Decline in Australian research investment a real concern

On 15 September 2017 the Australian Bureau of Statistics published the Australian Gross Domestic Expenditure on Research and Development (GERD) for the year 2015–16.

It does not make for happy reading. The 2015–16 GERD is estimated at $31.2 billion, a decrease of $2.3 billion (7%) from 2013–14 investment. The GERD value as a percentage of GDP also continues to decline, from the peak of 2.25% in 2008–09. Table 1 shows the results from 2006 to 2016. The GERD/GDP ratio fell from 2.25% to 1.88% in 2015–16 and is now at its lowest level since 2004–05, when it was 1.73%.

In a country where governments have spruiked innovation and research, there is a lot of work to be done to restore our place as a clever country. Even though government investment has been reasonably constant over the last five years, the smaller science based agencies are suffering. For example, the ABS does not have the resources to properly measure these research investment parameters on an annual basis. It was revealed at Senate Estimates in October that over the next three years the ABS’s funding will fall by approximately 10 per cent, at the same time as the demand for statistics is rising. Accessible, reliable, statistics form the basis for all future planning at the national, state and council levels and are crucial for any nation aspiring to prosper in the 21st century. The government should be increasing its funding, not inflicting death by a thousand cuts.

The GERD numbers in Table 1 cover the four main sectors. The key message is that while investment by the governments, Higher Education and Private Non-profit sectors has remained reasonably constant in dollar terms over the last few years, investment by the business sector has plummeted. The decline from 2013–14 to 2015–16 in this sector was $2.19 billion, or a massive 18%.

Jobs in manufacturing plummet

The ABS 2016 census data released on 23 October 2017 also reveal the plight of Australian manufacturing. According to the ABS, the number of jobs in that sector fell from 902,829 workers in 2011 to 683,688 in 2016. No wonder the manufacturing and the mining industries have experienced the brunt of the decline, presumably because of the fall in prices for mineral and petroleum resources and the collapse of car manufacturing. Figure 1 shows where the changes have taken place.

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Manufacturing remained the largest contributor with $3.90 billion in 2015–16 followed by Professional, Scientific and Technical Services with ($3.75 billion or 23%), Financial and Insurance Services with $3.22 billion and Mining $1.88 billion. Together, these four industries accounted for more than three quarters (77%) of the total Business Expenditure on R&D in 2015–16.

Table 1. GERD, by sector and as %GDP

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<tbody>
<tr>
<td>Business</td>
<td>$12.64</td>
<td>$17.29</td>
<td>$18.01</td>
<td>$18.32</td>
<td>$18.85</td>
<td>$16.66</td>
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<tr>
<td>Government</td>
<td>$3.10</td>
<td>$3.42</td>
<td>$3.83</td>
<td>$3.55</td>
<td>$3.75</td>
<td>$3.96</td>
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<tr>
<td>Higher education</td>
<td>$5.43</td>
<td>$6.85</td>
<td>$8.16</td>
<td>$8.89</td>
<td>$9.92</td>
<td>$9.55</td>
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<tr>
<td>Private non-profit</td>
<td>$0.61</td>
<td>$0.74</td>
<td>$0.91</td>
<td>$0.94</td>
<td>$0.95</td>
<td>$1.01</td>
</tr>
<tr>
<td>Total</td>
<td>$21.78</td>
<td>$28.30</td>
<td>$30.91</td>
<td>$31.70</td>
<td>$33.47</td>
<td>$31.18</td>
</tr>
</tbody>
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GERD/GDP %

- 2006–07: 2.00
- 2008–09: 2.25
- 2010–11: 2.19
- 2011–12: 2.12
- 2013–14: 2.11
- 2015–16: 1.88


Figure 1. Business Expenditure on R&D 2013–14 and 2015–16 (courtesy Australian Bureau of Statistics).
Canberra observed

Demand for gold declines but price remains solid

The third quarter of 2017 saw a 9% year-on-year drop in gold demand to 915 tonnes according to the World Gold Council (https://www.gold.org/research/gold-demand-trends). This is the lowest value since the third quarter of 2009, when the demand was less than 900 tonnes. It is a significant drop since the 1257 tonnes value of the 4th quarter of 2012.

The main reason for the decline was a fall in demand for jewellery, with Indian weakness largely being responsible.

On an annual basis, demand for gold in the last eight years has been between a low of 4227 tonnes in 2010 to a high of 4734 in 2011 with an average annual demand of 4432 tonnes.

Meanwhile, the price of gold in Australian dollars has risen steadily since 2009 from about $1200/oz to $1650/oz – an increase of 35%. A very sound return, as can be seen in the Figure 1.

Figure 1. Price of gold per quarter (not adjusted for inflation) from 2009–2017.