

COMMODITY PRICES AND MACROECONOMIC POLICY: AN AUSTRALIAN PERSPECTIVE

*Address by Mr Glenn Stevens, Governor, to the
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Thank you to the Bank of Canada and the Haskayne School of Business for the invitation to be here today. There has been a lot of good analytical discussion of commodity markets over the past few days, and I do not propose to go over that ground. I shall confine myself to some fairly high-level remarks about general trends in commodity prices and the issues for economic policy-makers that are arising from those trends.

Naturally, I will do this from an Australian perspective. A Canadian audience is likely to hear some things that may resonate, but I am also conscious that there are some significant differences in our experiences at present. Perhaps the biggest one is that the market for the bulk of Canada's exports, amounting to about 25 per cent of Canadian GDP, namely the United States, is currently very weak. In contrast, the economy of the country that is now Australia's largest trading partner – China – is running hot.¹

I begin with some general observations about commodity prices.

What has been Happening to Commodity Prices?

As we heard today, a range of commodity prices have risen sharply in recent years. In fact this is very widespread; it's not just oil (Table 1).

A key question is whether these changes have been principally the result of supply reductions or increases in demand. In the case of food prices, it can be argued that supply problems have been important. To be sure, some important demand factors have played a role over time. As has been pointed out by several authors, rising living standards in the developing world have seen rising demand for a higher-protein diet and hence grain to feed animals. As a flow-on from higher oil prices, the desire to step up bio-fuel production is also a factor pushing up the demand for some grains. While the share of crops devoted to bio-fuel production is still very small, its impact at the margin may be considerable: on some estimates it accounts for almost half the increase in usage of major food crops in 2006–2007.

¹ In 2007, China joined Japan at the top of the list of Australian trading partners, with 12.9 per cent of two-way trade (Japan's share was 12.1 per cent). Exports to China are about 2.6 per cent of Australia's GDP.

Table 1: Commodity Prices

	Currency/unit	Year average		
		2000	2004	2008 ^(a)
RBA Index of Commodity Prices	SDR (2000 = 100)	100	122	231
of which:				
Base metals		100	119	231
Rural		100	117	179
London Metals Exchange Index	SDR (2000 = 100)	100	118	249
IMF Commodity Price Index	SDR (2000 = 100)	100	113	234
of which:				
Food		100	110	166
<i>Selected commodities</i>				
Oil (WTI)	US\$/barrel	30	41	106
Gas (Henry Hub)	US\$/thousand m ³	155	213	341
Thermal coal (Newcastle spot)	US\$/tonne	25	54	125
Hard coking coal (contract) ^(b)	US\$/tonne	40	57	300
Iron ore (contract) ^(b)	US¢/dm ^t ^(c)	27	36	133 ^(d)
Aluminium (LME)	US\$/tonne	1 550	1 719	2 821
Copper (LME)	US\$/tonne	1 814	2 864	8 094
Wheat (US hard red winter)	US\$/tonne	114	157	385

(a) January to May

(b) Year average based on Japanese fiscal year beginning 1 April

(c) Dry metric tonne unit

(d) Based on settlements to date

Sources: ABARE; Bloomberg; IMF; RBA

Still, probably the most important factor at work raising prices of foodstuffs over the recent period has been supply problems, caused by unfavourable weather conditions in key grain production areas. In Australia, we have been living through one of the longest droughts in some parts of the country since modern records have been kept. I understand that drought conditions have also plagued Canada's Prairies in recent years. Such events are not usually thought likely to be permanent. They do seem, though, to have been reasonably persistent.

While food prices may have been affected by unfortunate supply shocks, for many other commodities the main driver of higher prices has been strong growth in demand, not reduced supply. In the case of oil, global oil demand (and supply) has risen by about 13 per cent since 2000, to about 86 million barrels a day at present.² This additional demand has come almost entirely from outside the OECD countries, which were traditionally the biggest users of oil. Chinese demand is the source of about a third of the increase, but the rest comes from developing countries around the world. Global imports of iron ore have risen by about two-thirds since 2000.³ In this case, the increase is more or less entirely accounted for by China. A qualitatively similar story can be told for coal consumption. Much of the increase in world demand for aluminium, copper, nickel and zinc can also be attributed to growing Chinese usage.

² Source: International Energy Agency.

³ Source: Australian Bureau of Agricultural and Resource Economics (ABARE).

So this is not the same as the OPEC shocks of the mid and late 1970s, when large supply disruptions pushed prices higher and slowed global growth. In this case, demand, a function of strong global growth, has driven the price rises.

Of course, it is not demand in the industrialised West that has been the most prominent in this episode; it is that of the developing nations which have so enthusiastically embraced globalisation and all the aspirations that it brings for an energy-intensive way of life. One can see how for the rich countries this presents as a ‘supply shock’, raising prices and lowering output. But to see it as *just* that misses the fact that demand and growth generally in the emerging world are quantitatively important enough now to matter to the global economy in a way that it did not only a decade ago. This is not to deny the continuing importance of the major industrial economies, or the potential feedback effects of slower growth in the major economies on commodity prices. But more is going on than just what is seen in the ‘Atlantic’ group of North America and Western Europe – and the price of commodities is the proof of that proposition. Moreover, this is probably a portent of ongoing adjustment over the long run.

Issues for Economic Policy in Response to Commodity Prices

Substantial changes in commodity prices present important policy issues, both for macroeconomic policies working on the demand side of the economy, and for structural policies that work on the supply side. Responses would be expected to differ, moreover, between countries which are mainly commodity users and those which are also suppliers (like Canada and Australia).

A key initial question is naturally whether the change in commodity prices is temporary or permanent. To the extent that changes are driven by temporary supply disturbances, most countries would expect not to respond to these with monetary policy, since it is likely that by the time any policy response has its effect the problem will have gone away. Monetary policy’s job is to control the trend inflation rate, not the very short-term one. However, when the changes are driven by persistent demand factors, policy-makers will need to give consideration to whether monetary policy needs to be adjusted.

There is, of course, a very important distinction to be made between a permanent, but one-time, shift in the level of prices and a persistent increase in the rate of change of prices, though in practice it may be very difficult to tell the difference. A pick-up in the ongoing rate of change of prices obviously would require a tighter monetary policy setting (i.e. higher interest rates). The more interesting and difficult case is the one-time price level rise, which takes place over a year or two (or three or four).

For the ‘average’ industrial country, a persistent rise in the price of raw materials or energy represents a negative shock to supply. The capacity of the economy to supply goods and services at a given price level has diminished. By itself, this will reduce output and push up prices. But the effect of the higher prices, assuming they are typically paid to suppliers elsewhere in the world, also acts somewhat like a tax on spending, hence aggregate demand falls.

The net effect of these forces on the ongoing rate of inflation in the medium term, once the initial effect has passed through, is unclear, though the effect on output will be unambiguously negative. Monetary policy may, or may not, need to be tightened to control medium-term inflation.

Two factors will be key for that decision: the behaviour of price expectations and whether or not the community accepts a decline in real purchasing power over the resources whose price has risen. If inflation expectations remain anchored, and a decline in real purchasing power is accepted, then there is scope for monetary policy to ‘look through’ the temporary period of higher inflation, because firms and consumers are doing likewise. Should expectations of inflation rise, or an attempt be made to restore previous levels of purchasing power through higher prices and wages, then things get much more difficult for policy-makers.

To my mind, the importance of expectations highlights the value of some sort of inflation target that is well understood in the public mind and which provides a fixed point around which inflation expectations can coalesce. There is no doubt, as some have pointed out in recent times, that adverse supply shocks are presenting the most significant challenge to the inflation-targeting approach that it has so far experienced in a period of nearly two decades since New Zealand and Canada led the way in adopting it. But since expectations are key, I would rather go into an episode like this with a well-understood target, than without.

Of course, current circumstances also point to the need for short-term flexibility in meeting the target: there remains a trade-off between variability of inflation and output over the short term, and that trade-off has shifted in an adverse direction. But a well-designed inflation-targeting framework allows for deviations from target, for a while, in the face of shocks. Provided the framework retains credibility, that flexibility can and should be used.

All of the above holds for the ‘average’ industrialised country. But, of course, Australia is not the average country here. As a commodity *producer*, our terms of trade have risen. Whereas for a net commodity importer a rise in commodity prices acts analogously to a tax paid to foreigners, we *are*, or are among, those foreigners to whom those payments are made. That impact is expansionary. It raises real income and, absent some other mechanism to remove that income, aggregate demand.

Some of the increment to demand will be met by imports, but demand for non-traded goods and services will also rise. Other things equal, it is likely that housing values will increase and, to the extent that people view that as increased wealth, that may add a further stimulus to consumption. At an unchanged real exchange rate, this extra demand, combined with a tendency for productive resources to shift towards the export sector, implies an excess demand for non-traded goods and services.

So compared with the ‘average industrial country’, the case of an industrialised, commodity producer like Australia has more complex dynamics. Potential supply in some areas of the economy falls, but aggregate demand will probably rise rather than fall, due to the terms of trade gain, and it is more likely that there will be a problem of inflation in the non-traded sector. Given these effects, it is more likely than it would be in other countries that something has to adjust to offset the expansionary forces.

Obviously, monetary policy has to consider its response. One of the things that can help is an appreciation in the nominal exchange rate. That would mean that the higher demand resulting from the terms of trade gain can be partly met from abroad, which helps to contain the pressure on prices.

If the nominal exchange rate does not adjust, then an alternative is for the real exchange rate to appreciate via a rise in wages and domestic prices. This would restore balance in the markets for goods and labour, but at the cost of considerable inflation. The problems for monetary policy are therefore, in this instance, compounded.

A different approach is to spread the effects of the terms of trade rise across time, through extensive state intervention in the resources and exchange markets. Some countries use a combination of tax and financial measures to capture ‘rents’, preventing resource earnings from having a strong expansionary effect over the short term. Often, countries that do this put resource earnings into a long-lived fund, usually offshore, so that foreign currency earnings never enter the country and hence have minimal impact on the exchange rate or domestic demand. The governments of such countries then plan to spend the earnings of the fund over a long period of time. The effects on the economy, including changes on the supply-side structure, are dampened and spread over time. Even in some of these cases, though, pressure has been mounting on the currency pegs – e.g. in the Gulf states. In other cases – e.g. Norway – a flexible exchange rate is maintained, with an offshore wealth fund, but monetary policy has still needed to be tightened in the recent episode.⁴ So countries with this approach are still facing adjustment issues.

The second set of adjustment challenges for the commodity-supplying country is the extent to which the structure of the economy should alter in response to changed relative prices. Again, if the change is temporary, it probably makes no sense to start the process of shifting productive factors, since the gain to doing so would be short-lived and there may be significant costs of structural change. But if the change is permanent, then it is presumably rational to shift factors to those activities which generate higher returns – especially if the resource has a very long life.

In practice, no-one can know whether a change of this nature is permanent or not. So markets and/or policy-makers are often in the position of not knowing how much response to make. They may end up making or accepting a partial response in case it is permanent, but not, initially, the whole response, in case it is not. Indeed, one reason commodity prices across the board are so high is that producers did not anticipate the persistent nature of the stronger demand.

But in either event, how smooth this adjustment is depends on the economy’s structural characteristics – that is, the extent to which it is responsive to price signals (assuming these price signals are allowed to occur). The more flexible the supply side of the economy – the easier it is to re-allocate labour and capital across industries and regions – the less disruptive the adjustment is likely to be. These factors are, of course, outside the realm of macroeconomic policy. But they matter a great deal in determining how easy it is for macroeconomic policy to manage the economy’s response to the shock.

⁴ *As a general strategy, abstracting from price fluctuations, the ‘oil fund’ approach seems to make the most sense when the resource will be exhausted within, say, a period of a couple of decades. In essence, a finite resource endowment is converted into an annuity, rather like what happens with retirement incomes. In cases where the resource will probably last for a couple of hundred years, on the other hand (as in Australian coal, for example, at current extraction rates), this logic may be less compelling. The current rate of income flow perhaps is more likely to be seen as approximating permanent income. Exceptionally low discount rates would be needed to warrant a decision for virtually all of this income to be saved.*

Recent Australian Experience and Response

With that discussion, you can see already, I expect, the outlines of the way Australian policy-makers have analysed and reacted to the trends in commodity prices over recent years.

As an industrialised economy, Australia, like Canada, is a user of energy and raw materials. Since Australians pay world prices for energy and materials (albeit with smaller taxes added than Europeans), as users we face this same apparent backward shift in the supply curve in that part of the economy: it costs more now to use the same amount of these inputs as before. For our businesses and households as users, this is a contractionary and inflationary impact.

But Australia is also a supplier of raw materials and energy. Admittedly we are a net importer of oil (increasingly so as Bass Strait reserves diminish), but Australian entities make large exports of natural gas and thermal coal, whose prices are highly correlated with oil prices over time. Metallurgical coal and iron ore are also major exports. As we gather here today, price rises for the 2008 contract year are coming into force, which will see prices for iron ore and thermal coal approximately double, and those for metallurgical coal *treble*.

These changes mean a rise in Australia's terms of trade of about 20 per cent over the first three quarters of 2008. This will bring the total rise since 2002 to nearly 70 per cent. The rise in real domestic income from this totals about 13 per cent of GDP over this period. We are talking real money here!

Table 2: Terms of Trade – Selected Countries
Percentage change, 2002–2007

Chile	78
Russia ^(a)	64
Australia	42
<i>Forecast for 2008:Q3</i>	67
Norway	38
Argentina	21
Canada	19
South Africa	13
Mexico ^(a)	4
Turkey	4
Indonesia	1
United Kingdom	0
France	-2
Germany	-2
Italy	-2
United States	-6
South Korea	-13
Japan	-22

(a) 2003–2007

Sources: ABS; Badan Pusat Statistik (BPS-Statistics Indonesia); Banco Central de Chile; Federal State Statistics Service (Russia); Instituto Nacional de Estadística y Censos (National Institute of Statistics and Censuses, Argentina), INDEC; OECD; RBA; South African Reserve Bank

The terms of trade rise ranks pretty highly among countries (Table 2).

As to the effects on the economy, we start with the fact that the Australian resources sector is privately owned. The additional income accrues most directly to shareholders of the resources companies, some of which are foreign entities, but there is a substantial domestic income effect. To that extent, there is an expansionary effect on household demand. The expansionary effects continue as resources companies typically step up output and exploration activity, increasing demand for labour and for a wide range of goods and services across the rest of the economy. Governments also gain revenue by way of additional taxes on income at the Federal level, and various royalties and so on at the State level.

These provide additional public spending power, which governments may choose to use to a greater or lesser extent. These same forces also mean that even though the resource extraction activities are concentrated in particular regions, the regional differences apparent in the initial shock tend to be reduced over time. It is true, for example, that Western Australia has the lowest unemployment rate of any Australian state, but also true that unemployment rates everywhere have recently been at generational lows.

Australia has a floating exchange rate, so for us, as for Canada, a key question in adjusting to commodity price changes is how far the exchange rate will move.⁵ Of course, just how the exchange rate reacts to a change in commodity prices will depend, among other things, on how monetary policy is expected to respond. Here it is important, in my view, for policy-makers to encourage markets to form their expectations on the basis of the central bank behaving consistently with its announced inflation objective.

We have an inflation target for monetary policy, aimed at achieving an average CPI inflation rate of between 2 and 3 per cent over time. This specification provides a clear benchmark as an anchor for long-term expectations – and the average rate of inflation over the past decade was 2.7 per cent.

As pressure on prices has increased over the past couple of years, not just because of the direct effects of food and energy prices, but reflecting a broader pick-up under conditions of strong demand, tight capacity and anticipated further expansionary influences of the terms of trade, monetary policy tightened.

But monetary policy has still made use of the flexibility allowed by the target at times of large shocks. Inflation is currently running at over 4 per cent, and likely to be around that level for another year or so, on our most recent forecasts, before it comes down. The task of monetary policy is not to reduce it to 2–3 per cent immediately, but to do so over time.

Australia also has had, for many years now, a focus on supply-side policies, which has sought to emphasise flexibility and responsiveness to price signals so that productive resources move to their most profitable industry and location. Key policy directions have been trade liberalisation and a move away from the formerly rather regulated and centralised structure of wage determination. A much more flexible labour market has been invaluable in adjusting to

⁵ *The Canadian dollar was first floated on 30 September 1950. Rising commodity prices associated with the beginning of the Korean War had significantly strengthened Canada's trade balance with the United States, and the concurrent economic recovery in Europe had further boosted demand for Canadian exports. These events, in concert with strong capital inflows and speculation of a revaluation, led Canadian authorities to become increasingly concerned about the inflationary impact of maintaining a fixed exchange rate. Ultimately, the decision was taken to float the Canadian dollar. At least initially, the float was viewed as a temporary measure, yet it was almost 12 years before a fixed exchange rate was reintroduced.*

The Canadian dollar was then re-floated on 31 May 1970. Again the decision to float was preceded by higher commodity prices, strong external demand for Canadian exports and sizable capital inflows. Soon after the Canadian dollar was floated the Bretton Woods system collapsed, and by 1973 all major currencies were floating against the US dollar. For further details on the floating of the Canadian dollar, see Powell J (2005), A History of the Canadian Dollar, Bank of Canada, Ottawa. Available at <http://www.bank-banque-canada.ca/en/dollar_book/index.html>.

Australia's experience was rather different. In the early 1950s at the time of the Korean War, the terms of trade rose by about 50 per cent in a single year as wool prices soared. With a fixed exchange rate, the rise in export receipts meant an explosion in money and credit, and CPI inflation reached 25 per cent (higher than the peak subsequently reached in the mid 1970s). Then the terms of trade reversed, and the economy experienced a significant recession, with inflation falling back to zero within a couple of years. The story of the 1970s was better in that the regulated exchange rate was revalued, but somewhat belatedly and in the meantime domestic policies went seriously off track for other reasons.

the shocks of recent years. The changes in relative returns in different areas of production have seen relative wages alter and patterns of employment change, with relatively little acceleration in aggregate wages growth, especially considering the overall tightness of the labour market.

Compared with previous episodes of booming commodity prices, a floating currency, a sound but flexible medium-term framework for monetary policy and a flexible labour market mean we are doing much better this time than in the mid 1970s or early 1950s.

Concluding Comments

Rising commodity prices pose challenges around the world. For both Australia and Canada, the current episode carries more than the usual degree of complexity. For all those complexities, though, I still believe that we will cope best with these shocks by sticking with a flexible inflation target, a floating currency and pro-flexibility supply-side policies in labour and product markets.

We should perhaps lift our gaze, however, from issues specific to our own countries for a moment, to consider how policy-makers globally ought to think about the rise in commodity prices. For most countries individually, it is plausible to argue that the rise in a wide range of commodity prices is exogenous – even if it is driven by global demand, our own contribution to that demand is small. Even the US, the euro area and, in the case of energy and resources, China appear to regard the rises as largely beyond their control.

But if we had all the central bankers of the world around a table, could we collectively regard the rise in commodity prices as exogenous? Food prices aside, it is difficult to escape the conclusion that commodity prices overall have been rising because global demand has been strong. And the aggregate of monetary policy settings in the world has a major bearing on that demand.

At present, monetary policy is expansionary in many countries. Interest rates in the G3 economies are fairly low in real terms, reflecting their own circumstances. In Asia, real short-term interest rates have been even lower, even though growth has been solid and inflation is rising, since many countries place a high weight on managing their currencies relative to the US dollar and the Chinese yuan. People are starting to ask whether this is the right configuration for the circumstances these countries face.

Perhaps we will see differing circumstances given due weight, as the various countries formulate their individual responses over the period ahead. That would be a very desirable outcome in the case of each country taken in isolation, but also for all countries taken together.

In the meantime, expectations of inflation are going to be important. In the final analysis, the important question is not what ‘special factors’ might have pushed up particular CPI elements in this country or that, but whether the populations of our various countries have confidence in inflation declining again once the shocks have passed. Sustaining that confidence is our task. ✎