

Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation and Science Portfolio
2017 - 2018 Budget Estimates
31 May – 1 June 2017

AGENCY/DEPARTMENT: DEPARTMENT OF INDUSTRY, INNOVATION AND SCIENCE

TOPIC: R&D funding

REFERENCE: Written Question – Senator Carr

QUESTION No.: BI-141

1. Since 2013, what has been the rate of growth or otherwise in federal R&D funding in Australia, adjusted for inflation?
2. Similarly, what has been the rate of growth or otherwise in federal R&D funding in Australia since 1972, adjusted for inflation?
3. What has been the change in percentage of total federal investment in R&D since 1972?
4. Since 1972, what has been the rate of decline or growth in investment in R&D by Australian universities?
5. Are there any discernible trends for growth of private investment in R&D since 1972? That is, has private investment been required to fill any shortages caused by a decline in public spending? Has there been a shift to industry carrying the R&D burden since 1972?
6. What percentage of Australia's GDP has been spent on R&D since 1972 (both public and private investment)?
7. Has the make-up of R&D and science spending changed by type of activity? That is, how has R&D investment been spent?

ANSWER

Overview

Some information relevant to answering these questions may be obtained from publicly available sources. These sources include the:

- Science, Research and Innovation (SRI) Budget Tables, available online at: <https://industry.gov.au/innovation/reportsandstudies/Pages/SRIBudget.aspx>
- Australian Bureau of Statistics (ABS) Higher Education Expenditure on R&D (HERD) publication, available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8111.0>
- ABS Business Expenditure on R&D (BERD) publication, available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8104.0>
- ABS R&D All Sector Summary, available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8112.0>

However, it is important to note that:

- The SRI Budget Tables report Australian Government investment in R&D from 1976-77, and thus do not include 1972 data;
- The ABS HERD publication provides data commencing 1984-85, and thus does not include 1972 data;

- The ABS BERD publication provides data commencing 1973-74, and thus does not include 1972 data;
- The ABS R&D All Sector Summary provides Gross Expenditure on R&D data commencing 1984-85, and thus does not include 1972 data;
- The data reported within the earliest years of the SRI Budget Tables and HERD publication may not be directly comparable with data reported in later years due to changes in the survey methodology.

The SRI Budget Tables report an annual Budget Estimate of Australian Government investment in research and experimental development (R&D). This total is not, in and of itself, the result of a specific decision by government. Rather, it represents the aggregate result of independent decisions on the funding levels of a broad range of R&D activities and programs administered in different portfolios, undertaken by different organisations, directed towards different sectors of the economy (e.g. business, higher education and government) and carried out for a range of purposes and objectives.

Similarly, the total R&D expenditures reported by the ABS for businesses, government agencies, higher education and not-for-profit organisations represent the aggregate result of many independent decisions by these organisations and by their funders.

Because the SRI Budget Tables report investment in R&D, rather than in innovation and science activities more broadly, funding to support the latter types of activities was not included in the \$10.1 billion investment reported in the 2016-17 SRI Budget Tables. These non-R&D innovation and science activities include, for example, elements of the 2015 *National Innovation and Science Agenda* such as:

- Inspiring all Australians in digital literacy and STEM (\$84 million over four years);
- Innovation and Science Australia (\$8 million over four years);
- Intangible asset depreciation (\$80 million over four years);
- Tax incentives for angel investors (\$106 million over four years);
- Digital Marketplace (\$15 million over four years); and
- Measuring Impact and Engagement in University Research (\$9 million over four years).

Since 2013, the Government has taken a variety of actions to ensure that Australia's SRI system is providing the best possible return on investment. These actions are:

- targeted to address strategically important gaps or issues faced by the SRI system;
- aimed at making the system stronger, more stable and sustainable; and
- aimed at helping mitigate the risks faced by our innovators and support additional private sector investment in innovation.

Answers

1. Data relevant to answering this question is available from the SRI Budget Tables, available online at: <https://www.industry.gov.au/innovation/reportsandstudies/Pages/SRIBudget.aspx>

2. Refer answer to question 1.

3. Refer answer to question 1.

4. Data relevant to answering this question is available from the following ABS publication:

- 8111.0 - Research and Experimental Development, Higher Education Organisations, Australia.
- Earliest year included in the series is 1984-85.
- This publication is available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8111.0>

5. Data relevant to answering this question is available from the following ABS publication:

- 8104.0 - Research and Experimental Development, Businesses, Australia.
- Data is available from 1973-74.
- This publication is available online at:
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8104.0>

6. Data relevant to answering this question is available from the following ABS publications:

- 8104.0 - Research and Experimental Development, Businesses, Australia.
 - Data is available for the period 2004-05 to 2013-14, in the Summary section.
 - This publication is available online at:
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8104.0>
- 8112.0 - Research and Experimental Development, All Sector Summary, Australia.
 - Data is available from 1984-85.
 - This publication is available online at:
<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8112.0>

7. Data relevant to answering this question is available from the following ABS publication:

- 8112.0 - Research and Experimental Development, All Sector Summary, Australia.
- Data is available for the period 1992-93 to 2008-09.
- This publication is available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/8112.0>