



Tracking R&D Expenditures: Disparities in the Data Reported by Performers and Sources of Funding

The data on government funding of R&D as reported by the government often differ from those reported by performers of R&D. Consistent with international guidelines, most countries report their national R&D expenditures based chiefly on data from R&D performers (OECD 2015). In the United States, over the last several decades, a sizable gap has opened between what the federal government and R&D performers separately report as the level of federally funded R&D (Figure 4-A; Appendix Table 4-20).

In the mid- to late 1980s, the total of federally funded R&D reported by all U.S. performers exceeded by \$3–\$4 billion (i.e., 6%–9% of the federally reported total) what the federal government said it funded (top panel of Figure 4-A). In 1989–91, however, the pattern reversed, with the performer-reported total of federal funding less than the federally reported total by \$1–\$2 billion annually. From the early 1990s through the mid-2000s, this federal report excess grew larger. In 2007, the federal report indicated \$127 billion of federal funding for R&D, compared with R&D performers' report of \$107 billion—a difference of almost \$21 billion, or 16% of the federally reported total. As implied by Figure 4-A's bottom panel (which focuses on only business R&D performers), much of the disparity arose from differences in the federal and performer reports regarding business R&D.

FIGURE 4-A

Difference in federal R&D support, as reported by performers and federal agencies: 1985–2015



Note(s)

Difference is defined as performer-reported R&D minus federally reported R&D funding. A negative discrepancy indicates that agency-reported R&D funding exceeds performer-reported R&D.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series), and Survey of Federal Funds for Research and Development. See Appendix Table 4-20.

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More recently, the all-performer gap has narrowed, although only to a degree. In 2015, the federal report showed federal funding for all R&D performers exceeding the performer-reported total by \$15 billion (12% of the federal report). Furthermore, the federal report excess for only the business R&D performers in these most recent years has remained quite sizable (see Figure 4-A). The appearance is that the federal report now includes lower estimates of the level of federally funded R&D by performers (notably in higher education and the federally funded R&D centers) other than the business sector, which then offset the federal report's higher estimates of funding for business R&D.

Federal R&D funding data are normally reported as obligations on a fiscal year basis; performers typically report R&D expenditures on a calendar year basis. Some of the observed discrepancies reflect this difference in reporting calendars. Nevertheless, adjusting these two data series to a common calendar does not substantially remove the observed gaps.

Several investigations into the possible causes for these data disparities have produced insights but no conclusive explanation. A General Accounting Office investigation made the following assessment:

Because the gap is the result of comparing two dissimilar types of financial data (federal obligations and performer expenditures), it does not necessarily reflect poor quality data, nor does it reflect whether performers are receiving or spending all the federal R&D funds obligated to them. Thus, even if the data collection and reporting issues were addressed, a gap would still exist (GAO 2001:2).