

## Canberra observed



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### Is the worst over for exploration?

At last there are positive signs that the worst might be over for our exploration industry.

The first is on the ASX. Since mid-January this year the market capital of resource exploration companies in the top 150 listed companies has increased by \$47 billion, or 35%. Figure 1 shows the plot from 2006 through June 2016.

Notice how the resource stocks have steadily declined, compared to the All Ords Index, from 2010 until the beginning of 2016. However, the rising trend this year is very encouraging. One would hope that this rise is based on sound information and competent analysis. The main drivers are not just the

gold stocks, but include a range of smaller companies, such as Regis Resources and Iluka, that are making their presence felt.

The second piece of good news comes from the Trend Estimate for total mineral exploration expenditure for the March quarter in 2016 (see: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/8412.0Mar%202015?OpenDocument>). This number has remained relatively unchanged at \$355 million from the June quarter of 2015 until the 2016 March quarter. It's a long way from the 1.1 billion invested in the June 2012 quarter, but at least it indicates a halt to the downward trend. Although the overall trend might not have changed much, there was a huge drop in coal exploration, particularly in Queensland, where it fell from \$44 million in the December 2015 quarter to a record low of \$15 million in the March quarter. I don't think it's been as low as this in the past 10 years.

The petroleum scene is completely different. According to the Australian Bureau of Statistics (ABS), the trend estimate for total petroleum exploration expenditure fell 12.8% (\$61.8 million) to \$420.1 million in the March quarter 2016. Exploration expenditure on production leases fell 18.6% (\$20.9 million), while exploration expenditure on all other areas fell 7.8% (\$28.8 million).

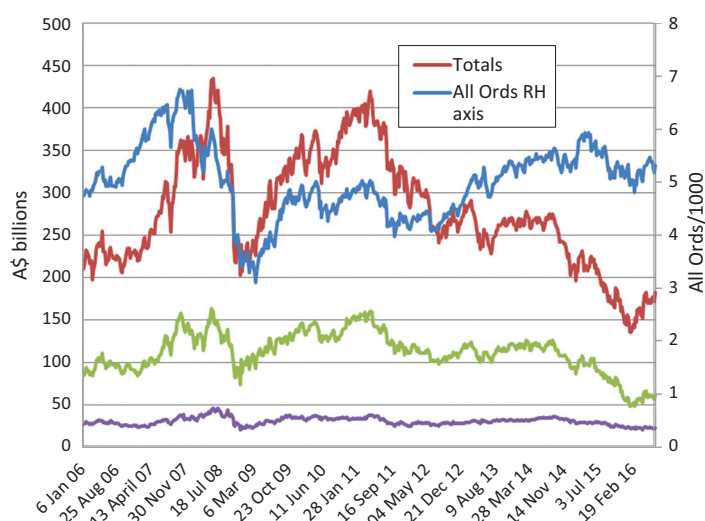
The largest contributor to the decrease in the trend estimate was Western Australia (down 5.9%, –\$21.2 million) and the

largest contributor to the fall in the seasonally adjusted estimate was South Australia (down 39.3%, –\$15.7 million). Figure 2 shows the actual quarterly expenditure from 2005 through March 2016.

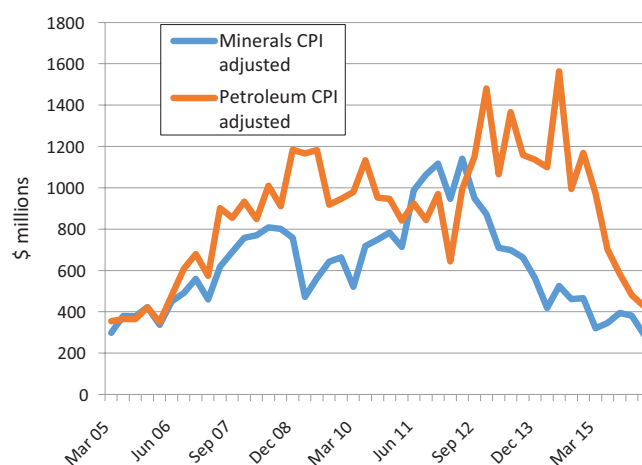
There is a time-lag in the exploration data being released with respect to the ASX information, which is essentially instant, because it takes several months for the ABS to collect and analyse the data from the States and Territories. So we wait with baited breath for exploration statistics for the June quarter but, with the oil price continuing to hover around \$50 per barrel, we may have to wait a year or two.

### Government investment in R&D continues to decline

During the 2014–15 financial year, expenditure on R&D undertaken by Australian government organisations was \$3329 million. Commonwealth government organisations contributed \$2257 million (68%), and state and territory government organisations contributed \$1072 million (32%) to total government expenditure on R&D, according to a report released by the Australian Bureau of Statistics (ABS) on 6 July 2016 (<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8109.0>).



**Figure 1.** Market capital of resource stocks in the top 150 companies listed on the ASX (red curve); The All Ordinaries index (blue curve), BHP (green) and Woodside (purple). The data are from January 2006 through June 2016.



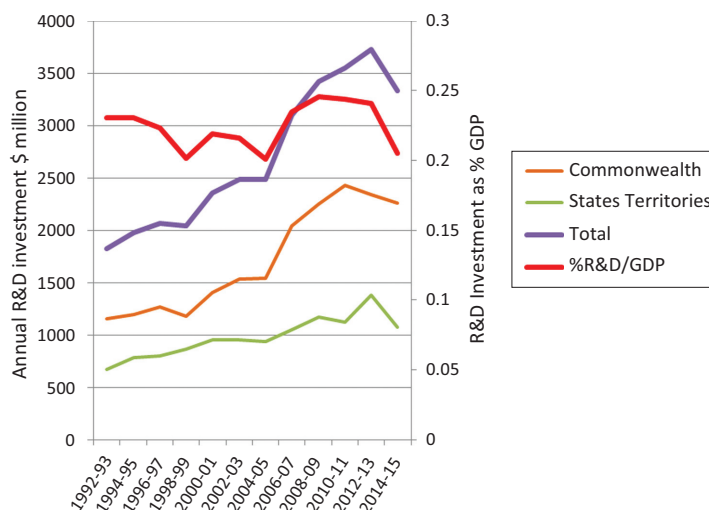
**Figure 2.** Actual quarterly expenditure on mineral and petroleum exploration from March 2005 through to March 2016. Notice that the rate of decline in the minerals curve is decreasing and although the petroleum curve appears to be behaving in a similar manner, its fall is much more dramatic. Adjustments have been made to March 2016 Aus dollars.

According to the ABS the total government R&D decreased 11% in current price terms and 16% in chain volume terms between 2012–13 and 2014–15. It also decreased as a proportion of Gross Domestic Product (GDP) from 0.24% in 2012–13 to 0.21% in 2014–15. Figure 1 shows that this parameter peaked in 2008–9 and has declined ever since.

This state of affairs is very unfortunate to say the least, and hopefully the new Turnbull government will rectify the situation.

To quote the OECD Secretary-General Angel Gurría, ‘Public funding has underpinned many of the technologies driving growth today, from the digital economy to genomics. We must continue to lay the technological foundations for new inventions and solutions to global challenges like climate change and ageing and must not let investment in long-term research wane.’

On average, public R&D spending in many advanced economies has declined and averaged less than 0.7% of GDP in 2014 in the OECD area. However, some countries stand out about the pack – notably Korea. In 2014 it invested



**Figure 1.** Government investment in R&D from 1992–2015. The red curve shows this investment as a percentage of GDP. Notice that this peaked in 2008–9 and has declined ever since.

approximately 1.2% of its GDP on publicly funded R&D ([http://www.oecd-ilibrary.org/science-and-technology/oecd-science-technology-and-industry-scoreboard-2015/science-and-innovation-today\\_sti\\_scoreboard-2015-6-en](http://www.oecd-ilibrary.org/science-and-technology/oecd-science-technology-and-industry-scoreboard-2015/science-and-innovation-today_sti_scoreboard-2015-6-en)).

Clearly without public funding through organisations like CSIRO the long-term high priority strategic research will suffer

and we will be worse off as a nation as far as skills and knowledge are concerned.

We should be demanding action to match the innovation word used so frequently by the government, so we are not left as a nation of baristas, cooks and house-maids relying on tourists visiting the largest island resort on the planet.



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