some, but not all, of the factors described above. CBO found that Federal pay, on average, was slightly higher (2.0 percent) than comparable private sector pay. However, this study was done before Federal employees began a pay freeze. Overall public sector compensation was, on average, substantially higher, but CBO noted that its findings about comparative compensation relied on far more assumptions and were less definitive than its pay findings. The reports also emphasized that focusing on averages is misleading, because the public/private differentials varies dramatically by education and complexity of job. Compensation for higher educated Federal workers (or those in more complex jobs) is lower than for comparable workers in the private sector, which were not the CBO findings for less educated workers.

Some of the factors affecting compensation are:

**Type of occupation.** The last half century has seen significant shifts in the composition of the Federal workforce, with related effects on pay. Fifty years ago, most white-collar Federal employees performed clerical tasks, such as posting Census figures in ledgers and retrieving taxpayer records from file rooms. Today their jobs are vastly different, requiring advanced skills to serve a knowledge-based economy. Professionals such as doctors, engineers, scientists, statisticians, and lawyers now make up a large portion of the Federal workforce. More than half (55 percent) of Federal workers work in the nine highest-paying occupation groups as judges, engineers, scientists, nuclear plant inspectors, etc., compared

**Chart 10-2. Pay Raises for Federal vs. Private Workforce**



Source: Public Laws, Executive Orders, and the Bureau of Labor Statistics.  
 Notes: Federal pay is for civilians and includes base and locality pay. Employment Cost Index is the wages and salaries, private industry workers series.

**Table 10-1. OCCUPATIONS OF FEDERAL AND PRIVATE SECTOR WORKFORCES**  
(Grouped by Average Private Sector Salary)

Occupational Groups	Percent	
	Federal Workers	Private Sector Workers
<b>Highest Paid Occupations Ranked by Private Sector Salary</b>		
Lawyers and judges .....	1.8%	0.6%
Engineers .....	3.9%	1.9%
Scientists and social scientists .....	4.8%	0.7%
Managers .....	11.3%	13.3%
Doctors, nurses, psychologists, etc. ....	7.5%	5.4%
Miscellaneous professionals .....	15.5%	8.2%
Administrators, accountants, HR personnel .....	7.0%	2.6%
Inspectors .....	1.4%	0.3%
Pilots, conductors, and related mechanics .....	2.0%	0.8%
<b>Total Percentage .....</b>	<b>55.0%</b>	<b>33.8%</b>
<b>Medium Paid Occupations Ranked by Private Sector Salary</b>		
Sales including real estate, insurance agents .....	1.2%	6.4%
Other miscellaneous occupations .....	3.5%	4.5%
Automobile and other mechanics .....	1.7%	2.9%
Law enforcement and related occupations .....	8.9%	0.8%
Office workers .....	2.3%	6.3%
Social workers .....	1.4%	0.5%
<b>Total Percentage .....</b>	<b>18.9%</b>	<b>21.4%</b>
<b>Lowest Paid Occupations Ranked by Private Sector Salary</b>		
Drivers of trucks and taxis .....	0.7%	3.3%
Laborers and construction workers .....	4.3%	9.9%
Clerks .....	13.7%	11.3%
Manufacturing .....	2.5%	7.7%
Other miscellaneous service workers .....	2.6%	6.1%
Janitors and housekeepers .....	1.5%	2.4%
Cooks, bartenders, bakers, and wait staff .....	0.9%	4.1%
<b>Total Percentage .....</b>	<b>26.1%</b>	<b>44.9%</b>

Source: 2008-2012 Current Population Survey.

Notes: Federal workers exclude the military and Postal Service, but include all other Federal workers in the Executive, Legislative, and Judicial Branches. However, the vast majority of these employees are civil servants in the Executive Branch. Private sector workers exclude the self-employed. Neither category includes state and local government workers. This analysis is limited to full-time, full-year workers, i.e. those with at least 1,500 annual hours of work.

to about a third (33 percent) of private sector workers in those same nine highest paying occupation groups. In contrast, 45 percent of private sector workers work in the seven lowest-paying occupation groups as cooks, janitors, service workers, clerks, laborers, manufacturing workers, etc. About 26 percent of Federal workers work in those seven lowest-paying occupation groups. Between 1981 and 2011, the proportion of the Federal workforce in clerical occupations fell from 19.4 percent to 5.1 percent of the workforce, and the proportion of blue-collar workers fell from 22.0 percent to 9.7 percent.

Today, Federal employees must manage highly sensitive tasks that require great skill, experience, and judgment. They need sophisticated management and negotiation skills to effect change, not just across the Federal Government, but also with other levels of government, not-for-profit providers, and for-profit contractors. Using data from the Current Population Survey 2008-2012 of full-time, full-year workers, Table 10-1 breaks all Federal

and private sector jobs into 22 occupation groups and shows that the composition of the Federal and private workforce are very different.

**Education level.** The size and complexity of much Federal work – whether that work is analyzing security and financial risks, forecasting weather, planning bridges to withstand extreme weather events, conducting research to advance human health and energy efficiency, or advancing science to fuel further economic growth – necessitates a highly educated workforce. Chart 10-3 presents the comparative differences in the education level of the Federal civilian and private sector workforce. About 22 percent of Federal workers have a master’s degree, professional degree, or doctorate versus only 10 percent in the private sector. Only 19 percent of Federal employees have not attended college, compared to 40 percent of workers in the private sector.

**Size of organization and responsibilities.** Another important difference between Federal workers and private sector workers is the average size of the organization in which they work. Federal agencies are large and often face challenges of enormous scale, such as distributing benefit payments to over 60 million Social Security and Supplemental Security Income beneficiaries each year, providing medical care to 8.8 million of the Nation’s veterans, and managing defense contracts costing billions of dollars. Workers from large firms (those with 1,000 or more employees) are paid about 13 percent more than workers from small firms (those with fewer than 100 employees), even after accounting for occupational type, level of education, and other characteristics. It is reasonable to assume that the size of these organizations and the larger salaries associated with their size is also associated with greater complexity of their work.

**Demographic characteristics.** Federal workers tend to have demographic characteristics associated with higher pay in the private sector. They are more experienced, older and live in higher cost metropolitan areas. For example, 21 percent of Federal workers are 55 or older – up from 17 percent 10 years ago and significantly more than the 16 percent in the private sector. Chart 10-4 shows the difference in age distribution between Federal and private sector workers.

**Challenges**

The Federal Government faces specific human capital challenges, including a personnel system that requires further modernization, an aging and retiring workforce, and the need to continuously engage and develop person-

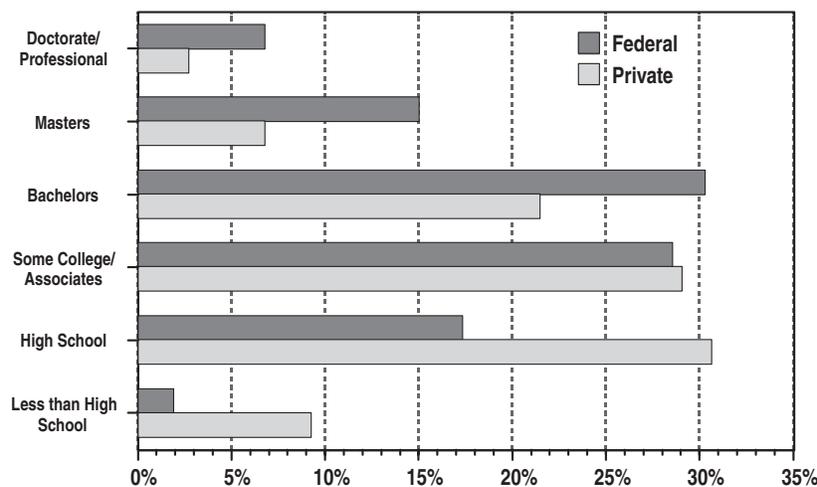
nel to maximize performance. If the Government loses top talent, experience, and institutional memory through retirements, but cannot recruit, retain, and train highly qualified workers, Government performance suffers. The age distribution and potential for a large number of retiring workers poses a challenge, but it also creates an opportunity to streamline the workforce and to infuse it with new – and in some cases lower-cost – workers excited about Government service and equipped with strong technology skills, problem-solving ability, and fresh perspectives to tackle problems that Government must address.

**Outdated Personnel System**

In the past sixty years, the private sector has innovated towards more flexible personnel management systems, but the Federal personnel system has not kept up and remains inflexible and outdated. While recent hiring reform efforts are showing significant progress in simplifying hiring, additional reforms are needed to update the pay, classification, and benefits systems. The General Schedule (GS) pay system has been in effect since 1949. Enacted in 1951, aspects of the current benefit and leave laws are out of date and do not always provide adequate flexibility for the increasing responsibilities of family caregivers in our workforce. An alternative, cost-effective system needs to be developed that will allow the Government to compete for and reward top talent, while rewarding performance and encouraging adequate flexibility to caregivers.

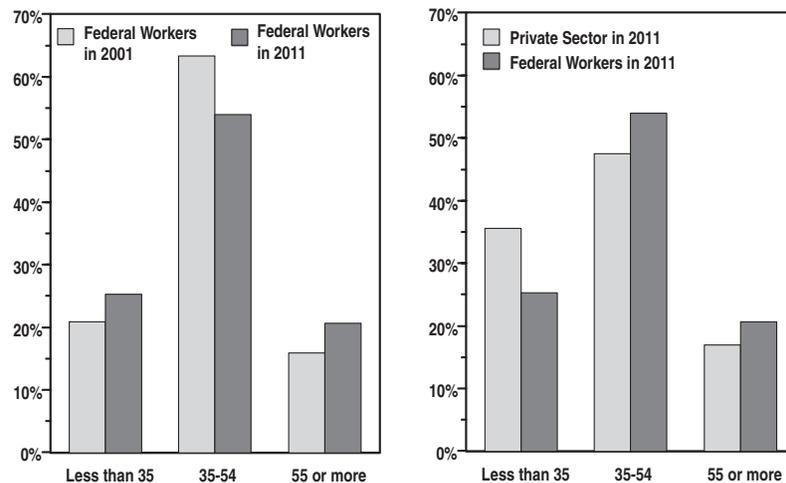
To address issues in the long-term, Federal managers and employees need a modernized personnel system. To that end, the Administration proposed to the Joint Select Committee on Deficit Reduction that the Congress establish a Commission on Federal Public Service Reform

**Chart 10-3. Education Level Distribution in Federal vs. Private Workforce**



Source: 2008-2012 Current Population Survey.  
 Notes: Federal workers exclude the military and Postal Service, but include all other Federal workers in the Executive, Legislative, and Judicial Branches. However, the vast majority of these employees are civil servants in the Executive Branch. Private sector workers exclude the self-employed. Neither category includes state and local government workers. This analysis is limited to full-time, full-year workers, i.e. those with at least 1,500 hours of work.

**Chart 10-4. Federal Age Distribution in 2001 and 2011 and Federal vs. Private Age Distribution in 2011**



Source: 2002 and 2012 Current Population Survey (covering calendar years 2001 and 2011).  
 Notes: Federal workers exclude the military and Postal Service, but include all other Federal workers in the Executive Branch. Private sector workers exclude the self-employed. Neither category includes State and local government workers. This analysis is limited to full-time, full-year workers, i.e. those with at least 1,500 annual hours of work.

comprised of Members of Congress, representatives from the President's National Council on Federal Labor-Management Relations, members of the private sector, and academic experts. The purpose of a Congressionally chartered Commission would be to develop recommendations on reforms to modernize Federal personnel policies and practices within fiscal constraints, including – but not limited to – compensation, staff development and mobility, and personnel performance and motivation.

### ***Aging Workforce***

The Federal workforce of 2012 is older than Federal workforces of past decades and older than the private sector workforce. The number of Federal retirements is on a steady increase, rising from 95,425 in 2009 to 96,133 in 2010 to 98,731 in 2011 and 112,817 in 2012. Increases in retirement are expected to continue. Nearly twenty-two percent of the over 687,000 respondents to the 2012 Federal Employee Viewpoint Survey (EVS) expressed an intent to retire during the next five years. Given these demographics, the Federal Government faces a few immediate challenges: preparing for retirements to maximize knowledge transfer from one generation to the next, succession planning to assure needed leadership and hiring and developing the next generation of the Government workforce to accomplish the varied and challenging missions the Federal Government must deliver.

### ***Developing and Engaging Personnel to Improve Performance***

One well-documented challenge in any organization is managing a workforce so it is engaged, innovative,

and committed to continuous improvement, while at the same time dealing with poor performers who fail to improve as needed or are ill suited to their current positions. Federal employees are generally positive about the importance of their work and express a high readiness to put in extra effort to accomplish the goals of their agencies. Results from the 2012 Federal Employee Viewpoint Survey (EVS) indicate that nearly 97 percent of respondents answer positively to the statement “When needed I am willing to put in the extra effort to get the job done.” However in contrast, Federal employees have repeatedly identified the inability to deal with poor performers as an area of weakness over the past 10 years. In 2012, only 30 percent of employees who participated in the EVS answered positively that “In my work unit, steps are taken to deal with a poor performer who cannot or will not improve.” In addition, only 39 percent agreed that “creativity and innovation are rewarded”.

### **Addressing the Challenges**

The Administration has made considerable progress improving employee performance and human capital management. Multiple efforts are underway, including: building a workforce with the skills necessary to meet agency missions, developing and using personnel analytics to drive decision making, new programs to infuse talent into agencies, heightened attention to a diverse and inclusive workforce, continued focus on the Senior Executive Service (SES) performance appraisal system, and strengthened labor-management partnerships.

### ***Mission Focused and Data Driven Personnel Management***

The Administration is committed to strengthening Federal agencies' capacity to analyze human resources data to address workplace problems, improve productivity, and cut costs. OPM, in conjunction with OMB, is implementing several key initiatives that will lead to better evaluation and management of Federal employees. These efforts include recasting the EVS as a diagnostic tool to improve an organization rather than a snapshot that simply describes it, more agencies conducting data-driven HRStat review sessions, greater alignment between human capital and mission performance, and quarterly updates of key HR performance indicators on Performance.gov.

OPM administers the Government-wide EVS to gather employee perceptions about whether, and to what extent, conditions characterizing successful organizations are present in their agencies. The survey is a valuable management tool that helps agencies identify areas of strength and weakness and informs the implementation of targeted action plans to help improve employee engagement and agency performance. In 2012, for the first time, OPM administered the survey to nearly all civilian Federal employees and received responses from over 687,000 Federal employees. This is the largest number of participants since the survey was first administered in 2002, more than double the number of respondents from any previous EVS survey, making this the most inclusive survey to date. Even more importantly, agencies now have greater ability to drill down to understand employee viewpoints in smaller organizational units; nearly five times the number of office-level components within agencies received office-specific results in 2012 compared to the 1,687 components that received results in 2011. The increased response and reporting granularity enables agencies to identify areas of strength, offering possible models for others, and areas of weakness needing attention. Agencies across Government are using EVS data to develop and implement targeted, mission-driven action plans to address identified challenges.

One area in which the EVS has given us new insight is the impact of telework. The 2012 EVS indicates that teleworkers (82 percent) are more likely than non-teleworkers (79 percent) to know what is expected of them on the job, more likely to feel empowered (52 percent versus 45 percent), and more likely (75 percent compared to 68 percent of non-teleworkers) to be satisfied with their jobs. Finally, employees who telework are more likely to want to stay with their agencies (72 percent compared to 68 percent of non-teleworkers) and to recommend their agencies to others (74 percent compared to 66 percent of non-teleworkers). As documented by OPM's 2012 report on the status of telework, the percentage of eligible Federal employees who participated in routine telework grew to 21 percent as of September 2011, compared to 10 percent during calendar year 2009. However, there is still more work to be done in breaking down barriers to the effective use of telework.

Agencies have also begun testing HRStat (Human Resources Statistics) reviews. HRStat reviews are data driven and focus on agency specific human capital performance; key human resources management metrics that drive agency performance and align with mission accomplishment. Agencies have incorporated a range of management metrics into their HR Stat review, including performance management, succession planning, and strategic workforce planning. The HRStat review is intended to enable quick course correction, if needed, to help ensure progress is being made on key human resources issues.

In addition, Performance.gov provides agencies and the public a window on key human resources data – including Government-wide and agency specific hiring times, applicant and manager satisfaction, employee engagement and retention, and hiring rates from diverse candidate pools.

### ***Closing Critical Skills Gaps***

The demands of the workplace necessitate new and agile skill sets in the Federal workforce. OPM's mission is to ensure that the Federal Government recruits, retains, and honors the talent agencies require to serve the American people. In 2011, OPM partnered with the Chief Human Capital Officers (CHCO) Council to take on the challenge of closing skills gaps across the Government. This initiative responds to the President's Cross-Agency Priority Goal to close skills gaps, as well as GAO's designation of human capital as a Government-wide high risk. The Department of Defense joined OPM in chairing an inter-agency workgroup that designed a sustainable strategic workforce planning method to identify and close skills gaps in mission-critical occupations. Based on rigorous data analysis, the workgroup identified the following mission-critical occupations for gap closure: IT-Cybersecurity Specialists, Acquisition Specialists, Economists, Human Resources Specialists, and Auditors. In addition, the workgroup identified STEM (science, technology, engineering, and mathematics) as a sixth functional area covering multiple occupations, which requires sustained strategic attention across Government.

To close skills gaps in these areas, OPM designated sub-goal leaders from agencies whose missions critically depend on these occupations. Together with these sub-goal leaders, OPM is developing and executing strategies to close skills gaps in these occupations. The sub-goal leaders meet quarterly with the OPM Director to apprise him of their progress, including by providing updated metrics that will be reported on [www.performance.gov](http://www.performance.gov).

One of the ways OPM is addressing skills gaps among human resources professionals is through HR University. Developed in 2011 by the CHCO Council, HR University provides an excellent foundation for human resources professionals to receive training to help them become more effective. HR University is a source of centralized training that takes courses and resources Federal agencies have already developed and provides a platform for cross-agency sharing.

HR University uses an HR Professional Framework, which helps HR professionals identify where they are in relation to the roles outlined in the framework. It also

helps them think about their desired career path and provides a mechanism for determining how they need to develop to achieve their goals. This mechanism leads to an Individual Development Plan (IDP) designed specifically for the HR professional to create more targeted development plans. HR University also offers a Managers' Corner to help supervisors and managers with their human resources management responsibilities. Finally, HR University is working to obtain accreditation as a full-service university.

HR University has more than 19,000 registered users who have completed more than 12,000 online training courses, with a cost savings of over \$41.4 million, realized through the sharing of resources and economies of scale. In addition, HR University ensures that courses meet OPM's high standards by vetting each course through a very rigorous quality review.

In partnership with the CHCO Council, OPM will continue to expand HR University's offerings. This effort may include more partnerships with colleges and universities, development of HR certifications, accreditation of courses, greater use of social media, website enhancements, and more courses on key topics that will close identified skill and competency gaps in the human resources field.

Individual agencies are also identifying and targeting critical skills gaps as a priority. The State Department and US Agency for International Development (USAID) identified overseas vacancies as an agency Priority Goal to help achieve operations and consular efficiency and effectiveness, transparency and accountability; and secure US presence internationally. This initiative aims to modernize and strengthen State/USAID so that they can meet the most pressing development challenges with a high-quality workforce to move towards the larger goals of these organizations.

### ***Recruiting and Developing an Agile Workforce***

To maximize effectiveness and potential, the Federal Government must continue to prepare its talent for challenges on the horizon. New cost-effective programs are being implemented to develop current employees, foster collaboration with innovators from the private sector, promote career pathways into Federal service, and enhance institutional knowledge transfer through a phased retirement program. These efforts are essential for developing a nimble, efficient 21st Century workforce that can help ensure agencies achieve their important missions under a tightening fiscal climate.

**Leadership Development.** In 2011, the President's Management Council (PMC) and the Chief Human Capital Officers (CHCO) Council launched the PMC Interagency Rotation Program to bolster cross-agency exposure for high-potential GS 13-15s. Through 6-month developmental assignments, this program enables emerging Federal leaders to expand their management skills, broaden their organizational experience, and foster networks they can leverage in the future. Now preparing for its fourth cohort, the program has grown from 10 agencies and 28 participants to 15 agencies, 4 interagency councils, and 45 participants, with likely expansion in the upcoming cycle.

**Innovation Fellows.** The Presidential Innovation Fellows program pairs top innovators from the private sector, non-profits, and academia with top innovators in government to collaborate on solutions to high-impact challenges and deliver significant results in six months. The results of these projects are intended to save taxpayer money, fuel job growth, save lives, and provide tangible benefit to the American people. Each team of innovators is tasked with working on a specific high-impact issue using a focused but agile approach. This unique initiative focuses on tapping into the ingenuity, know-how, and patriotism of Americans from every sectors of our society.

**Pathways Programs.** Under the Administration's leadership, the Government has taken steps to help students and recent graduates join the Federal service. As part of the Administration's hiring reform efforts, the President issued Executive Order 13566, which created the Pathways programs to create clear paths to Federal service for students and recent graduates. OPM issued final regulations implementing Pathways last year and has been working closely with agencies to help them transition to the new programs. Pathways consists of three streamlined developmental programs: the Internship Program for students; the Recent Graduates Program for people who graduated within the preceding 2 years; and the Presidential Management Fellows (PMF) Program for people who obtained a graduate or professional degree within the preceding two years. Internship and career opportunities for students and recent graduates provide meaningful training and career development opportunities, promote employment opportunities for a new generation of public servants, and help agencies address recruiting challenges and infuse new skills into the Federal workforce.

**Provide phased retirement to eligible Federal employees.** The Administration proposed and Congress passed a phased retirement law to help facilitate the transfer of valuable knowledge between retiring and non-retiring employees. The phased retirement program will make it easier for the most experienced employees to enter into part-time retirement arrangements, providing expertise while mentoring other employees.

### ***A Diverse and Inclusive Workforce***

The American people are best served by a Federal workforce that reflects our rich diversity and encourages collaboration, fairness, and innovation. Under the President's Executive Order 13583, of August 2011, the first Government-wide Diversity and Inclusion Strategic Plan was issued and provides agencies with the shared goals of workforce diversity, workplace inclusion, and sustainability. Since the issuance of the Executive Order, the percentage of people with disabilities who are Federal employees has increased to 11.86 percent, an all-time government high. The percentage of Hispanic (8.2 percent) and Asian American/Pacific Islander (6.1 percent) employees is steadily increasing with all other groups remaining at the same levels, and the diversity of the SES has improved. Moreover, the FY 2012 EVS reflected that 65 percent of Federal employees answered positively

when asked if their supervisor or team leader is committed to a workforce that represents all segments of society.

In addition to supporting a diverse and inclusive workforce, the Federal Government has also made progress towards pay equality. Pay differentials by gender, after accounting for education and occupation, tend to be about half as small in the Federal sector as in the private sector. Differentials by race are also smaller in the Federal sector than in the private sector.

### ***Government-wide SES Appraisal Model***

Drawing from leading practices in Federal agencies and the private sector, representatives from 29 organizations developed a Government-wide Senior Executive Service (SES) performance appraisal model in 2011. Under this system, agencies can rely upon a more consistent and uniform framework to communicate expectations and evaluate the performance of SES members.

Anchored to a set of clearly-defined competencies (OPM's Executive Core Qualifications) and balancing achievement of results with demonstration of leadership behaviors, this approach enhances clarity, transferability, and equity in performance standards development, feedback delivery, and ratings derivation. Since the introduction of the new SES appraisal model in January 2012, OPM approved implementation in 38 agencies (51% of all SES appraisal systems Government-wide). By FY14, it is anticipated to be 96%.

### ***Strengthening Labor-Management Relations***

The Administration continues to fulfill the robust vision laid out in Executive Order 13522, Creating Labor-Management Forums to Improve Delivery of Government Services. This Executive Order created a national Council, which meets regularly to coordinate Government-wide efforts, and nearly 1000 forums around government where agency management and union representatives work collaboratively to improve service delivery to the public.

In recent Council meetings representatives from both management and labor have presented on their successful efforts to improve productivity at naval shipyards, in VA appeals, and in Securities Exchange Commission (SEC) enforcement activities. For example, at the Nuclear Regulatory Commission (NRC), they are moving approximately 1400 workers and managers to a new building management involved workers and their unions in the design process. Important points for employees were included in the designs right from the start such as – access to natural light, noise levels, and workstation layouts. These are factors that deeply affect both productivity and morale. By engaging early, the NRC could approach business decisions with a problem-solving attitude.

In another case, there was enormous productivity increases at the Naval Sea Systems Command, NAVSEA. These are the employees who build, buy and maintain the Navy's ships and submarines and their combat systems. NAVSEA leadership asked their unions and workers, through their labor-management forum, to put forward ideas to save an hour of time out of each workday. Workers identified the most wasteful part of their day: waiting in line to get the tools and parts they needed for their projects. Management and labor devised with a solution – a kit, prepared in advance and handed to you on arrival. In the kit, workers receive the tools needed and the exact number of nuts, bolts, and parts for any project that day. With this and other changes, NAVSEA projects to save one hour per day for about 8,000 mechanics and engineers across four shipyards – which translates into enormous savings. It has also helped reduce overtime hours, further increasing cost savings. A next challenge in the labor management partnership is to spread these successes to other agencies and locations around government.

### ***Goals-Engagement-Accountability-Results (GEAR)***

Over the years, there have been numerous attempts to reform and improve employee performance management in the Federal sector, with the ultimate goal of improving the performance of the organizations in which the employees work. Drawing from practices in the Federal sector and private sector, representatives from various Federal agencies, labor unions, and management organizations from the National Council on Federal Labor-Management Relations and the CHCO Council developed recommendations to strengthen the existing system of employee performance management. These recommendations are known as the GEAR framework. They are based on the idea that successful organizations must have clear, aligned goals, engaged employees and supervisors, and accountability for every employee at every level.

Five agencies are currently implementing the GEAR framework: OPM, the Department of Energy, the Department of Housing and Urban Development, and components of the Department of Veterans Affairs and the U.S. Coast Guard. The CHCO Council is currently reviewing the progress of GEAR and lessons learned in these agencies and identifying other leading practices across the Federal sector and private sector with the goal of broader application of the GEAR framework across the Federal Government. The ultimate goal is to ensure that Federal employees are engaged and enabled to deliver and improve Government services.

**Table 10–2. FEDERAL CIVILIAN EMPLOYMENT IN THE EXECUTIVE BRANCH**  
(Civilian employment as measured by full-time equivalents (FTE) in thousands, excluding the Postal Service)

Agency	Actual		Estimate		Change: 2013 to 2014	
	2011	2012	2013 CR	2014	FTE	Percent
<b>Cabinet agencies:</b>						
Agriculture .....	95.9	91.7	92.4	90.7	-1.7	-1.8%
Commerce .....	41.3	39.9	42.6	43.0	0.4	0.9%
Defense .....	771.3	765.2	777.2	765.0	-12.2	-1.6%
Education .....	4.4	4.3	4.2	4.3	0.1	2.4%
Energy .....	16.1	15.7	15.7	15.9	0.2	1.3%
Health and Human Services .....	68.8	69.3	71.3	72.6	1.3	1.8%
Homeland Security .....	179.5	184.0	190.1	191.0	0.9	0.5%
Housing and Urban Development .....	9.5	9.3	9.3	9.2	-0.1	-1.1%
Interior .....	70.5	70.0	69.7	69.8	0.1	0.1%
Justice .....	116.3	115.1	115.7	117.7	2.0	1.7%
Labor .....	16.9	17.2	17.4	17.5	0.1	0.6%
State .....	32.4	33.0	33.1	33.2	0.1	0.3%
Transportation .....	57.4	56.9	57.3	57.6	0.3	0.5%
Treasury .....	110.7	106.3	107.1	112.7	5.6	5.2%
Veterans Affairs .....	295.7	301.4	311.1	319.3	8.2	2.6%
<b>Other agencies—excluding Postal Service:</b>						
Broadcasting Board of Governors .....	1.9	1.9	1.9	2.0	0.1	5.3%
Corps of Engineers—Civil Works .....	23.7	23.1	22.7	22.7	0.0	0.0%
Environmental Protection Agency .....	17.3	17.0	17.0	16.9	-0.1	-0.6%
Equal Employment Opportunity Comm .....	2.5	2.3	2.2	2.3	0.1	4.5%
Federal Deposit Insurance Corporation .....	8.3	8.1	8.0	7.6	-0.4	-5.0%
General Services Administration .....	12.7	12.5	12.8	12.5	-0.3	-2.3%
International Assistance Programs .....	5.2	5.6	5.6	5.8	0.2	3.6%
National Aeronautics and Space Admin .....	18.6	18.1	18.2	17.9	-0.3	-1.6%
National Archives and Records Administration .....	3.3	3.2	3.2	3.2	0.0	0.0%
National Labor Relations Board .....	1.7	1.6	1.7	1.7	0.0	0.0%
National Science Foundation .....	1.4	1.4	1.4	1.5	0.1	7.1%
Nuclear Regulatory Commission .....	4.0	3.8	4.0	3.9	-0.1	-2.5%
Office of Personnel Management .....	5.4	5.3	5.5	5.7	0.2	3.6%
Railroad Retirement Board .....	1.0	0.9	0.9	0.9	0.0	0.0%
Securities and Exchange Commission .....	3.8	3.8	4.2	4.8	0.6	14.3%
Small Business Administration .....	3.4	3.4	3.4	3.5	0.1	2.9%
Smithsonian Institution .....	5.2	5.0	5.2	5.3	0.1	1.9%
Social Security Administration .....	67.6	64.7	65.1	65.3	0.2	0.3%
Tennessee Valley Authority .....	12.4	12.8	13.6	13.3	-0.3	-2.2%
All other small agencies .....	16.3	16.9	18.0	18.6	0.6	3.3%
<b>Total, Executive Branch civilian employment * ...</b>	<b>2,102.4</b>	<b>2,090.7</b>	<b>2,128.8</b>	<b>2,134.9</b>	<b>6.1</b>	<b>0.3%</b>

\* Totals may not add due to rounding.

**Table 10-3. TOTAL FEDERAL EMPLOYMENT**  
(As measured by Full-Time Equivalents)

Description	2012 Actual	2013	2014	Change: 2013 to 2014	
		CR	Request	FTE	Percent
<b>Executive Branch Civilian:</b>					
All Agencies, Except Postal Service .....	2,090,679	2,128,768	2,134,948	6,180	0.3%
Postal Service <sup>1</sup> .....	587,310	569,782	546,203	-23,579	-4.1%
Subtotal, Executive Branch Civilian .....	2,677,989	2,698,550	2,681,151	-17,399	-0.6%
<b>Executive Branch Uniformed Military:</b>					
Department of Defense <sup>2</sup> .....	1,501,807	<sup>3</sup> 1,466,664	<sup>4</sup> 1,330,944	-135,720	-9.3%
Department of Homeland Security (USCG) .....	43,027	43,017	42,029	-988	-2.3%
Commissioned Corps (DOC, EPA, HHS) .....	6,935	7,065	7,062	-3	-0.0%
Subtotal, Uniformed Military .....	1,551,769	1,516,746	1,380,035	-136,711	-9.0%
Subtotal, Executive Branch .....	4,229,758	4,215,296	4,061,186	-154,110	-3.7%
Legislative Branch <sup>5</sup> .....	30,634	34,260	34,402	142	0.4%
Judicial Branch .....	34,523	34,313	34,502	189	0.6%
<b>Grand total</b> .....	<b>4,294,915</b>	<b>4,283,869</b>	<b>4,130,090</b>	<b>-153,779</b>	<b>-3.6%</b>

<sup>1</sup> Includes Postal Rate Commission.

<sup>2</sup> Includes activated Guard and Reserve members on active duty. Does not include Full-Time Support (Active Guard & Reserve (AGRs)) paid from Reserve Component Appropriations.

<sup>3</sup> FY 2013 reflects the FY 2013 President's Budget request.

<sup>4</sup> FY 2014 excludes Overseas Contingency Operations (OCO) funded activated Guard and Reserve members on active duty and OCO funded non-enduring strength of 33,885 for Army and 9,787 for the Marine Corps.

<sup>5</sup> FTE data not available for the Senate (positions filled were used).

**Table 10-4. PERSONNEL COMPENSATION AND BENEFITS**  
(In millions of dollars)

Description	2012 Actual	2013 CR	2014 Request	Change: 2013 to 2014	
				Dollars	Percent
<b>Civilian Personnel Costs:</b>					
Executive Branch (excluding Postal Service):					
Direct compensation .....	176,133	178,980	185,562	6,582	3.7%
Personnel Benefits .....	68,117	68,723	71,842	3,119	4.5%
Subtotal .....	244,250	247,703	257,404	9,701	3.9%
Postal Service:					
Direct compensation .....	36,398	35,059	34,141	-918	-2.6%
Personnel benefits .....	15,128	16,007	8,502	-7,505	-46.9%
Subtotal .....	51,526	51,066	42,643	-8,423	-16.5%
Legislative Branch: <sup>1</sup>					
Direct compensation .....	2,053	2,098	2,153	55	2.6%
Personnel benefits .....	670	654	667	13	2.0%
Subtotal .....	2,723	2,752	2,820	68	2.5%
Judicial Branch:					
Direct compensation .....	3,140	3,180	3,244	64	2.0%
Personnel benefits .....	1,071	1,147	1,169	22	1.9%
Subtotal .....	4,211	4,327	4,413	86	2.0%
<b>Total, Civilian Personnel Costs</b> .....	<b>302,710</b>	<b>305,848</b>	<b>307,280</b>	<b>1,432</b>	<b>0.5%</b>
<b>Military personnel costs:</b>					
Department of Defense					
Direct compensation .....	100,189	101,196	93,393	-7,803	-7.7%
Personnel benefits .....	51,505	52,113	45,350	-6,763	-13.0%
Subtotal .....	151,694	153,309	138,743	-14,566	-9.5%
All other executive branch, uniformed personnel:					
Direct compensation .....	3,234	3,235	3,181	-54	-1.7%
Personnel benefits .....	809	739	706	-33	-4.5%
Subtotal .....	4,043	3,974	3,887	-87	-2.2%
<b>Total, Military Personnel Costs</b> <sup>2</sup> .....	<b>155,737</b>	<b>157,283</b>	<b>142,630</b>	<b>-14,653</b>	<b>-9.3%</b>
<b>Grand total, personnel costs</b> .....	<b>458,447</b>	<b>463,131</b>	<b>449,910</b>	<b>-13,221</b>	<b>-2.9%</b>
<b>ADDENDUM</b>					
Former Civilian Personnel:					
Retired pay for former personnel .....	76,196	82,087	87,534	5,447	6.6%
Government payment for Annuitants:					
Employee health benefits .....	10,683	10,698	11,163	465	4.3%
Employee life insurance .....	47	46	45	-1	-2.2%
Former Military personnel:					
Retired pay for former personnel .....	52,495	53,851	55,572	1,721	3.2%
Military annuitants health benefits .....	8,736	9,283	9,499	216	2.3%

<sup>1</sup> Excludes members and officers of the Senate.

<sup>2</sup> Amounts in this table for military compensation reflect direct pay and benefits for all service members, including active duty, guard, and reserve members.