



Issue 26:

Exchange Rate Monitor

## Exchange Rate Monitor

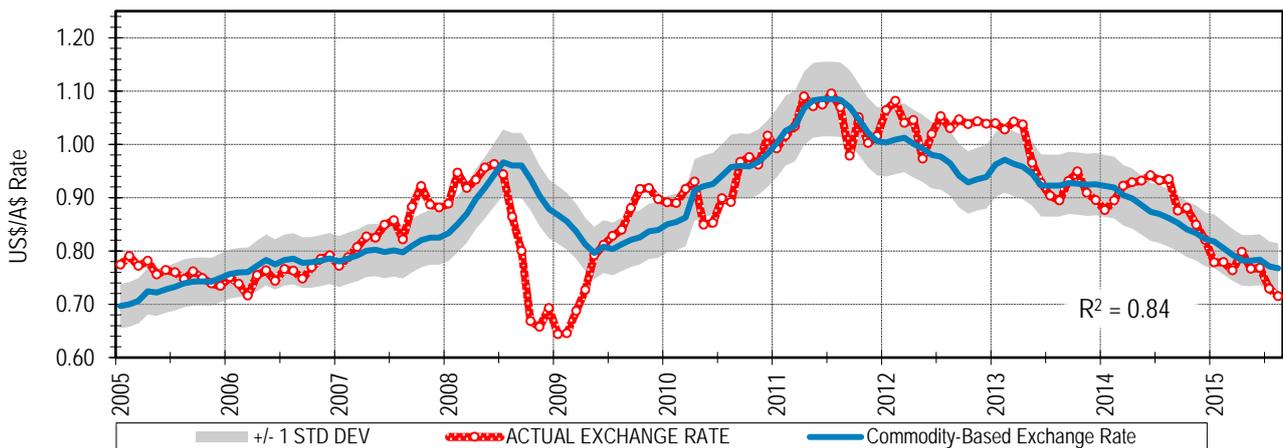
A number of compelling pieces of analysis are emerging debating where Chinese and US market developments will leave the Australian economy. With plenty of highly technical analysis becoming available, The Alchemist considers it timely to revisit the simple commodity price vs. A\$ model and see what insight it can provide on current markets and implications for Australian commodities producers.

### The model

The Index of Commodity Prices ("ICP") is published monthly by the Reserve Bank of Australia ("RBA"), with historical records available from 1985. ICP constituent commodity weights are scaled to represent the value that each commodity contributes to Australian commodities exports. The index includes rural commodities (wool,

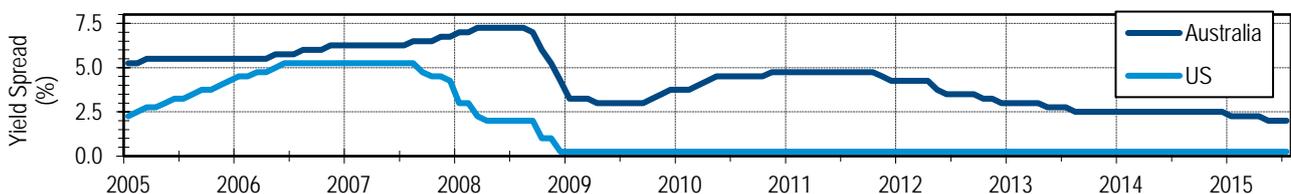
barley, beef, etc.), base metals, bulks (iron ore, thermal and metallurgical coal), and a category for "other" which includes LNG, oil, gold, etc. A great deal of analysis can be conducted on this data but, for simplicity, The Alchemist uses a linear regression to show the relationship between this index and the actual US\$/A\$ exchange rate. A linear regression of US\$-denominated all-commodities data against the exchange rate between 1985 and 1998 generates an estimate of the exchange rate that is within US\$0.05 of the actual exchange rate in 89% of months modelled. The millennium marked a period of adjustment for the relationship and, after 2004, a similar relationship (Figure 1) formed that has held for the decade since. Over the more recent period, commodity-price exchange rate estimates are within US\$0.05 of actual exchange rates in 69% of months.

Figure 1: Actual US\$/A\$ monthly average exchange rate compared to a regression of the RBA US\$-denominated 'All Items' Commodity Index vs. the US\$/A\$ exchange rate



Source: RBA

Figure 2: US/Australian Target Interest Rates

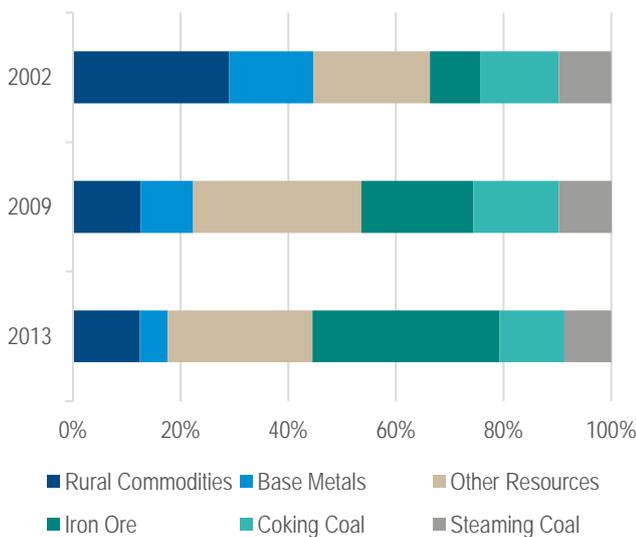


Source: RBA, US Dept of the Treasury

Several factors worth noting contributed to the altered relationship between commodities and the exchange rate.

1. Exports from Australia have changed in quantity and composition. In the 1990's, exports on average accounted for 17% of the Australian GDP. This average has risen to 20% across 2005-2014<sup>1</sup>. Commodities as a percentage of exports also increased, with minerals and fuels making up 26% of exports in 1991-1992 and 50% in 2013-2014<sup>2</sup>. In terms of composition, table 1 shows changes to the commodity weightings in the ICP since 2002. Over the period, iron ore has moved to become the dominant export commodity.

Table 1: RBA ICP commodity weights



Source: RBA Bulletin

2. Commodity-based derivatives have become available to hedgers and speculative traders. Between 2005 and 2015, the global annual number of derivative contracts for commodities increased from 874 million to over 3.7 billion<sup>3</sup>. As a result, early market data releases are highly traded upon. The resultant dislocations between the ICP-based expectations and actual exchange rates have become more responsive and pronounced.

3. US\$/A\$ yield spreads now account for a statistically significant portion of short-term exchange rate movement. This can be attributed to the emergence of carry trades. Movements of funds associated with a carry trade strategy are dictated by yield spreads between the two countries. Figure 2 shows US/Australian government target interest rates between 2005 and 2015, the same period as the updated linear regression.

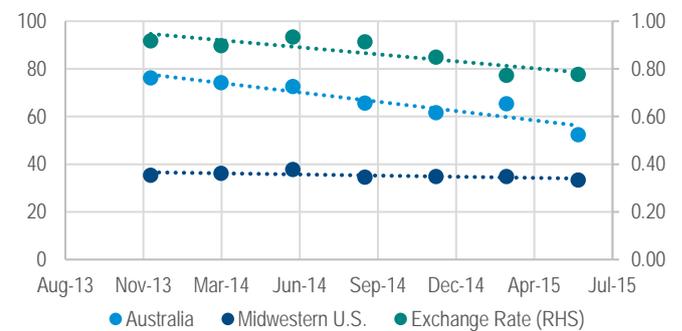
In spite of these changes, the dominant force remains movements in the commodity market, which have been shown to account for up to 80% of long-term exchange-rate movement. Simply put, over time, when commodity prices rise, the Australian dollar's value rises. Conversely when commodity prices fall, the Australian dollar falls.

What it means for Australian commodities producers

As a commodity-based currency, the Aussie dollar gives local producers a strong defensive position. In a market of falling commodity prices the exchange rate will prop up Australian dollar revenues while at the same time costs in US dollar terms will come down.

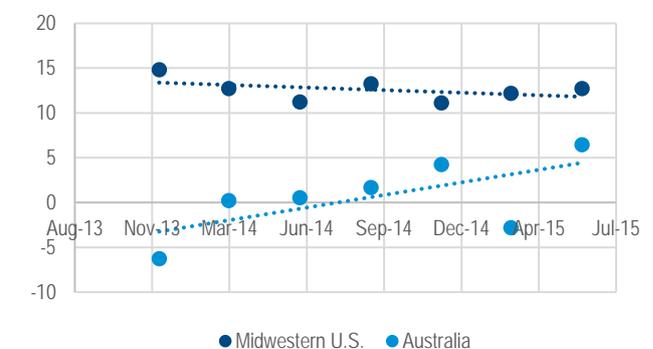
To demonstrate, the results of a single commodity producing company operating in Australia and the US can be broken out geographically. Figures 3 & 4 show selected quarterly costs and operating margins for Peabody Energy, a global coal producer, by location between 2013 and 2015.

Figure 3: Peabody Energy USD Operating costs per ton



Source: Peabody Energy 8-K reports, RBA

Figure 4: Peabody Energy US\$ Operating margin per ton



Source: Peabody Energy, 8-K reports

Figure 3 demonstrates the effect of the falling exchange rate on US\$ denominated production costs. In an environment of falling commodity prices, the US\$ cost of producing in Australia decreases via a depreciating A\$. This flows through to margins as shown in Figure 4, demonstrating that Australian producers have experienced an improvement in profitability with a decreasing Australian dollar. During a period when prices are low and production is being removed from the market, Australian dollar devaluation protects the margins and viability of Australian producers.

<sup>1</sup> World Bank

<sup>2</sup> "Fifty Years of Australia's Trade" Australian Government – Department of Foreign Affairs and Trade

<sup>3</sup> World Federation of Exchanges

While the above analysis focuses on a coal producer, this effect is occurring over all commodities to varying degrees. Over the past two years RFC Ambrian has observed that U.S. and China's iron ore producers have also moved from the middle of global cost curves to the high end, with the costs of US-based iron ore producers on average falling from the 60th percentile in 2011 to the 80th in 2015. China, with its currency pegged to the US dollar, has also seen its production become less competitive.

For the moment, concerns for the global economy have pushed the Australian dollar to below the levels predicted by current commodity prices. In the short term, this means that the protection already afforded by the exchange rate is increased, and positions Australian producers particularly well to wait out the storm.

## RFC Ambrian Limited

thealchemist@rfcambrian.com

www.rfcambrian.com

Level 14  
19-31 Pitt Street  
Sydney NSW 2000

Level 28, QV1 Building  
250 St Georges Terrace  
Perth WA 6000

Condor House  
10 St. Paul's Churchyard  
London EC4M 8AL

telephone +61 2 9250 0000  
facsimile +61 2 9250 0001

telephone +61 8 9480 2500  
facsimile +61 8 9480 2511

telephone +44 (0)20 3440 6800  
facsimile +44 (0)20 3440 6801

### DISCLAIMER

RFC Ambrian Limited ("RFC Ambrian") has prepared this note to provide general commentary and analysis to professional and sophisticated investors on resource companies, securities and markets. No part of this report is to be construed as a solicitation, offer or invitation to buy or sell any security and should not be relied upon in connection with any contract or commitment whatsoever.

RFC Ambrian prepared this report without taking into account the objectives, financial situation or needs of any person. Before making an investment decision or otherwise acting on the basis of this report you should consult with a professional investment adviser to consider the appropriateness of the advice, having regard to your objectives, financial situation and/or needs.

This report is based on publicly available information. Although the information contained in this report has been obtained from sources believed to be reliable and accurate, its accuracy, reliability or completeness has not been verified by RFC Ambrian and is not guaranteed.

Opinions, conclusions, assumptions, estimates, reflections, forward looking statements and forecasts referred to in this report are those of RFC Ambrian alone and not those of the companies referred to in this report and these companies do not endorse this report. Opinions expressed reflect RFC Ambrian's judgement at the date of this report and may change without notice. Forecasts of commodity prices, interest rates, exchange rates and economic growth are subject to significant change. No representation or assurance is given that any prediction, projection or forecast contained in this report will be achieved.

RFC Ambrian and its related bodies corporate or any of their associates, officers or employees may have interests in securities referred to in this report and may hold directorships in or provide corporate finance or other services to the companies referred to in this report. Further, they may buy or sell securities of the companies referred to in this report as principal or agent, and as such may effect transactions which are not consistent with any opinions contained in this report.

Use of the information in this report is at your own risk. RFC Ambrian is not responsible for any adverse consequences arising out of the use of this report. To the extent permitted by law, RFC Ambrian accepts no responsibility for damages or loss relating in any way to any errors or omissions in any information or opinions provided in this report, whether arising from negligence or otherwise from the use of or reliance on this report.

In Australia this report is intended, only for publication and distribution to professional and sophisticated investors and is not to be read or relied upon by any other person. RFC Ambrian Limited is the holder of AFSL 233214.

This report is approved for publication in the UK under section 21 of the FSMA by RFC Ambrian Limited (UK). It is being made available for distribution, to eligible counterparties and professional investors only (as those terms are defined by the rules of the Financial Conduct Authority). Its contents are not directed at retail clients. RFC Ambrian (UK) Limited publishes this document as non-independent research which is a financial promotion under FCA rules. It has not been prepared in accordance with the regulatory rules relating to independent research and it is not subject to the prohibition on dealing ahead of the dissemination of investment research.

RFC Ambrian Limited (UK) is a member of the London Stock Exchange and is authorised and regulated by the Financial Conduct Authority.