The Resources Boom

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The rise in prices for natural resources and the associated planned increase in Australian-based capacity to supply key commodities is one of the largest such economic events in our history. The Reserve Bank has had a good deal to say about it. I will touch again today on the main points we have made.

I will not say much that is new. Nor will I be seeking to convey any messages about monetary policy. Those matters were covered in some depth with the House Economics Committee less than two weeks ago.

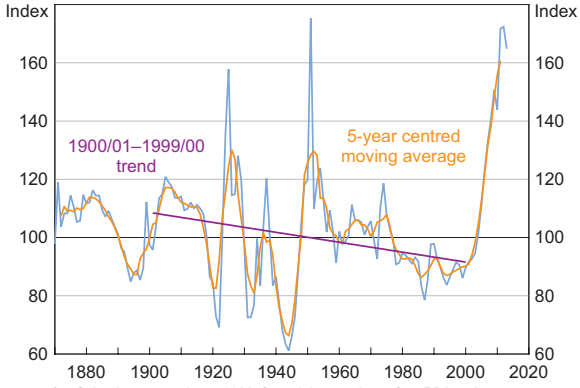
I will structure my remarks around four questions.

- What do we know from previous booms?
- What do we know about this one?
- What don't we know?
- Finally, how should that knowledge, and the limits to it, guide our response to the boom?

What Do We Know about Previous Booms?

I am going to re-use a chart that originated in a research paper by Jonathan Kearns and Christian Gillitzer,[1] with some updating. This was the basis of a previous address last November.[2] I have noticed it being shown rather more widely of late, no doubt because of the striking messages it conveys.

Terms of Trade*
1900/01–1999/00 average = 100



* Calendar years prior to 1900, financial years thereafter; RBA estimates for 2010/11 to 2012/13
Sources: ABS; Gillitzer and Kearns (2005); RBA

One thing we know, by observing this time series, is that large swings in prices for agricultural and resource commodities, resulting in big variations in Australia's terms of trade, have been a recurring feature of our economic experience ever since Australia became a significant producer of such commodities.

There have been a number of big booms. They all ended. The really high peaks were quite temporary – just one or two observations in this annual time series, such as in the mid 1920s or the early 1950s. Periods of pretty high terms of trade lasted for some years in several instances – as shown by the five-year average – but so far they have all been followed by a return to trend, or even a fall well below trend.

1 Gillitzer C and J Kearns (2005), 'Long-Term Patterns in Australia's Terms of Trade', RBA Research Discussion Paper No 2005-01.

2 'The Challenge of Prosperity', address to CEDA Annual Dinner, Melbourne, 29 November 2010. Available at: <http://www.rba.gov.au/publications/bulletin/2010/dec/pdf/bu-1210-9.pdf>.

We also know that these swings were very important for the macroeconomy. My colleague Ric Battellino gave a very thoroughly researched speech on this question a year ago today.[3] He looked at five major episodes, including the current one, over two centuries. Let me offer a reprise of his four main observations.

First, global developments have always played a part in causing the booms. Changes to the availability of capital or the emergence of large, low-income countries with rapid growth prospects (Japan or China) have often affected the price of minerals and energy.

Second, these booms were always expansionary for the Australian economy overall.

Third and related, previous booms were usually associated with a rise in inflation. The exception was the one in the 1890s, which occurred when the economy was experiencing large-scale overcapacity.

Fourth, the role of the exchange rate is crucial. The current episode stands apart from the previous ones because all those booms were experienced with a fixed or heavily managed exchange rate. This severely compromised the conduct of monetary policy, and also muddied many of the price signals that the economy needed to receive.

In short, these episodes were major externally generated shocks that proved very disruptive, not least because the country's macroeconomic policy framework was not well equipped to handle them. The high levels the terms of trade reached on some occasions were not permanent, but they did persist long enough to have a big impact on economic outcomes.

3 'Mining Booms and the Australian Economy', address to The Sydney Institute, Sydney, 23 February 2010. Available at: <http://www.rba.gov.au/publications/bulletin/2010/mar/pdf/bu-0310-10.pdf>. The fact that we were talking about this issue a year ago, and indeed two years earlier than that, that we are still taking about it now, and doubtless will be for another year at least, says something in itself.

What Do We Know about This Boom?

The main thing we know about the current episode is that it looks very large. It is being driven by a big increase in demand for key Australian export commodities. Global consumption of coal has increased by about 50 per cent over the past decade; consumption of iron ore has increased by 80 per cent since 2003. Back then, Australia shipped around half a million tonnes of iron ore each day; now it is over a million tonnes a day. Coal shipments have been running at a rate of around 300 million tonnes a year, at least until the recent floods. Australian capacity to export LNG is now around 20 million tonnes a year, up from around half that in 2004. This looks like it will increase to over 50 million tonnes within five years.

The rise in demand has been driven in large part by the rapid growth of key emerging market economies such as China and India. Over the past decade:

- the average annual growth of GDP per capita has been around 5½ per cent in India and almost 10 per cent in China;
- the number of people living in cities in those two countries, especially China, has risen by over 250 million, which implies having to expand or create cities (with the attendant buildings and infrastructure) to house the entire population of Australia more than 10 times over or, alternatively, to house the populations of France, Germany and Japan combined; and
- steel production has doubled in India and it has more than quintupled in China.

Thus far, the demand for resources has stretched the global capacity of suppliers. Prices of key raw materials have consequently been driven upwards. As a result Australia's terms of trade have risen sharply, to be about 65 per cent above the 20th century average level, and about 85 per cent above the level that would be expected had the downward trend observed over the 20th century

continued. Even assuming the terms of trade soon peak and decline somewhat, they are nonetheless, over a five-year period, at their highest level since at least Federation – by a good margin. With the terms of trade at their current level, Australia's nominal GDP is about 13 per cent higher, all other things equal, than it would have been had the terms of trade been at their 100-year average level. Of course Australia has substantial foreign ownership in the resources sector so a good proportion of this income accrues to foreign investors. Nonetheless, probably about half of that additional 13 per cent of GDP accrues to Australians one way or another.

We also know that a large expansion in the resources sector's capacity to supply commodities is being planned. Already, mining sector capital investment has risen from an average of around 2 per cent of GDP over the past 25 years to about 4 per cent, which exceeds the peak reached in the booms of the late 1960s and early 1980s. Given the scale of possible additional investment projects that have been mooted, resources sector investment could rise by a further 1–2 per cent of GDP over the next couple of years. If it occurs, this will be by far the largest such expenditure of a capital nature in the resources sector in Australia's modern history. Again, a significant proportion of the physical investment will be imported, but a large domestic spend is nonetheless likely.

A further thing we know about the boom is that it is associated with a much higher level of the exchange rate than we have been accustomed to seeing for most of the time the currency has been market determined, a period of more than 25 years (though, over the long sweep of history, the nominal exchange rate was often considerably higher than it is now). On a trade-weighted basis, it is 25 per cent above its post-float average. The striking relationship between the effective exchange rate adjusted for price level differentials (the 'real' exchange rate) and the terms of trade that is observable over quite a long period in the data still seems broadly to be in place.

Interest rates also have a bearing on the exchange rate. Even though most market interest rates are very close to medium-term averages, or even below them in some cases (e.g. the cash rate and the 90-day bill rate), interest differentials have recently strongly favoured the Australian dollar because of the persistence of extremely low rates in all of the world's major financial centres. Moreover, the expectation that relatively high returns will be earned on real capital in Australia – in mining for example – is a powerful factor influencing capital flows.

We know that changes in the real exchange rate are part of the textbook adjustment mechanism to shocks like changes in the terms of trade. In past episodes, where movements in the nominal exchange rate were more limited (or did not occur at all), a range of other prices in the economy had to respond – arguably a more disruptive way of adjusting to the shock. On this occasion, the nominal exchange rate has responded strongly. This helps to offset the expansionary effect of the increase in investment, and also gives price signals to the production sector for labour and capital to shift to the areas of higher return. In other words, firms in the traded sector outside of resources are facing a period of adjustment. But in the face of such a shock they were always going to face that adjustment, one way or another.

What Don't We Know?

The main thing we don't know is how long the boom will last. This matters a great deal.

If the rise in income is only temporary, then we should not respond to it with a big rise in national consumption. It would be better, in such a case, to allow the income gain to flow to savings that would then be available to fund future consumption (including through periods of temporarily weak terms of trade, which undoubtedly will occur in the future). Likewise it would not make sense for there to be a big increase in investment in the sorts of resource extraction activities that could be profitable *only* at temporarily very high prices. Moreover, the

economic restructuring that would reduce the size of other sectors that would be quite viable at 'normal' relative prices and a 'normal' exchange rate – assuming there is such a thing – would be wasteful if significant costs are associated with that change only to find that further large costs are incurred to change back after the resources boom ends.

If, on the other hand, the change is going to be quite long-lived, then national real income is going to be permanently higher, and we can look forward to enjoying significantly higher overall living standards into the distant future. In that world, a great deal of structural economic adjustment is bound to occur. In fact it almost certainly could not really be stopped. It would not be sensible to try to stop it.

We know that the peaks of previous terms of trade booms were relatively short-lived. In the current episode, the very high level of the terms of trade already seems to be persisting for longer than in previous episodes. Is this telling us that we should expect the boom to disappear at any moment? Or is it telling us that this episode is different from the others? [4]

In favour of the latter view, if China and India maintain, on average, their recent rates of 'catch-up' to the productivity and living standards of the high-income countries, and if they follow roughly the same pattern of steel intensity of production as seen in the past in other economies, a strong pace of increase in demand for resources will likely persist for some time yet. On the other hand, resources companies in Australia and beyond are rushing to take advantage of the current increase in prices by bringing new capacity on line. Will this increase in supply be just sufficient to match demand? Will it be too little? Or too much? An additional complicating factor is that serious attempts at reducing CO_2 emissions would probably change the story at some point. The lessons of history, moreover – that booms don't go on indefinitely – are also too great to ignore.

At this stage, the Reserve Bank staff are assuming that the terms of trade will fall in the latter part of the forecast horizon. The associated assumptions about key resources prices are toward the conservative end of current market forecasts, which typically assume a smaller fall in prices. Even under the Bank's current assumptions, however, the terms of trade are still very high, by historical standards, at the end of the forecast period.

But any forecast or assumption made in this area is subject to wide margins of uncertainty. We know that something very big is happening and has been for a while. We simply do not know whether it will continue like this, or not.

How to Respond?

How, then, should we respond to our knowledge, and to the limits of our knowledge?

To recap, we know that:

- Previous commodity price and/or mining investment booms were big events that had major expansionary and inflationary effects.
- Those booms all ended, generally with more or less a total reversal of the earlier rise in the terms of trade, though this often took some time. On some occasions, this brought on a significant economic downturn.
- The current boom looks bigger than any other since Federation at least, in terms of the rise in the terms of trade over a period of several years.
- The previous episodes occurred without the benefit of a flexible exchange rate to help manage the pressures. On this occasion that particular price is adjusting, which should help to contain the pressures and help the economy to adjust more efficiently.

We do *not* know what the terms of trade will do in future. It would be rather extreme to assume that the rise of China and India is a short-run flash-in-the-

4 I asked our econometricians to test the hypothesis that the observations over the past few years were drawn from the same process as generated the observations over the 20th century. Their answer, based on a battery of suitable tests for a univariate time series, was that it was too early to tell.

pan phenomenon. Likewise it would be imprudent not to allow for a fairly significant fall in prices, even if only to still pretty attractive levels, over several years.[5] But the truth is that we will learn only gradually what the detailed shape of the new environment is.

How should we handle this uncertainty?

A few simple messages seem to me to be important.

First, we should not assume that the recent pace of national income growth is a good estimate of the likely sustainable pace. We should allow a good deal of the income growth to flow into saving in the near term. We can always consume some of that income later if income stays high, but it is harder to cut back absorption that rises in anticipation of income gains that do not materialise.

To date, that precautionary approach seems to be in place. Households are saving more than for some years and the much-discussed 'consumer caution' has been in evidence. Firms are consolidating balance sheets. Governments have reiterated commitments to stated medium-term fiscal goals.

Second, there is going to be a nontrivial degree of structural change in the economy as a result of the large change in relative prices. This is already occurring, but if relative prices stay anywhere near their current configuration surely there will be a good deal more such change in the future. Because we can't confidently forecast where relative prices will settle, we cannot know how much such change is 'optimal'. Therefore we can't be sure that some of it will not need to be reversed at some point. But the optimal amount of change is unlikely to be none at all. So we should not look to prevent change; we should look to make it cost as little as possible. In general, that means preserving flexibility and supporting adaptation.

Third, productivity is going to come back into focus, especially in sectors that are exposed to the rise in the exchange rate. Their prices will be squeezed, and their costs potentially pushed up by the demand of the resources sector and related industries for labour. Surely maintaining viability will involve achieving significantly bigger improvements to productivity than we have observed in recent years.

Fourth, if we have to face structural adjustment, it is infinitely preferable to be doing it during a period in which overall income is rising strongly. If nothing else, in such an environment the gainers can compensate the losers more easily. Many other countries face major issues of economic adjustment in an environment of overall weakness.

Conclusion

At the risk of sounding like a broken record, the rise in Australia's terms of trade over the past five years is the biggest such event in a very long time. It reflects powerful forces at work in the global economy to which our country is more favourably exposed than most. It presents opportunities and challenges. With a large boost to income, we need to think about the balance between saving and spending, because we do not know the permanent level of the terms of trade. I argue for erring on the side of saving for the time being, and I think this is by and large what is happening so far. With a large change in relative prices, we should also expect to see a good deal of structural change in the economy. A careful response to that prospect is also needed, and no doubt your conference will examine such issues over the day ahead. I wish you well in your deliberations.

5 I note that prices observed over the past year have exceeded, more or less continually, what had been assumed.