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Business expenditure on R&D increases slightly in 2013–14

During 2013–14 expenditure on R&D by Australian businesses was \$18.8 billion, according to an Australian Bureau of Statistics release on 4 September 2015 (<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8104.0>).

This represents an increase in 1% from 2011–12, when the numbers are adjusted for CPI increases. Incidentally, no report for 2012–13 was produced because of resourcing issues in the ABS.

Manufacturing remained the largest contributor to total Business Expenditure on R&D (BERD), contributing \$4.84 billion (26%) in 2013–14. The next largest contributors were professional, scientific and technical services (\$3.75 billion or 20%), financial and insurance services (\$3.09 billion or 16%) and mining (\$2.83 billion or 15%). Together, the four largest industries accounted for more than two thirds (77%) of total BERD in 2013–14 (see Figure 1). Unfortunately, mining recorded the largest dollar decrease in BERD from 2011–12, down \$1.274 billion or 31%.

Essentially, Australia's BERD has remained constant since 2010–11, after healthy increases since 1992. The data are plotted in Figure 2 for the period 1992–2014. The total annual investment should reach \$20 billion very soon, but the per capita value has remained almost constant since 2010 at about A\$800.

The peak was in 2008–09, when it reached 1.34% of GDP (Figure 3). The ABS no longer publishes comparisons with other OECD countries, but the OECD average for 2013 was 2.36% of GDP. The highest levels were in Israel, with 4.21% and Sweden with 3.30%.

OECD estimates Germany at 2.85%, US at 2.73%, UK at 1.63% and Canada comes in at 1.62%.

The bottom line is that Australia has a lot of catching up to do and with the

resources sector continuing to decline it's not clear how we can increase our research effort.

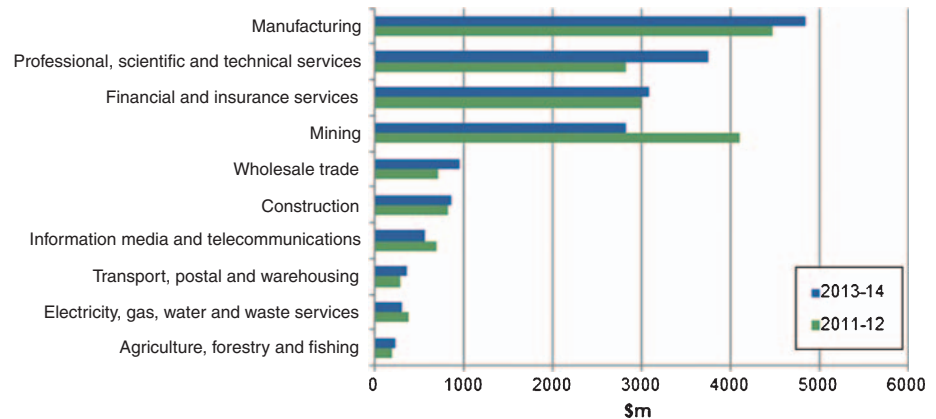


Figure 1. Ranked Business Expenditure on R&D (BERD) for the top ten industries in 2011–12 and 2013–14. (Diagram taken from the September 2015 ABS release.)

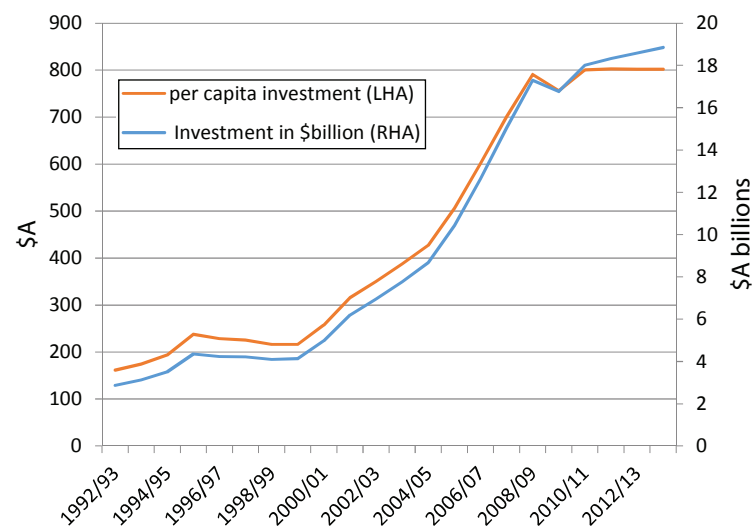


Figure 2. Business expenditure on R&D from 1992–2014. The blue line represents the total annual investment in billions of \$A. The red line represents the per capita amount in A\$.

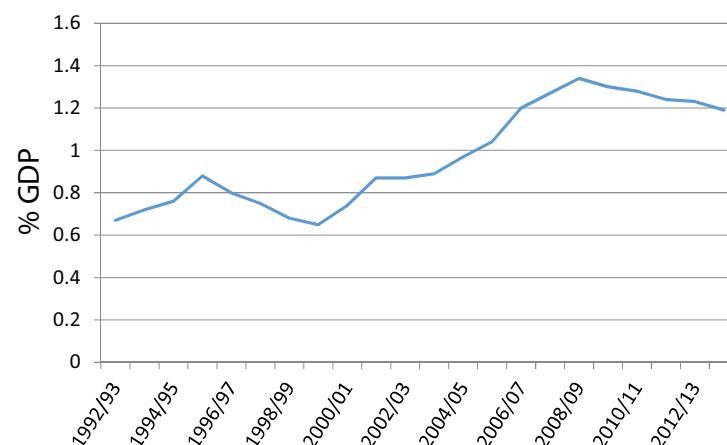
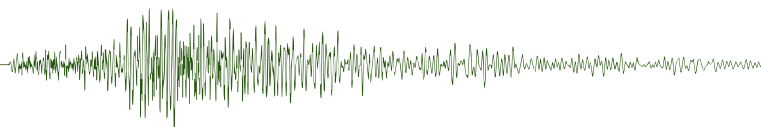


Figure 3. BERD as a percentage of GDP.



Mineral and petroleum exploration investment plummets

The exploration investment numbers for the June 2015 quarter, released by the Australian Bureau of Statistics on 31 August 2015 do not make good reading (<http://www.abs.gov.au/ausstats/abs@.nsf/mf/8412.0?OpenDocument>).

The trend estimate for total mineral exploration expenditure fell 10.9% (or ~\$41.2m) to \$336.2m. This is 28.0% lower than the June quarter 2014 estimate. The largest contributor to the fall was Western Australia (down 12.1% or ~\$26.6m).

The trend estimate for the total petroleum exploration expenditure fell 12.7% (or ~\$119.6m) to \$821.3m in the same period. Exploration expenditure on production leases fell 21.2% (or ~\$40.8m), while exploration expenditure on all other areas fell 9.2% (or ~\$68.8m). Western Australia and South Australia took the brunt of the fall, down 11.1% or ~\$54.7m and down 52.1% or ~\$79.5m respectively.

The mineral and petroleum exploration investments are shown in Figure 1. Both sectors have suffered dramatic falls, as the oil price has halved from more than US\$100 a barrel about a year ago to less than US\$50 now and the main mineral commodities have also declined. Even the price of gold has fallen from about US\$1800 an ounce in May 2012 to US\$1100 in September 2015. The levels of exploration investment are now equivalent to what they were in June 2005 for minerals and June 2007 for petroleum.

One would have hoped that, in the mineral industry, the majors like BHP and Rio Tinto, would have maintained a higher level of exploration investment because in 15–20 years time several of the current mines will have reached the end of their economic life and new resources will have to be found. Unfortunately it doesn't seem to work like that.

The value of resource companies listed on the ASX has also declined over the past five years.

Figure 2 shows how the value of resource companies listed in the top 150 companies on the ASX has declined steadily over the last four years. In April

2011 their market capital was approximately \$440 billion. In September 2015 their value has dropped to \$170 billion.

Interestingly, the increase in real terms, adjusted for CPI increases, of the All Ordinaries Index is only slightly better than inflation over the 15-year period. One of the biggest losers is BHP, which has dropped from \$155 billion in

December 2010 to approximately \$76 billion in September 2015. Perhaps of even more concern is that instead of being listed at the top of the table BHP is now below the big four banks. The Commonwealth Bank is at the top of the table with a listed value of \$124 billion. And all that the banks make is money, which you can't eat, drink, travel in or live in – a bit of a worry.

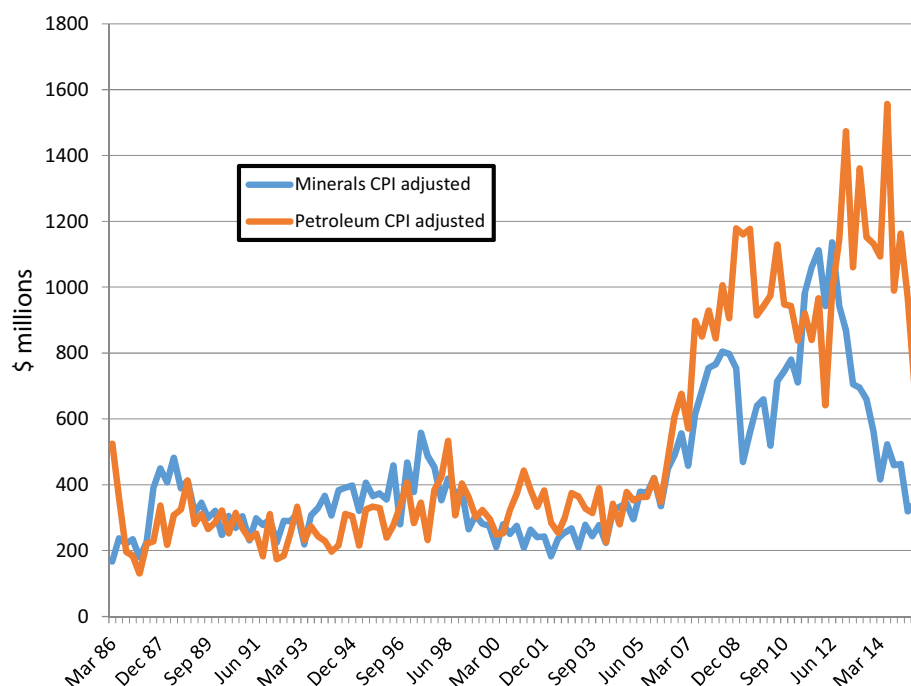


Figure 1. Actual quarterly mineral and petroleum investment CPI adjusted to 2015 dollars, from March 1986 through June 2015.

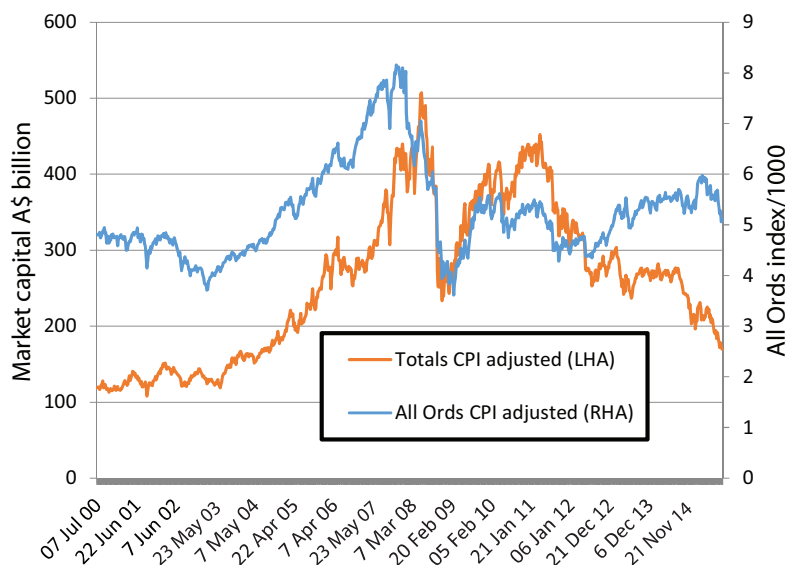


Figure 2. Market capital of resource companies listed on the ASX from July 2000 through August 2015 (in red) and the All Ordinaries Index over the same period (in blue).