

## FEDERAL R&D SUPPORT SHOWS LITTLE CHANGE IN FY 2008

by Michael Yamaner<sup>1</sup>

**P**reliminary FY 2008 data from the National Science Foundation (NSF) show funds obligated by federal agencies for research and development and R&D plant (facilities and fixed equipment) dropped 1.9% in constant dollars from FY 2007 to FY 2008. This represents a year-over-year increase of 0.5% in current dollars, from \$115.9 billion to \$116.5 billion. Research funding and development funding both dropped in constant dollars from FY 2007, by 0.5% and 2.5%, respectively. The FY 2008 R&D and R&D plant total is 5.2% lower in constant dollars than it was at its peak level, reported in FY 2005. Federal obligations for R&D and R&D plant have fallen \$1.5 billion in constant dollars from FY 2004 to FY 2008, declining at an average annual rate during that period of 0.4% (table 1).<sup>2</sup>

The data presented here are from the NSF Survey of Federal Funds for Research and Development FY 2007–09. Data reported for FY 2007 are actual, data for FY 2008 are preliminary, and data for FY 2009 are projected. Data for FY 2009 collected by the survey are displayed only in table 1 and are not discussed further in this report because they do not contain the additional R&D funding provided by the passage of the American Recovery and Reinvestment Act (ARRA), which occurred after data collection. The ARRA provides approximately \$18.3 billion in federal R&D funding, \$14.7 billion for the conduct of R&D, and \$3.6 billion for R&D facilities and capital equipment.<sup>3</sup>

Expected FY 2008 funding in this report is discussed in current dollars; cross-year comparisons in the remainder of this report are discussed in constant dollars. Data for

FY 2004–08 are used for comparisons because of FY 2004 changes in National Aeronautics and Space Administration (NASA) accounting procedures (see "Data Notes").

### Federal Funding for Research

Obligations for research by all federal agencies increased at an average annual rate of 5.5% between FY 1996 and FY 2004 (table 1). This trend was largely driven by funding from the Department of Health and Human Services (HHS), the leading supporter of federal research. Research obligations declined at an estimated average annual rate of 2.1% between FY 2004 and FY 2008, but this trend was largely driven by changes in how NASA classifies and reports its obligations (see "Data Notes"). With these changes and overall declines in obligations, NASA's research funding dropped by 57.9% from FY 2004 to FY 2008 (table 2).

The leading research-funding departments/agencies for FY 2008 based on expected funding are HHS (53.7% of total research obligations), Department of Defense (DOD) (12.4%), Department of Energy (DOE) (11.2%), NSF (7.3%), Department of Agriculture (USDA) (4.0%), and NASA (3.9%). Together, these six agencies account for 92.5% of the expected FY 2008 federal research dollars (table 2).

### Basic Research

Basic research obligations declined at an average annual rate of 1.5% between FY 2004 and FY 2008. A 5.3% decline between FY 2005 and FY 2006 accounted for



TABLE 1. Federal obligations for research and development and R&amp;D plant, by character of work: FY 1990–2009

| Fiscal year              | All R&D and<br>R&D plant | Research |        |         | Development | R&D plant |
|--------------------------|--------------------------|----------|--------|---------|-------------|-----------|
|                          |                          | Total    | Basic  | Applied |             |           |
| Current \$millions       |                          |          |        |         |             |           |
| 1990                     | 65,831                   | 21,622   | 11,286 | 10,337  | 41,937      | 2,272     |
| 1991                     | 64,148                   | 23,968   | 12,171 | 11,798  | 37,327      | 2,853     |
| 1992                     | 68,577                   | 24,491   | 12,490 | 12,001  | 41,102      | 2,985     |
| 1993                     | 70,415                   | 26,890   | 13,399 | 13,491  | 40,424      | 3,101     |
| 1994                     | 69,451                   | 27,411   | 13,523 | 13,888  | 39,824      | 2,215     |
| 1995                     | 70,443                   | 28,434   | 13,877 | 14,557  | 39,752      | 2,256     |
| 1996                     | 69,399                   | 28,260   | 14,464 | 13,796  | 39,393      | 1,746     |
| 1997                     | 71,753                   | 29,365   | 14,942 | 14,423  | 40,461      | 1,927     |
| 1998                     | 73,914                   | 30,922   | 15,613 | 15,309  | 41,178      | 1,813     |
| 1999                     | 77,386                   | 33,528   | 17,444 | 16,084  | 41,813      | 2,046     |
| 2000 <sup>a</sup>        | 77,356                   | 38,471   | 19,570 | 18,901  | 34,393      | 4,493     |
| 2001                     | 84,003                   | 44,714   | 21,958 | 22,756  | 35,219      | 4,070     |
| 2002                     | 90,158                   | 48,007   | 23,668 | 24,338  | 37,846      | 4,305     |
| 2003                     | 97,928                   | 51,072   | 24,751 | 26,320  | 42,589      | 4,267     |
| 2004                     | 105,371                  | 53,358   | 26,121 | 27,237  | 48,019      | 3,994     |
| 2005                     | 112,995                  | 53,738   | 27,140 | 26,598  | 55,485      | 3,771     |
| 2006 <sup>b</sup>        | 112,271                  | 53,536   | 26,585 | 26,951  | 56,610      | 2,125     |
| 2007 <sup>c</sup>        | 115,923                  | 54,094   | 26,866 | 27,228  | 59,661      | 2,168     |
| 2008 preliminary         | 116,476                  | 55,097   | 27,559 | 27,538  | 59,528      | 1,851     |
| 2009 projected           | 116,569                  | 54,801   | 28,536 | 26,265  | 59,653      | 2,115     |
| Constant 2000 \$millions |                          |          |        |         |             |           |
| 1990                     | 81,023                   | 26,612   | 13,890 | 12,722  | 51,615      | 2,796     |
| 1991                     | 76,095                   | 28,432   | 14,437 | 13,995  | 44,278      | 3,384     |
| 1992                     | 79,353                   | 28,339   | 14,453 | 13,887  | 47,561      | 3,454     |
| 1993                     | 79,673                   | 30,426   | 15,161 | 15,265  | 45,738      | 3,508     |
| 1994                     | 76,928                   | 30,362   | 14,979 | 15,383  | 44,112      | 2,454     |
| 1995                     | 76,419                   | 30,847   | 15,054 | 15,792  | 43,125      | 2,448     |
| 1996                     | 73,868                   | 30,080   | 15,395 | 14,684  | 41,930      | 1,859     |
| 1997                     | 75,064                   | 30,720   | 15,631 | 15,089  | 42,328      | 2,016     |
| 1998                     | 76,397                   | 31,961   | 16,137 | 15,824  | 42,562      | 1,874     |
| 1999                     | 78,950                   | 34,205   | 17,796 | 16,409  | 42,658      | 2,087     |
| 2000 <sup>a</sup>        | 77,356                   | 38,471   | 19,570 | 18,901  | 34,393      | 4,493     |
| 2001                     | 82,066                   | 43,683   | 21,452 | 22,231  | 34,407      | 3,976     |
| 2002                     | 86,424                   | 46,019   | 22,688 | 23,330  | 36,279      | 4,127     |
| 2003                     | 92,012                   | 47,986   | 23,256 | 24,730  | 40,016      | 4,009     |
| 2004                     | 96,494                   | 48,863   | 23,920 | 24,942  | 43,973      | 3,658     |
| 2005                     | 100,262                  | 47,682   | 24,082 | 23,601  | 49,232      | 3,346     |
| 2006 <sup>b</sup>        | 96,353                   | 45,946   | 22,816 | 23,130  | 48,584      | 1,824     |
| 2007 <sup>c</sup>        | 96,837                   | 45,188   | 22,443 | 22,745  | 49,838      | 1,811     |
| 2008 preliminary         | 95,036                   | 44,955   | 22,486 | 22,469  | 48,570      | 1,510     |
| 2009 projected           | 93,743                   | 44,070   | 22,948 | 21,122  | 47,972      | 1,701     |

<sup>a</sup> In FY 2000 the National Institutes of Health classified all of its development activities as research. Also in FY 2000 the National Aeronautics and Space Administration (NASA) reclassified and transferred funding for Space Station and Space Station Research from R&D to R&D plant. Data for FY 2000 and forward reflect these changes.

<sup>b</sup> In FY 2006 NASA began reporting funding for Space Operations, the Hubble Space Telescope, Stratospheric Observatory for Infrared Astronomy, and the James Webb Space Telescope as operational costs; previously these had been reported as R&D plant.

<sup>c</sup> NASA excluded operational projects in FY 2007 that it reported in FY 2006, accounting for \$850 million (current dollars) of FY 2006–07 drop in NASA obligations; remainder accounted for by decrease in obligations overall.

NOTES: Gross domestic product implicit price deflators were used to convert current to constant dollars. Agencies reported preliminary obligations for FY 2008 and projected obligations for FY 2009 during FY 2008. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2007–09.

TABLE 2. Federal obligations for research, by agency in FY 2008 rank order: FY 1990–2008

| Fiscal year      | All agencies             |        |       |       |       |                   |       |       |
|------------------|--------------------------|--------|-------|-------|-------|-------------------|-------|-------|
|                  | HHS <sup>a</sup>         | DOD    | DOE   | NSF   | USDA  | NASA <sup>b</sup> | Other |       |
|                  | Current \$millions       |        |       |       |       |                   |       |       |
| 1990             | 21,622                   | 7,467  | 3,529 | 2,570 | 1,690 | 1,069             | 3,061 | 2,236 |
| 1991             | 23,968                   | 8,162  | 3,718 | 3,274 | 1,785 | 1,175             | 3,371 | 2,483 |
| 1992             | 24,491                   | 7,946  | 4,073 | 3,413 | 1,868 | 1,261             | 3,229 | 2,700 |
| 1993             | 26,890                   | 9,193  | 4,784 | 3,440 | 1,882 | 1,252             | 3,549 | 2,792 |
| 1994             | 27,411                   | 9,736  | 4,241 | 3,283 | 2,040 | 1,323             | 3,841 | 2,948 |
| 1995             | 28,434                   | 10,076 | 4,198 | 3,460 | 2,149 | 1,299             | 4,046 | 3,206 |
| 1996             | 28,260                   | 10,546 | 3,996 | 3,362 | 2,188 | 1,220             | 3,878 | 3,070 |
| 1997             | 29,365                   | 11,228 | 3,810 | 3,568 | 2,249 | 1,290             | 4,185 | 3,036 |
| 1998             | 30,922                   | 12,019 | 3,970 | 3,788 | 2,289 | 1,334             | 4,414 | 3,109 |
| 1999             | 33,528                   | 13,715 | 4,142 | 3,920 | 2,506 | 1,488             | 4,358 | 3,399 |
| 2000             | 38,471                   | 17,913 | 4,920 | 4,101 | 2,726 | 1,612             | 3,964 | 3,235 |
| 2001             | 44,714                   | 20,649 | 6,806 | 4,593 | 3,044 | 1,804             | 4,472 | 3,347 |
| 2002             | 48,007                   | 23,231 | 6,265 | 5,062 | 3,260 | 1,810             | 4,839 | 3,539 |
| 2003             | 51,072                   | 26,288 | 5,816 | 5,261 | 3,609 | 1,869             | 4,553 | 3,677 |
| 2004             | 53,358                   | 27,991 | 5,698 | 5,498 | 3,771 | 1,919             | 4,499 | 3,982 |
| 2005             | 53,738                   | 28,617 | 5,931 | 5,704 | 3,743 | 2,003             | 3,729 | 4,011 |
| 2006             | 53,536                   | 28,680 | 5,752 | 5,720 | 3,791 | 2,031             | 3,272 | 4,291 |
| 2007             | 54,094                   | 29,211 | 6,394 | 5,857 | 3,970 | 2,068             | 2,132 | 4,463 |
| 2008 preliminary | 55,097                   | 29,583 | 6,856 | 6,160 | 4,031 | 2,187             | 2,126 | 4,153 |
|                  | Constant 2000 \$millions |        |       |       |       |                   |       |       |
| 1990             | 26,612                   | 9,190  | 4,344 | 3,164 | 2,079 | 1,316             | 3,767 | 2,752 |
| 1991             | 28,432                   | 9,683  | 4,410 | 3,883 | 2,118 | 1,394             | 3,999 | 2,945 |
| 1992             | 28,339                   | 9,194  | 4,713 | 3,949 | 2,162 | 1,459             | 3,737 | 3,125 |
| 1993             | 30,426                   | 10,401 | 5,412 | 3,893 | 2,129 | 1,416             | 4,015 | 3,159 |
| 1994             | 30,362                   | 10,785 | 4,697 | 3,636 | 2,260 | 1,465             | 4,254 | 3,266 |
| 1995             | 30,847                   | 10,931 | 4,555 | 3,753 | 2,332 | 1,409             | 4,389 | 3,478 |
| 1996             | 30,080                   | 11,225 | 4,253 | 3,579 | 2,329 | 1,299             | 4,128 | 3,268 |
| 1997             | 30,720                   | 11,746 | 3,986 | 3,732 | 2,352 | 1,350             | 4,378 | 3,176 |
| 1998             | 31,961                   | 12,422 | 4,103 | 3,915 | 2,366 | 1,379             | 4,562 | 3,214 |
| 1999             | 34,205                   | 13,992 | 4,226 | 3,999 | 2,557 | 1,518             | 4,446 | 3,467 |
| 2000             | 38,471                   | 17,913 | 4,920 | 4,101 | 2,726 | 1,612             | 3,964 | 3,235 |
| 2001             | 43,683                   | 20,173 | 6,649 | 4,487 | 2,974 | 1,762             | 4,369 | 3,270 |
| 2002             | 46,019                   | 22,269 | 6,006 | 4,852 | 3,125 | 1,735             | 4,639 | 3,392 |
| 2003             | 47,986                   | 24,700 | 5,465 | 4,943 | 3,391 | 1,756             | 4,278 | 3,455 |
| 2004             | 48,863                   | 25,633 | 5,218 | 5,035 | 3,453 | 1,757             | 4,120 | 3,647 |
| 2005             | 47,682                   | 25,392 | 5,263 | 5,061 | 3,321 | 1,777             | 3,309 | 3,559 |
| 2006             | 45,946                   | 24,614 | 4,936 | 4,909 | 3,254 | 1,743             | 2,808 | 3,683 |
| 2007             | 45,188                   | 24,401 | 5,341 | 4,893 | 3,316 | 1,728             | 1,781 | 3,728 |
| 2008 preliminary | 44,955                   | 24,138 | 5,594 | 5,026 | 3,289 | 1,784             | 1,735 | 3,389 |

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; NSF = National Science Foundation; USDA = Department of Agriculture.

<sup>a</sup> In FY 2000 the National Institutes of Health, part of HHS, classified all of its development activities as research and has reported zero development obligations since then.

<sup>b</sup> NASA excluded operational projects in FY 2007 that it reported in FY 2006, accounting for \$850 million (current dollars) of FY 2006–07 drop in NASA obligations; remainder accounted for by decrease in obligations overall. Since FY 2000 NASA has classified funding for space station and space station research as R&D plant; previously these funds were reported as R&D.

NOTES: Gross domestic product implicit price deflators for 2000 were used to convert current to constant dollars. Agencies reported preliminary obligations for FY 2008 and projected obligations for FY 2009 during FY 2008. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2007–09.

most of this downward trend. Obligations for basic research are expected to be nearly flat between FY 2007 and FY 2008 (table 1).

Basic research obligations accounted for 23.7% of total projected R&D and R&D plant in FY 2008, several percentage points higher than levels registered throughout the 1990s, but less than the 26.3% peak share recorded in FY 2002 (table 1).

### Applied Research

Federal obligations for applied research declined at an average annual rate of 2.6% between FY 2004 and FY 2008 and are expected to decrease by 1.2% between FY 2007 and FY 2008. Applied research obligations have been close to 25% of the total federal R&D and R&D

plant budget since FY 2004, down from the most recent peak of 27.1% in 2001 (table 1).

### Agencies' Funding for Research

#### HHS

HHS funding for research declined at an average annual rate of 1.5% between FY 2004 and FY 2008 and by an estimated 1.1% between FY 2007 and FY 2008 (table 2). HHS accounted for more than one-half (53.7%) of all agency-funded research in FY 2008. Nearly all (96.5%) of the HHS research total is provided by the National Institutes of Health (table 3); 84.2% (\$24.9 billion) of estimated FY 2008 HHS research funding is slated for support of the life sciences (table 4).

TABLE 3. Federal research obligations for largest agency funders: FY 2007–08  
(Millions of current dollars)

| Agency  | FY 2007 | FY 2008     |                |
|---|---------|-------------|----------------|
|   |         | Preliminary | % distribution |
| Department of Health and Human Services                         | 29,211  | 29,583      | 100.0          |
| National Institutes of Health                                   | 28,146  | 28,548      | 96.5           |
| Other   | 1,064   | 1,035       | 3.5            |
| Department of Defense   | 6,394   | 6,856       | 100.0          |
| Defense Advanced Research Projects Agency                       | 1,200   | 1,863       | 27.2           |
| Department of the Air Force                                     | 1,540   | 1,502       | 21.9           |
| Department of the Army  | 1,721   | 1,588       | 23.2           |
| Department of the Navy  | 1,266   | 1,361       | 19.9           |
| Other   | 667     | 541         | 7.9            |
| Department of Energy  | 5,857   | 6,160       | 100.0          |
| Energy Efficiency and Renewable Energy                          | 343     | 404         | 6.6            |
| Fossil Energy   | 217     | 279         | 4.5            |
| National Nuclear Security Administration                        | 2,154   | 2,141       | 34.8           |
| Defense Programs  | 2,028   | 1,973       | 32.0           |
| Nonproliferation and Verification                               | 126     | 168         | 2.7            |
| Office of Science   | 2,993   | 3,205       | 52.0           |
| Other   | 150     | 131         | 2.1            |
| National Science Foundation                                     | 3,970   | 4,031       | 100.0          |
| Department of Agriculture                                       | 2,068   | 2,187       | 100.0          |
| Agricultural Research Service                                   | 1,028   | 1,009       | 46.1           |
| Cooperative State Research, Education,<br>and Extension Service | 627     | 766         | 35.0           |
| Forest Service  | 280     | 286         | 13.1           |
| Other   | 133     | 127         | 5.8            |
| National Aeronautics and Space Administration                   | 2,132   | 2,126       | 100.0          |

NOTES: Agencies reported actual obligations for FY 2007 and preliminary obligations for FY 2008 during FY 2008. Not all agencies supporting research are listed here. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2007–09.

TABLE 4. Federal obligations for research, by field of science and engineering and agency in rank order: FY 2008 preliminary  
(Millions of current dollars)

| Field                             | All agencies | HHS    | DOD   | DOE   | NSF   | USDA  | NASA  | Other |
|-----------------------------------|--------------|--------|-------|-------|-------|-------|-------|-------|
| All fields                        | 55,097       | 29,583 | 6,856 | 6,160 | 4,031 | 2,187 | 2,126 | 4,153 |
| Environmental sciences            | 3,315        | 392    | 401   | 302   | 696   | 12    | 496   | 1,016 |
| Life sciences                     | 29,675       | 24,914 | 712   | 340   | 620   | 1,828 | 120   | 1,141 |
| Mathematics and computer sciences | 3,285        | 192    | 1,187 | 921   | 809   | 9     | 36    | 131   |
| Physical sciences                 | 5,249        | 329    | 736   | 2,369 | 804   | 100   | 591   | 319   |
| Psychology                        | 1,861        | 1,709  | 55    | 0     | 6     | 0     | 8     | 84    |
| Social sciences                   | 1,071        | 272    | 12    | 0     | 163   | 188   | 0     | 436   |
| Other sciences, nec               | 1,287        | 652    | 94    | 2     | 215   | 0     | 110   | 215   |
| Engineering                       | 9,353        | 1,124  | 3,659 | 2,225 | 719   | 50    | 764   | 812   |

DOD = Department of Defense; DOE = Department of Energy; HHS = Department of Health and Human Services; NASA = National Aeronautics and Space Administration; nec = not elsewhere classified; NSF = National Science Foundation; USDA = Department of Agriculture.

NOTES: Agencies reported preliminary obligations for FY 2008 during FY 2008. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2007–09.

## **DOD**

DOD research obligations increased by \$0.4 billion dollars between FY 2006 and FY 2007 and are expected to increase by \$0.3 billion between FY 2007 and FY 2008 (table 2). This is the first time since 2001 that DOD research obligations have posted back-to-back gains. Research obligations have increased at an average annual rate of 1.8% between FY 2004 and FY 2008. With an estimated \$6.9 billion in total research obligations in FY 2008, DOD's share of total agency-funded research was 12.4%, down from the most recent high of about 15% in FY 2001. The Defense Advanced Research Projects Agency accounted for the largest share of the DOD research budget, an estimated 27.2% in FY 2008 (table 3).

## **DOE**

DOE research obligations were stagnant between FY 2004 and FY 2008 (table 2). Obligations of the Office of Science account for the largest portion (52.0%) of the DOE research budget (table 3). Most of DOE's research funds were slated to support projects in the physical sciences (38.5%) and engineering (36.1%) (table 4).

Approximately one-third (\$2.1 billion) of the department's total research obligations was planned for defense-related programs in FY 2008. DOD research funding and DOE defense-related research funding

combined was expected to total \$9 billion, or 16.3%, of total federal research obligations in FY 2008, up from \$8.5 billion (15.8%) in FY 2007 (table 3).

## **NSF**

NSF obligations for research declined at an average annual rate of 1.2% between FY 2004 and FY 2008 (table 2) and are expected to decrease 0.8% between FY 2007 and FY 2008. NSF is the largest supporter of federal research in the environmental sciences—an estimated \$696 million in research funds in FY 2008. Five fields of science accounted for 90% of its FY 2008 research obligations. Mathematics and computer sciences and physical sciences are each expected to be about 20% of the total, followed by engineering (17.8%), environmental sciences (17.3%), and life sciences (15.4%) (table 4).

## **NASA**

Federal funds obligated for research by NASA declined at an average annual rate of 19.4% between FY 2004 and FY 2008 (table 2), but NASA reported that \$850 million of the decrease in its R&D funding between FY 2006 and FY 2007 was accounted for by changes in its reporting of operational projects (see "Data Notes"). NASA's preliminary figures show that it would provide 35.9% of its total FY 2008 research funding in support of engineering, 27.8% for physical sciences, and 23.3% for environmental sciences (table 4).

## Agencies' Funding for Development

Development obligations were expected to total \$59.5 billion in FY 2008. From FY 2004 to FY 2008 obligations for development were up, rising at an average annual rate of 2.5% (table 1).

DOD accounts for most of federal development funding—an estimated 87.1% (\$51.8 billion) in FY 2008. Most of those dollars (\$45.8 billion) are obligations for major systems development projects, which have goals or processes that differ from other federal development projects. Of the remaining \$13.7 billion in FY 2008 federal development obligations, DOD advanced technology development obligations accounted for the largest share (43.8%). NASA was the second largest federal supporter of development in FY 2008 (\$4.1 billion, followed by DOE (\$2.1 billion) (table 5).

TABLE 5. Federal development obligations for largest agency funders: FY 2007–08

(Millions of current dollars)

| Agency  | FY 2007 | FY 2008 preliminary |
|---|---------|---------------------|
| All agencies                                      | 59,661  | 59,528              |
| Major systems development (Department of Defense) | 45,785  | 45,803              |
| Other development                                 | 13,876  | 13,725              |
| Department of Defense advanced technology         | 6,524   | 6,017               |
| National Aeronautics and Space Administration     | 3,994   | 4,117               |
| Department of Energy                              | 2,021   | 2,052               |
| Department of Homeland Security                   | 321     | 579                 |
| Department of Transportation                      | 202     | 245                 |
| Other   | 814     | 714                 |

NOTES: Agencies reported actual obligations for FY 2007 and preliminary obligations for FY 2009 during FY 2008. Detail may not sum to total due to rounding.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2007–09.

## Data Notes

The most recent data presented here are from the NSF Survey of Federal Funds for Research and Development FY 2007–09. Definitions of *research*, *development*, and *R&D plant* as used in this InfoBrief are supplied in the technical notes section of the detailed statistical tables reports for this annual survey. For the prior-year report, see <http://www.nsf.gov/statistics/nsf09300/>.

The 27 federal agencies that report R&D obligations to the survey submitted actual obligations for FY 2007, preliminary data for FY 2008, and projected data for FY 2009. Data were requested from agencies beginning in late April 2008. Agencies later revise the preliminary data based on actual changes in the funding levels of R&D programs. Further, agencies may provide changes in prior-year data to reflect program reclassifications or other data corrections. In 2009 the Department of the Air Force (USAF) notified NSF that it has been under-reporting its major systems development totals since FY 2000. USAF is in the process of providing revised totals, which NSF will publish after review and validation. The revised figures will affect USAF, Department of Defense, and all agencies' totals for development and for R&D. Totals for other agencies, for research, and for R&D plant will not be affected.

NASA reported that the major portion of its decrease in R&D funding between FY 2006 and FY 2007 resulted from excluding funding for operational projects for FY 2007 that it reported as R&D in FY 2006. A decrease in obligations overall accounted for the remainder. In FY 2004 NASA implemented a full cost budget approach, which includes all of the direct and indirect costs for procurement, personnel, travel, and other infrastructure-related expenses relative to a particular program and project. NASA's data for FY 2004 and later years may not be directly comparable to its data for FY 2003 and earlier years.

The full set of detailed tables from this survey will be available in the report Federal Funds for Research and Development: Fiscal Years 2007, 2008, and 2009 at <http://www.nsf.gov/statistics/fedfunds/>. Individual detailed tables from the FY 2007–09 survey may be available in advance of the full report. For more information, please contact the author.

**Notes**

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2. The geometric mean is used to calculate average annual rates of change.

3. Estimates based on Office of Science and Technology Policy Document titled “A Renewed Commitment to Science and Technology Federal R&D, Technology, and STEM Education in the 2010 Budget,” available at <http://www.ostp.gov/galleries/budget/FY2010RD.pdf/>.

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