Appendix 2

The data presented by the AAAS R&D Budget and Policy Program cover only research and development (R&D), not the entire federal budget, except as noted. Within the federal budget, most appropriations are not specifically labeled as R&D except for certain program areas, such as defense. Consequently, most funds for R&D are not line items in an agency's budget, but are included within general program funding. The Office of Management and Budget (OMB) requires agencies to submit data on R&D programs as part of their annual budget submissions. Specifically, the agencies provide data on funding levels for basic research, applied research, development, R&D facilities construction, and major capital equipment for R&D (see Appendix 3: Definitions).

R&D figures rarely correspond to budget line items as found in appropriations bills or the President's budget. Agencies make determinations as to what proportion of line items are classified as R&D, and many budget line items have both R&D and non-R&D components. Agencies also differ in their reporting. Some agencies classify program direction or management support as R&D, others do not.

The R&D data presented in the tables represent the agencies' best estimates of actual and proposed federal funding for R&D collected by OMB and AAAS. These figures incorporate information provided to OMB by two dozen agencies accounting for more than 99 percent of all federal R&D, and information collected by AAAS from individual agencies after the release of the full budget. Some adjustments to the original OMB-provided data are made to reflect agency revisions, coding errors, AAAS conversations with agency budget officials, adjustments to conform to historical trends, agency budget documents, supplemental appropriations, emergency spending, and rescissions.

When year-to-year changes are expressed in constant dollars, the deflators used are the Gross Domestic Product (GDP) deflators from the *Budget of the United States Government FY 2015*, Historical Table 10.1.

Budget statistics are presented on three bases: (1) **budget authority,** corresponding to the funds appropriated each year; (2) **obligations,** indicating the amounts of contracts and grants entered into; and (3) **outlays,** representing the amounts actually expended (see Appendix 2: Definitions). Because budget decisions in the Executive Branch and in Congress are almost always made using budget authority, this metric most accurately reflects current changes in budget policies. Outlay trends lag a year or more behind decisions in budget authority, and obligations estimates are often adjusted. We have, therefore, selected budget authority as the most meaningful real-time measure of budget decisions.

Although this report relies mostly on OMB and agency data for R&D, it also relies on data from other sources to provide a context for the federal R&D enterprise. When these other sources are used, they are noted in tables and charts. The reader should be aware that although these sources use the same definitions of R&D as AAAS, there may be discrepancies between different data sources resulting from several factors: 1) the use of performer rather than agency surveys; 2) the use of obligations or expenditures rather than budget authority; 3) the use of a calendar year rather than the federal fiscal year; and 4) the use of conduct of R&D, rather than total R&D (including R&D facilities and capital equipment).

Special Note on Table I-4, "Major Functional Categories of R&D" and Table I-6, "Federal Homeland Security R&D by Agency": All activities in the federal budget are classified into 20 broad functional categories. (AAAS separates the general science, space, and technology function into its subfunctions of General Science and Space; AAAS also classifies VA under Health rather than Veterans Benefits and Services.) Each function often includes programs from multiple agencies. Each R&D program is assigned to only one function, even though the R&D activity may address several functional concerns. Homeland security is a government mission that cuts across mission lines and encompasses many agencies outside the DHS: Table I-6 shows all federal homeland security-related R&D as identified in a special analysis of all homeland security spending conducted by OMB, from which AAAS selects those programs that can be identified as R&D.