

March Quarter 2007

30 January 2007

**Authors:****Saul Eslake**  
Chief Economist**Tony Pearson**  
Head of Australian Economics**Amy Auster**  
Head of International Economics**Paul Braddick**  
Head of Financial System  
Analysis**Warren Hogan**  
Head of Markets Research**Khoon Goh**  
Senior Economist, New Zealand**Julie Toth**  
Senior Economist, Industry**Cherelle Murphy**  
Economist, Markets**Riki Polygenis**  
Economist, Australia**Amber Rabinov**  
Economist, Australia**Our Vision:**

For Economics@ANZ to be the most respected, sought-after and commercially valued source of economics research and information on Australia, New Zealand, the Pacific and Asia.

**Inside****International overview**

The longest run of global growth in excess of 4% pa since the years 1968-73 seems set to continue. The world economy is expected to expand by about 4½% this year and next, with developing countries playing an increasingly important role. *Page 2*

**Australian outlook**

A moderation in inflationary pressures and sub-trend growth in the non-farm sector opens the door for rate cuts by year end. *Page 12*

**New Zealand outlook**

The New Zealand economy has achieved the fabled soft landing. We expect interest rates to remain on hold for 2007 and most of 2008, with the easing cycle likely to start in December 2008. *Page 16*

**Financial market update**

Global liquidity conditions will remain buoyant over the year ahead and asset markets will continue to generate strong returns. We expect the A\$ to depreciate to US\$0.73 by the end of 2007. *Page 18*

**Feature article**

Carbon trading is part of a suite of measures aimed at combating global climate change. Australia has not yet officially joined any international carbon trading schemes or implemented its own regime, but we are moving ever closer to doing so. *Page 22*

**Australian and New Zealand economic forecast table** *Page 25***Financial markets forecast table** *Page 26***List of contacts** *Page 27***World economic forecasts**

|                 | 2005 | 2006 (f) | 2007 (f) | 2008 (f) |
|-----------------|------|----------|----------|----------|
| Australia       | 2.8  | 2.4      | 2.5      | 3.7      |
| New Zealand     | 2.1  | 1.5      | 1.5      | 2.3      |
| United States   | 3.2  | 3.3      | 2.5      | 3.0      |
| Euro zone       | 1.4  | 2.6      | 1.9      | 2.0      |
| Japan           | 2.6  | 2.4      | 2.0      | 1.8      |
| China           | 10.2 | 10.5     | 9.6      | 8.8      |
| Other East Asia | 5.1  | 5.4      | 5.0      | 4.9      |
| World           | 4.7  | 5.1      | 4.5      | 4.4      |

This publication was finalised on 29 January 2007

**Economics on the Web**

View Economics@ANZ research and commentary on-line by going to <http://www.anz.com/go/economics>. NZ economic research can be accessed online at <http://www.anz.com/nz/tools/economic.asp>.

For your economic consultancy needs please call Tony Pearson on 03 9273 5083

## International Overview

Saul Eslake, Chief Economist

### The global boom continues

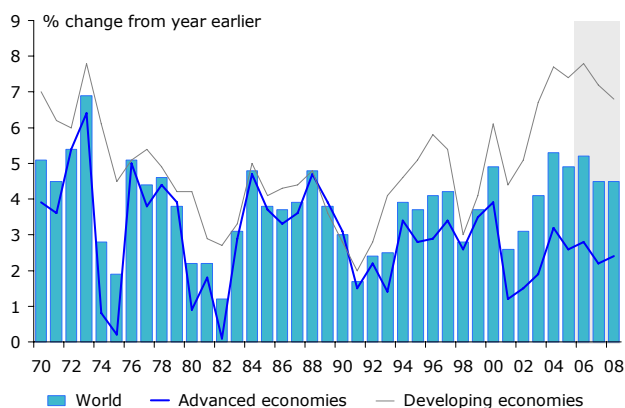
The longest run of global growth in excess of 4% pa since the years 1968-73 seems set to continue, with the world economy likely to expand (on our forecasts) by about 4½% this year and next, after exceeding growth of 5% last year (for the second time in three years). And although it remains as easy as at any point in the last few years to point to risks which could, in theory, derail this global expansion, it is rather more difficult to argue (and we don't) that any of these risks will materialise in 2007.

The distinguishing characteristic of the current global business cycle is the important role of developing countries in driving it.

This actually has three dimensions. The first, which we have noted here previously, is that developing countries have contributed about 62% of the increase in global GDP (measured in US\$ at purchasing power parity exchange rates) over the past five years, compared with only 46% of global growth over the previous two decades, and even though developing countries represented only 47% of the *level* of global GDP (on average) during this period. This improved growth performance on the part of developing countries stems largely from their own growth-enhancing reforms, enhanced by the forces of technological change and globalisation.

The second is that developing countries have helped to keep a lid on inflation in the industrialised world by providing a source of competitive discipline on the pricing behaviour of firms (and on the cost of labour) that simply did not exist two and three decades ago, by providing lower-cost alternatives to the production of goods and (increasingly) services in the industrialised world. Along with the greatly enhanced credibility of central banks in industrialised countries, this largely explains why the dramatic increase in oil prices over the past two years has had far fewer consequences for inflation (and hence ultimately for economic growth) than the oil shocks of the 1970s and early 1980s.

#### Developing economies driving global growth



Sources: IMF, Economics@ANZ.

Third, developing countries have exported massive amounts of capital to the industrialised world – over US\$1¾tr of it (in net terms) over the past five years, equivalent to 3% pa of the developing world's GDP. Much of this, of course, has taken the form of US\$ purchases by the central banks of East Asian and, more recently, oil-exporting nations.

This has helped to keep interest rates in the industrialised world lower than would otherwise have been the case, and heightened the appetite for risk among investors, thereby contributing to the environment of rising prices of a growing range of assets. Lower interest rates and higher asset prices have in turn supported economic growth in the industrialised world. Prior to this decade, by contrast, capital flowed the other way – from developed economies to the developing world.

It is perhaps worth emphasising that the capital exported by the developing world is *not* the result of loose monetary policies on the part of developing country central banks. Rather, it results from the fact that saving has risen by much more than investment in the developing world over the past decade. In China, gross investment has risen by some 8 ppts of GDP (from 35% to 44%) over the past five years; but gross saving has risen by nearly 15 ppts (from 37½% to nearly 52%) of GDP over the same period – hence the increase in China's current account surplus of nearly 6 ppts of GDP between 2001 and 2006. In much of the remainder of the developing world, investment remains lower as a share of GDP than the peaks preceding the various financial crises of the second half of the 1990s. The 'excess savings' of the developing world have, in effect, financed increased consumption (the counterpart of lower saving) and/or increased investment in the developed world.

### China and the US remain key

China has of course been at the centre of these trends in the developing world. On its own, China has accounted for 26% of the growth in global GDP over the past five years, a contribution far in excess of its 15% share of the level of world GDP. China's growing exports have been an important source of disinflationary pressure in Western countries: over the past three years, the price of goods imported into the US from China has fallen by 2.6%, whereas the prices of all US non-petroleum imports have risen by 8.0% and the prices of non-food and energy goods produced in the US have risen by 5.9%. And China has single-handedly exported almost US\$500bn (net) of capital over the past five years, more than 40% of the developing world's total.

The US has been at the centre of events in the industrialised world. It has accounted for about one-sixth of the growth in the global economy over the past five years, and for nearly 44% of the increase in developed countries' GDP (compared to its 38% share of the level of developed country GDP). And the US has effectively absorbed all of the capital exported by the developing world over the past five years, as well as another US\$1½tr from the remainder of the industrialised world.

While it is possible to envisage scenarios in which this (so far remarkably benign) combination of forces is disturbed, it is difficult to assign high probabilities to any of them, at least in the near term.

In particular, the most plausible scenario for China this side of the Beijing Olympics is for continued growth at close to the double-digit pace of the past four years, albeit with heightened efforts by the central authorities to engineer a shift, at the margin, away from investment and exports and towards household consumption as the principal engine of growth.

In the US, we expect the downturn in the housing sector and the associated slowing in consumer spending, which became evident in the second half of last year, to result in a below-trend growth rate of around 2½% this year (down from 3.3% in 2006). However, we see no plausible grounds for expecting a significantly weaker outcome than this. We see no reason why the consequences of the end of the US housing boom should be any more dire than they have been in countries such as Australia and the UK.

Indeed, it is perhaps more likely that lower oil prices and rate cuts from midyear onwards (once the Fed has satisfied itself that 'core' inflation is back within its comfort zone) could produce a slightly stronger out-turn than our forecast (in which case the Fed may act more circumspectly).

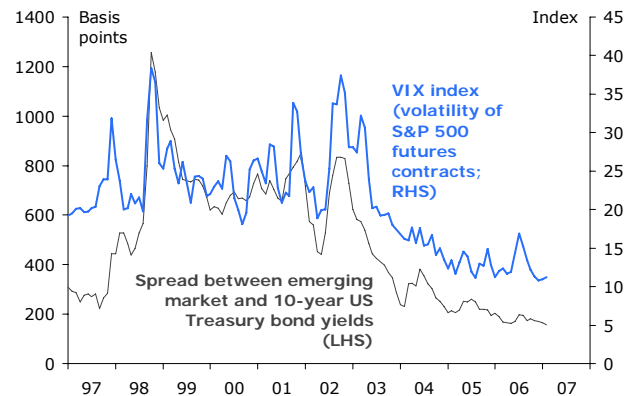
Economic growth in other parts of the developed world is also likely to be slightly softer than in 2006, but not appreciably so. The euro zone economy is expected to grow by about 2% this year, down from 2½% in 2006, largely on account of tax hikes in Germany and Italy. A similar outcome is expected in Japan given the continuing softness in household spending despite the recovery in the corporate sector.

### Most of the risks are medium-term

The greatest short-term risk to what otherwise appears to be a remarkably benign outlook is that of a 'financial accident' sufficiently momentous to interrupt the cross-border flows of capital which have so effectively 'greased the wheels' of economic growth in recent years.

Measures of risk implicit in financial asset prices (such as the implied volatility of equities and the 'risk spread' on emerging market debt) have declined to unprecedented lows over the past year. There are some eminently sensible reasons for this; not least, the extended period of relatively low and stable inflation, and hence interest rates, enjoyed by a growing number of countries in recent years, and enhanced confidence in the ability of official institutions to ward off or minimise the consequences of financial crises. Nonetheless, it does mean that markets are, in an important sense, unprepared for the possibility of a shock – and hence, that if a shock does occur (for whatever reason), its consequences could be more far-reaching and destabilising to the world economy.

### Financial markets priced for perfection



Sources: Lehman Bros, Thomson Financial Datastream.

A sharp rise in the Japanese yen – leading to a rapid unwinding of the 'carry trades' which have been financed in that currency – would be a case in point. But such shocks are, almost by definition, quite unpredictable as to their timing.

There are some more obvious medium-term threats to the underpinnings of the current global boom, stemming from the growing possibility of a political reaction to some of the trends which have emerged in the global economy in recent years.

The first is the possibility of a protectionist backlash to the continued penetration of developed country markets by China. It is not sustainable for China's exports to continue growing at 29% per annum (as they have done over the past five years) in a world where total exports are growing at less than half that rate, now that China is the world's third largest exporter (and likely to be its largest within three years). China's authorities understand that as much as anyone else, and it is one reason why they have allowed the yuan to appreciate by more than 6% since July 2005. But in the aftermath of the Democratic victory in last year's US Congressional elections (which brought a number of unabashed protectionists to Washington) and in the protracted lead-up to next year's Presidential election, the risk that this modest rate of currency appreciation will be insufficient to appease those who (wrongly) see tariffs and quotas as a means of reducing the US trade deficit is likely to grow. The likely complete failure of the Doha Round adds to that risk.

The second is the possibility of a more broadly-based political reaction to the impact of globalisation on the distribution of income between labour and capital in industrialised countries. Globalisation has profoundly increased the supply of labour relative to capital and, as such, is one of the key factors behind the almost unprecedented rise in the share of national income accruing (in the first instance) to the corporate sector in the developed world. This trend has been reinforced by cuts in taxes on capital (and on higher personal incomes) in much of the developed world. While these trends have undoubtedly been positive for investors and for economic growth, they could also contain the seeds of their own reversal if not carefully managed at the political level.

## US Outlook

Paul Braddick, Head of Financial System Analysis

### Economy slowing but sound

Underlying growth in US economic activity continues to slow, however, the risk of full blown recession has receded. Marked falls in crude oil and gasoline prices and mild winter weather have supported activity in recent months and upward revisions to employment statistics and solid wage gains paint a far less worrisome picture of the labour market and household sector finances than previously thought.

The housing and auto sectors are effectively in recession, but the broader economy, while decelerating, remains remarkably resilient. After slowing to an annualised rate of just 2% in the September quarter, economic growth appears to have strengthened in the December quarter, buoyed by growth in consumer spending, business investment and improved net exports (although these factors will be partly offset by a significant inventory adjustment).

A waning of the temporary boost to growth coming from unseasonably warm weather and falling gasoline prices is likely to see conditions soften again in the March quarter. Consumer spending and employment growth continue to slow, as do capital goods orders and shipments, housing and auto sales.

The housing sector remains the major cyclical driver of activity. Recent housing downturns in other countries including Australia and the UK were ameliorated by strong positive external influences<sup>1</sup>, but it is far from clear where such a positive stimulus will come from in the US. As a result, growth in 2007 is still expected to fall to a below-trend 2½%.

### Housing - positive signs but further falls

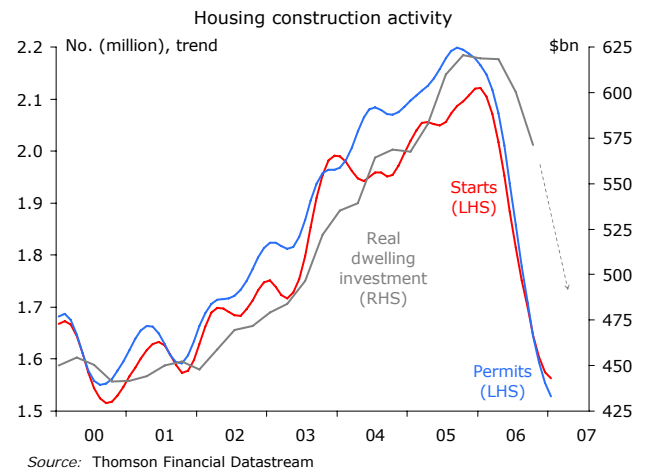
The peripheral housing data flow has been reasonably positive in recent months suggesting that market sentiment is reaching a nadir. After falling precipitously for most of last year, sales of new and existing homes levelled out in the December quarter.

Moreover, the National Association of Home Builders index has improved in recent months, after plummeting to a 15-year low in September. While these releases have eased our disquiet about the severity of the housing downturn, some concerns remain.

A large inventory of unsold homes still overhangs the market and a 'dead-cat bounce' in housing starts in recent months is largely attributable to unseasonably benign weather conditions and we expect renewed declines in coming months. Moreover, the trend in housing *permits* remains negative, suggesting dwelling construction will

continue to detract significantly from growth in the first half of 2007.

### Dwelling investment has further to fall

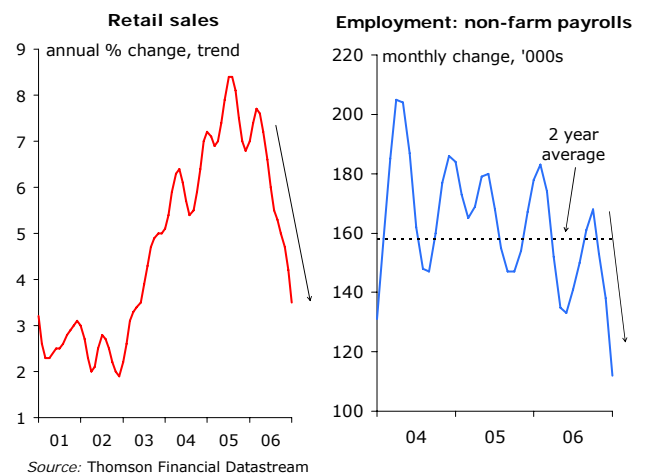


### Household finances are well supported

The household sector remains the key to the US growth outlook. Consumer spending slowed significantly in 2006, but buoyant labour market conditions point to a relatively soft landing in 2007.

Annual nominal retail sales growth (in trend terms) slowed from a rampant 8½% in mid-2005 to just 3½% in 2006. At the same time, employment growth has declined, with trend monthly payrolls gains falling from 180,000 in early 2006 to 112,000 in December.

### Spending and employment are slowing



Despite softening in 2006, the labour market remains tight with the unemployment rate at 4.5% in December. Employment is growing at an annual rate of around 1½% which, combined with wage gains of 4½%, has ensured that household income growth remains buoyant and is helping to offset slowing wealth gains and reduced borrowing.

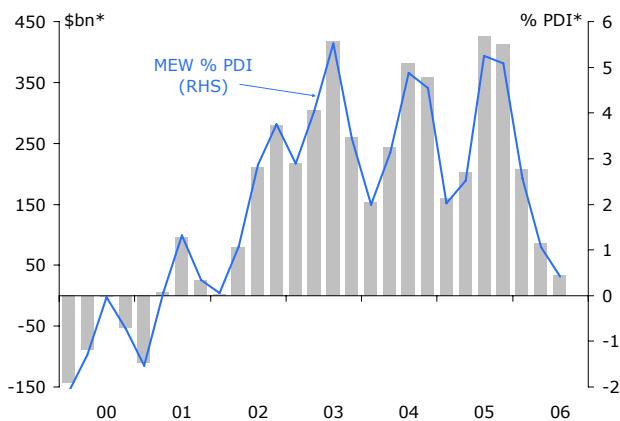
Earlier recessionary fears were fuelled by expectations of a collapse in house prices leading to negative wealth effects and a marked retrenchment of consumer spending. But while the price of existing family homes fell modestly in the second half of last year, the Office of Federal Housing Enterprise Oversight house prices index has continued to rise over the year to September (albeit

<sup>1</sup> Australian growth was buoyed by a substantial rise in the terms of trade, while the UK enjoyed a sharp rise in export demand from Europe.

at a sharply reduced rate). A modest recovery in home sales and market sentiment indicators in recent months has allayed fears of a widespread collapse in house prices. Negative wealth effects are likely to be limited and at least partially offset by ongoing equity market gains. While modest house price falls remain possible, the recent firming of housing sentiment indicators and our own 'fair value' index for US housing suggest that more significant falls are unlikely.

Households have, however, already significantly reined in their levels of borrowing against home equity. As a percentage of personal disposable income, mortgage equity withdrawal has fallen from 5.9% in September 2005 to -0.4% in September 2006. Clearly, this has had a major impact on household purchasing power and partially explains the marked slowdown in consumer spending experienced over the past year.

#### Mortgage equity withdrawal falling sharply



\* Personal disposable income, annualised 6-monthly total  
Sources: Thomson Financial Datastream, Economics@ANZ

Reduced household wealth gains, falling mortgage equity withdrawal and slower household goods purchases will continue to weigh on consumer spending in the first half of 2007. However, lower gasoline prices and robust household income growth will continue to provide some support.

#### Business sector remains robust

In contrast to the softening of conditions in the household sector, the business sector continues to grow solidly. While factory orders slowed significantly in 2006, corporate profitability and cash flow remained very strong over the year to September. Outside of the auto sector (which has slowed sharply), industrial production has been growing solidly by 4.2% in trend terms over the year to November. And while the manufacturing ISM index remains relatively subdued, the non-manufacturing ISM index retains momentum.

A marked slowing of non-defence capital goods orders foreshadows some moderation in business equipment investment in 2007. However, the near-term outlook for non-residential construction activity remains buoyant.

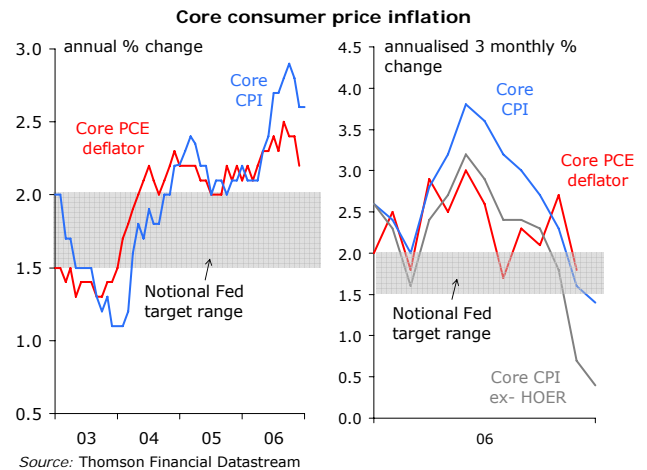
#### Fed - not too hot, not too cold

After seventeen 25bp rate hikes in two years, monetary policy has been on hold since June 2006

and inflation is behaving broadly according to the Fed script. The Fed has succeeded in slowing US economic growth to below trend and inflation has slowed accordingly. While trailing annual inflation rates remain above the notional Fed target range, consumer price momentum slowed significantly in the second half of last year.

The annualised quarterly core inflation rate peaked at 3.8% in the middle of last year and has fallen sharply since then, to just 1.4% in the December quarter. Indeed, core CPI (ex-home owner's equivalent rent) slowed even more dramatically from an annualised quarterly rate of 3.2% in May to just 0.4% in December.

#### Inflation has eased substantially



In addition, many of the key influences on inflation have eased significantly in the past quarter. Oil prices, which were closing in on US\$80/bbl, have fallen to US\$50/bbl and retail gasoline prices have declined from over US\$3/gallon to around US\$2.20/gallon at present.

Moreover, it initially appeared that unit labour costs had accelerated sharply in September, to an annual growth rate of 5.3%, driven by solid wage gains and weakened productivity. With the unemployment rate falling to a low of 4.4%, the Fed had legitimate cause for concern. However, since then, significant upward revisions to productivity estimates have seen unit labour cost growth over the year to September revised down to a less troubling 2.9%.

Increased confidence that a 'Goldilocks' outcome is on track has resulted in less hawkish rhetoric from the various Fed governors in recent months, as well as increased market confidence that current policy settings will be sufficient to bring inflation back into the Fed's target range.

Nonetheless, market expectations continue to swing wildly on each monthly data release and the rate cuts previously factored into market pricing for the second half of 2007 are gradually being priced out. This is reasonable given the relatively positive tone of the recent data flow. However, while recessionary fears have receded, economic growth is likely to remain sub-trend and inflation is clearly slowing, hence calls for further rate hikes are very premature.

## Euro zone and UK Outlook

Riki Polygenis, Economist  
Amber Rabinov, Economist

### Steady as she goes in euro zone and UK

The economies of the euro zone and the UK have both been riding the wave of the booming global economy. With annual economic growth at 2.7% in the September quarter, 2006 saw the euro zone economy record its best performance in six years. Germany has regained the mantle from long-time rival France as the primary driver of growth in the area, although January's VAT increase to 19% may generate some short-term volatility in growth and prices.

Growth in the UK has continued to pick up steam, with the economy expanding by 0.8% in the December quarter to be 3.0% higher over the year. This has been propelled by a booming services sector, which has offset stagnation in manufacturing and a sharp drop in utilities output.

In 2007, growth in the euro area is expected to ease to around 2%, while growth in the UK will remain broadly unchanged at around 2¾%.

### Divergent outcomes in the labour market...

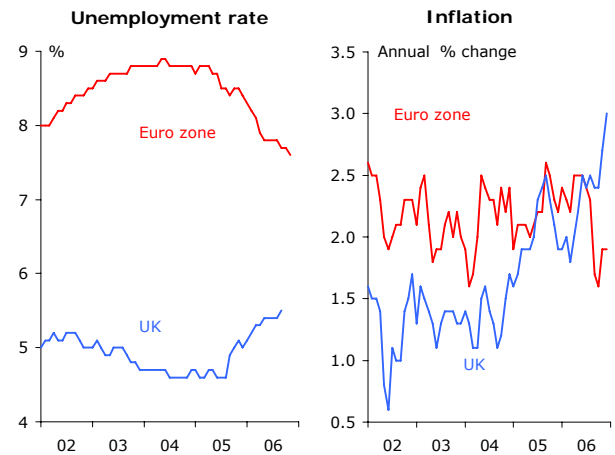
The euro zone labour market continued to perform strongly in second half of 2006 due to continued improvement in growth outcomes and further labour market reform, particularly in Germany. The standardised unemployment rate is now 7.6%, the lowest rate recorded since the beginning of the series in 1993. Employment growth also remains solid. However, combined with sustained strength in economic growth, robust labour market conditions are beginning to feed into wage demands, particularly via Germany's powerful labour unions.

The unemployment rate in the UK remains well below that in the euro zone. However, it did increase through much of 2006, reaching 5.5%. This was largely a lagged response to the slowdown in growth in previous years, but also due to an expansion of the labour force from an increased influx of migrant labour over recent years. Moreover, there are now signs that the unemployment rate is stabilising, which may fuel concerns about wages going forward.

### ... and for inflation

Consumer price inflation increased sharply through 2006 in the UK whilst dipping back below 2% in the euro zone. Annual CPI inflation in the UK rose from 1.9% in December 2005 to 3.0% in December 2006. This was the highest annual rate in almost ten years and the Monetary Policy Committee of the Bank of England (BoE) marginally escaped having to write an explanatory letter to the Chancellor of the Exchequer. Across the Channel, European Central Bank (ECB) council members have been pleased with sub-2% inflation recorded over the past four months, with prices rising 2.2% on average in 2006.

### Stark contrasts in employment and inflation



Source: Bloomberg

ANZ is expecting inflation to come in at just above 2% for both economies in 2007. However, potential wage pressures and a forecast strengthening in energy prices may threaten price stability. In the UK, while wages growth is currently benign at an annual rate of 4.1%, the recent increase in retail price index (RPI) inflation (most commonly used in wage bargaining) has raised concerns about higher wage demands in the crucial January to April period, during which two-thirds of wage deals are negotiated. In addition, the minimum wage was increased by 5.9% in October 2006 which may start filtering through more broadly. In the euro zone, German labour union demands for pay increases as high as 6.5% could set a worrying benchmark for the coming year. Moreover, the rapid pace of money supply and credit growth present further upside risk to inflation.

### Further tightening ahead

The predictability of monetary policy moves by the ECB cannot be overstated, underlined by its use of clear language and rhetoric to prepare the markets. Both financial markets and ANZ currently expect the next 25bp step up in euro zone rates will occur in March. In fact, ECB President Trichet all but confirmed this in the press conference following the January ECB meeting: "I would say nothing here that would change expectations by the market that we could do something at the end of the first quarter." The underlying economic case for another interest rate move is solid. This will be the seventh since December 2005, with a further hike to 4% in the September quarter also likely.

In stark contrast, the BoE surprised markets by raising its benchmark rate by 25bps in January, the first time it has done so in a non-*Inflation Report* month in over two years. Upside risks to inflation imply that the BoE will raise rates at least once more in coming months, possibly as early as March, however the timing is not as clear as for the ECB.

The prospect of at least one further rate hike in both the UK and on the continent mean that the £ and € will appreciate against the US\$, at least in the short term.

## Japan Outlook

Amy Auster, Head of International Economics

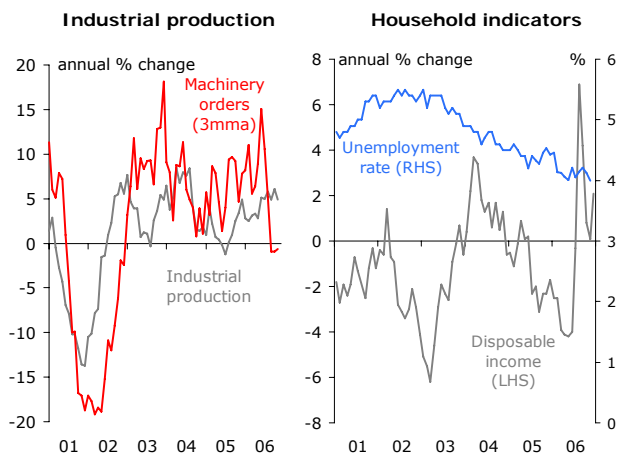
### Waiting for the BOJ

The Bank of Japan (BOJ) should raise its policy interest rate in the first quarter of this year, for only the second time since the move toward normalisation of interest rates began last year. Unlike its December meeting, in which BOJ board members voted unanimously to keep the policy rate unchanged, there were some calls for a rate hike in January with the committee voting 6 to 3 in favour of keeping the rate unchanged. Market participants have been continually disappointed by the caution of the BOJ in lifting interest rates, most recently in January, following solid data releases, rising credit growth and comments from unnamed BOJ officials that the BOJ was ready to move.

Consumption is taking longer than expected to pick up speed, with solid growth in corporate profits having failed to translate into higher household disposable incomes. However, household disposable income has been rising on an annual basis for five months now, for the first time since early 2004, suggesting an improvement in consumption may be approaching.

Our forecast since last September has been for a February rate rise, following what we expect will be an upswing in GDP growth reported for the final quarter of 2006. We maintain this forecast, and expect two subsequent rate rises in 2007. Our interest rate expectations have been driven by our forecast that BOJ would need to have core CPI remaining out of negative territory for several consecutive months before raising interest rates again, and that it would also want to see solid evidence that consumption is gaining traction. Core CPI disappointed in December but stronger December quarter GDP and GDP deflator data may still support a February rate rise.

### Cautious optimism over economy



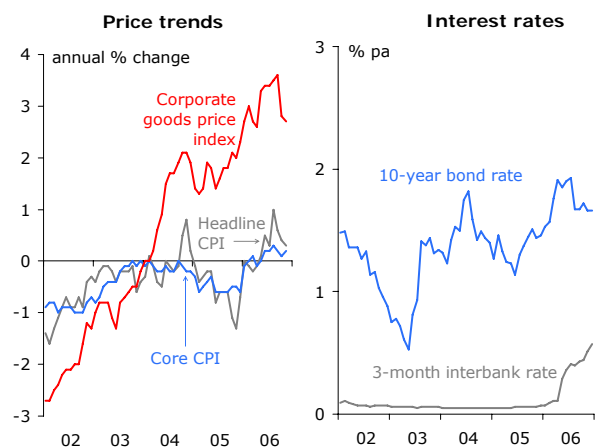
Sources: Thomson Financial Datastream, Economics@ANZ

On the domestic front, industrial production rose by 4.9% over the year to November and inventories increased at an annual rate of 3% for the second successive month, after declining in the previous

quarter. The outlook for production is good, with machine orders up 2.8% in October and 3.8% in November. As mentioned, household disposable income continues to rise, a positive sign for still tepid retail sales. Construction orders rose by 9.2% over the year to November, and the unemployment rate has steadily improved to 4% as at November, from 4.5% at the start of the year. Our expectation is that real GDP growth will have accelerated in the fourth quarter after a slowdown in the third quarter that was largely brought about by a drawdown in inventories. We are projecting growth of 1.1% in the December quarter 2006, which would bring Japan's real growth rate for 2006 to 2.2% after growth of 1.9% in 2005. If this forecast proves correct, Japan's real GDP growth will be close to the projected G7 weighted average growth of 2.3% in the coming year.

Meanwhile, the absence of BOJ action has removed support from the ¥, which traded below US\$/¥122 in January – its weakest level in almost four years. The continued depreciation of the ¥ against both the US\$ and other Asian currencies will continue to bolster exports into the first half of this year. The import bill, on the other hand, should decline with falling oil prices. Thus, net exports could make a substantial contribution to real GDP growth this quarter for the first time in this most recent recovery period. A weak ¥ is also contributing to loose monetary conditions in Japan that will support demand, even as interest rates rise very gradually.

### Short term interest rates continue to rise



Sources: Thomson Financial Datastream, Economics@ANZ

In the end, politics may play an important role in the BOJ's next move. Prime Minister Shinzo Abe recently completed his first 100 days in office. His political clout will be tested in the months ahead with several by-elections due during the year and Upper House elections scheduled for July. Abe's approval rating has dipped since he entered office due to his failure to deliver on his policy agenda. The recent spate of political funding scandals has also been a setback for his administration. Upper House elections will be an uphill battle for the LDP-New Komeito coalition with the potential that the coalition could lose its majority which, in turn, would have implications for the speed of policy implementation.

## Asia Outlook

Amy Auster, Head of International Economics

### Managing success

Against the backdrop of continued above-trend global growth and below-trend global inflation, we expect Asia to register another strong economic performance in the coming year. Indeed, a growing issue among policymakers in Asia is how to manage some of the excesses associated with this success, in particular strong and rising capital inflows from the rest of the world.

The pace of global growth is decelerating. We project that annual global GDP growth will slow from 5.1% in 2006 to 4.4% in the coming year. The slowdown is already apparent in data releases, and is causing anxiety about the length and breadth of this down phase of the business cycle. Nonetheless, growth is well above trend levels, and this global soft landing should exhibit a shallow trough lasting only a few years before demand accelerates again.

This is a favourable outlook for Asia, where we expect regional annual growth in Asia ex-Japan to soften from 8.8% in 2006 to 8.1% in 2007. The recent softening of oil prices and forthcoming interest rate cuts in several Asian economies will further help boost domestic consumption in the first half of this year.

#### Regional growth and inflation forecasts

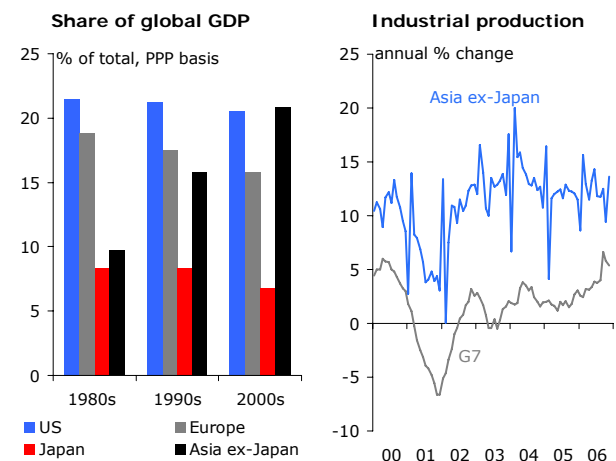
|               | GDP growth |      | Inflation |      |
|---------------|------------|------|-----------|------|
|               | 2006       | 2007 | 2006      | 2007 |
| China         | 10.5       | 9.6  | 1.4       | 3.2  |
| Korea         | 5.1        | 4.4  | 2.5       | 2.9  |
| Taiwan        | 4.6        | 3.4  | 3.0       | 2.5  |
| Indonesia     | 5.3        | 6.0  | 13.3      | 5.0  |
| Thailand      | 4.5        | 4.5  | 4.6       | 3.5  |
| Hong Kong     | 6.8        | 5.1  | 1.8       | 1.5  |
| Malaysia      | 6.0        | 5.5  | 3.6       | 3.0  |
| Singapore     | 7.7        | 4.7  | 1.0       | 0.9  |
| Philippines   | 5.5        | 5.0  | 6.7       | 6.0  |
| Vietnam       | 8.2        | 8.3  | 6.8       | 6.2  |
| Asia ex-Japan | 8.8        | 8.1  | 2.8       | 3.4  |
| G7            | 2.8        | 2.2  | 2.4       | 1.6  |
| Euro zone     | 2.6        | 1.9  | 2.2       | 2.0  |
| World         | 5.1        | 4.4  | 3.4       | 3.0  |

Source: Economics@ANZ

Two main factors appear to be contributing to this favourable outcome. First, consumer price inflation has remained low, allowing central banks to keep interest rates at or below neutral levels despite above-trend growth. Consumer price inflation continues to be depressed by productivity gains associated with the spread of technology and increased global labour mobility associated with the relocation of manufacturing capacity to low-cost production centres.

Second, thanks in part to the relocation of manufacturing capacity, high-growth developing economies now represent a larger share of the global economy than ever before, leading to greater diversification of global growth drivers and a higher global growth rate. As an example highlighted in the chart below, Asia ex-Japan now represents 22% of the world economy as against only 10% in the 1980s.

#### Asia's high growth contributes more



Sources: Thomson Financial Datastream, Economics@ANZ.

The result of higher global growth rates and lower global inflation is an accumulation of greater household wealth as incomes rise while prices fall. The practical expression of higher household wealth is a surge in global liquidity, which at present shows little sign of abating. One of the consequences of the liquidity boom has been rising asset price inflation, which in turn has brought about further wealth effects. The higher asset prices rise, the more investment is recycled into the real economy, which again pushes growth higher.

#### The global liquidity boom

To highlight this phenomenon, we had a closer look at the behaviour of monetary aggregates in the G7 and Asia by creating a weighted index of monetary aggregates<sup>2</sup>, expressed in local currency terms. Expressing monetary aggregates in US\$ terms gives a somewhat different result due to fluctuations in the US\$ over the past few years.

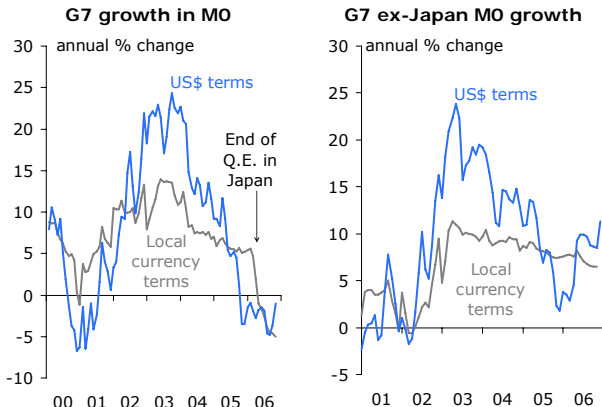
What this exercise reveals is that G7 base money – or M0 – expanded by an extraordinary 13.8% in 2002 and 10.9% in 2003 (in local currency terms). The rate of growth remained above 5% in both 2004 and 2005, even as central banks were tightening monetary policy. As of September 2006, the monetary base of the G7 was 41% larger than it was at the end of 2000, according to our index.

Most recently, the rate of expansion for G7 base money has slowed, but that is wholly because of a contraction in Japan's base money that accompanied the end of quantitative easing in the first quarter of 2006. Excluding Japan, base money in the US and

<sup>2</sup> Weights based on the average amount of M2 in each economy over the period.

the EU members of the G7 rose by just over 8% per year in 2003, 2004 and 2005, and was still expanding by over 6% in the year September.

**G7 liquidity still high**

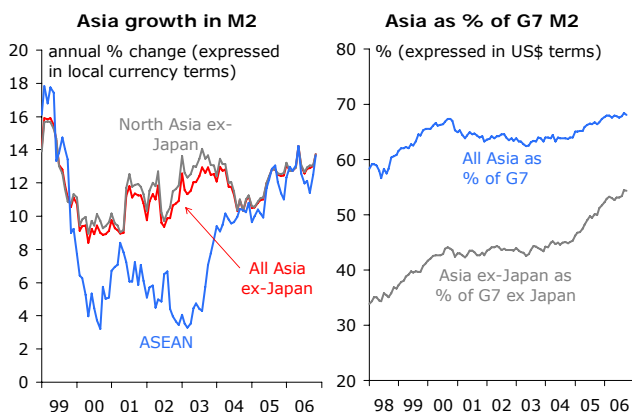


Note: the 'monetary base' is comprised of currency in circulation + banks' reserves held at the central bank; M1 is monetary base + demand deposits. These are the aggregates most influenced by central bank actions.  
Sources: Thomson Financial Datastream; Economics@ANZ

The G7 is not the only source of liquidity in global markets. Asia ex-Japan is contributing a mighty effort, with M2 (the only consistent measure available across the region) rising by more than 10% per annum in every year since 2000. Moreover, the monetary base in Asia is now of significant size relative to that of the G7 as it is now more than half the size of the G7 monetary base (both measures excluding Japan).

Thus, the rapid rate of growth in monetary aggregates in Asia is sufficient to have an impact on the global economy. It is no wonder that Asia has become a net creditor to the rest of the world, given the cash it has in hand.

**Asia also generating liquidity**

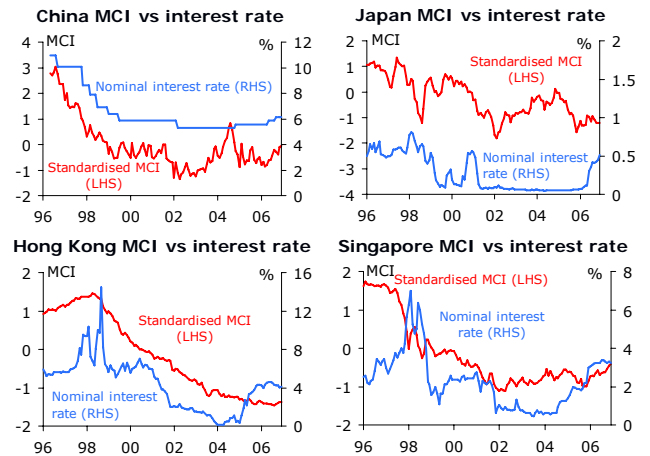


Note: the 'monetary base' is comprised of currency in circulation + banks' reserves held at the central bank; M1 is monetary base + demand deposits; M2 is M1+ money market assets. These are the aggregates most influenced by central bank actions.  
Sources: Thomson Financial Datastream; Economics@ANZ

The availability of funds is further evidenced by our Monetary Conditions Indices (MCIs) for Asia, which reflect the impact on liquidity of exchange rates and market interest rates.<sup>3</sup> The charts that follow show our estimated MCIs plotted against central bank policy rates for a selection of Asian economies. In the first set of charts focusing on Asia's money

centres, the continued downward drift of the MCIs despite the move to higher interest rates over the past 18 months confirms that high levels of liquidity are contributing to easy monetary conditions in these economies.

**Monetary conditions in Asian centres are easy**

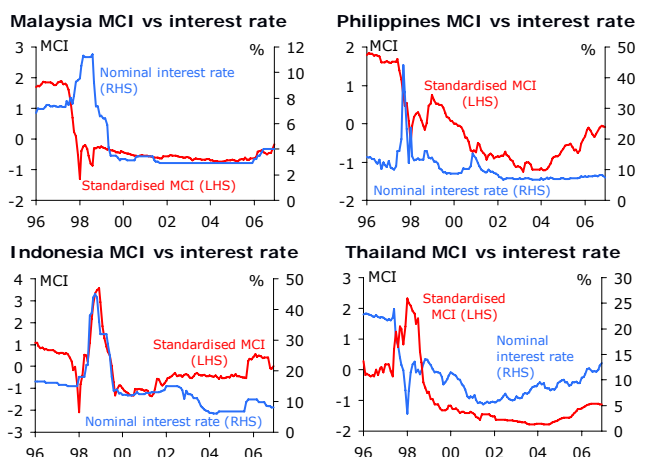


Source: Economics@ANZ

Why are monetary conditions easy in these countries? In China, the largest contributor to base money growth, fixed asset investment has been very high over the past year for a few reasons. First, major state-owned banks were recapitalised in 2003-2004, clearing the way for renewed balance sheet expansion. Second, the Communist Party Congress elections in October 2007 will provide an impetus to provincial government investment projects. Hong Kong has benefited from the Chinese boom, with IPOs on the Hang Seng flushing liquidity into the territory. In Japan, the expansion of the monetary base has been a fundamental component of quantitative easing. Low domestic interest rates and banking sector liberalisation are supporting the outflow of funds, which are ending up elsewhere in the region. Singapore is experiencing a lending boom that is funding investment across the region.

The charts below show that, in contrast to the Asian money centres, MCIs in SE Asian economies are significantly tighter. This reflects more aggressive interest rate rises in 2005-2006 as well as more rapid currency appreciation than in North Asia.

**SE Asian conditions are tighter**



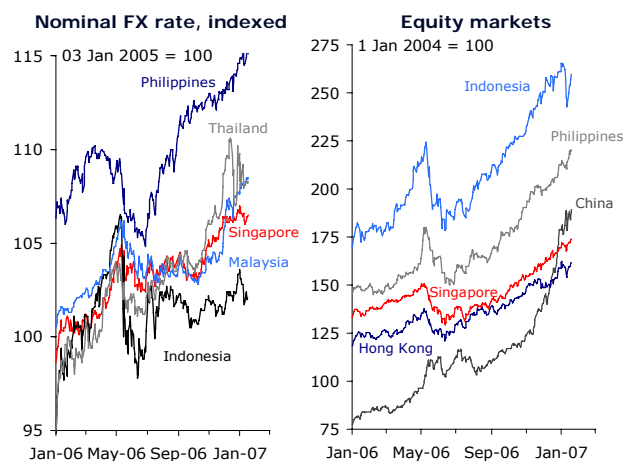
Source: Economics@ANZ

<sup>3</sup> For more on the construction and interpretation of MCIs, see *Monetary Conditions Indices – Asia*, 28 July 2006 by Alex Joiner.

## Central banks acting on liquidity

The phenomenon of high growth, low inflation and high levels of liquidity is creating a difficult situation for central banks. On the one hand, consumer price stability appears to have been achieved and there does not seem to be a need for higher interest rates. On the other hand, central banks in Asia are aware of and uncomfortable with high capital inflows, very low long-term yields and ongoing asset price inflation. High liquidity and rising credit growth rates raise the possibility that asset quality will deteriorate, giving rise to systemic risks in the event of rapid asset price deflation.

### Asia's continued asset price inflation



Sources: Thomson Financial Bloomberg, Datastream

How will central banks respond? Central bankers remain reluctant to target asset price inflation, and for good reason. Unlike consumer price inflation, asset price inflation is largely beneficial for the economy. Moreover, there is no definitive way to estimate the point at which asset price inflation becomes 'exuberant.' While some have expressed concern over the sustainability of spread compression, exchange rate appreciation and equity rallies in Asia, it is also the case that Asia is experiencing a real economic boom that has been generated by productivity-enhancing reforms. As such, it may be the case that rapidly rising share prices turn out to be an appropriate estimate for future earnings growth in this part of the world.

While central banks are not targeting asset prices in Asia, a number of central banks have taken limited action in response to perceived high levels of liquidity and rapid exchange rate appreciation. The Bank of Korea (BOK), the Bank of Japan (BOJ) and the People's Bank of China (PBOC) have all become more active in recent months in using tools other than interest rates to soak up liquidity, including raising reserve requirements and undertaking more aggressive open market operations. Most recently, the BOK has announced a round of measures aimed at loosening restrictions on capital outflows introduced at the time of the Asian financial crisis with the aim of reducing net capital inflows.

## Thailand's unhappy experiment

The most extreme response to large capital inflows into Asia to date took place in December when the Bank of Thailand (BOT) announced the imposition of limited capital controls on the Thai baht in an effort to limit the vulnerability of the rapidly rising equity market to a sudden reversal of capital inflows at some point in the future. The response by the market to Thailand's announcement on 19 December was sharp; the baht slid by a nominal 2% against the US dollar, while the equity market fell by 16%. The reaction was so severe that the following week saw the BOT introduce multiple exemptions to the initial controls in an attempt to ease the damage that had been done to the local bourse.

Thus far, the partial reversal of the BOT's initial restrictions has stemmed the depreciation of the baht, but failed to restore confidence to the stock market. The sense of confusion and loss of confidence was further exacerbated in January, when the government announced revisions to the Foreign Business Act that imposed a 50% foreign ownership limit requirement, a ruling that immediately affected 15 publicly listed companies in Thailand.

The present situation in Thailand has largely arisen out of the domestic political crisis that saw Thaksin Shinawatra ousted in a military coup in September. While the present military rulers have promised that democratic elections will be held in the coming months, for the moment, the government seems to be making an effort to dismantle many aspects of the pro-business environment that Thaksin encouraged. As such, Thailand's new restrictions cannot solely be seen as a response to high capital inflows.

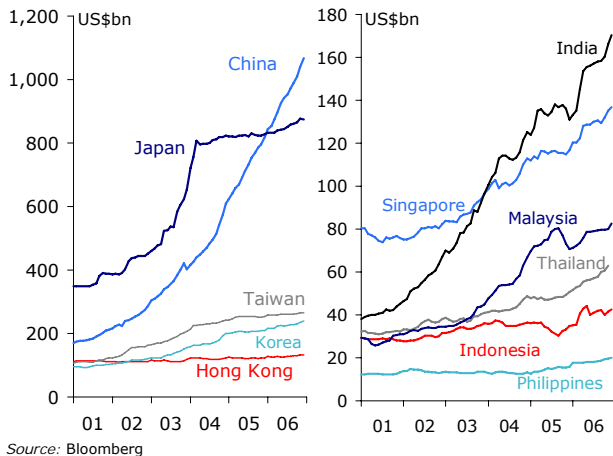
Paradoxically, events in Thailand may prove to be positive as the subsequent damage done to the local market has provided an important lesson to other central banks about what not to do. We believe central bankers in other Asian capitals that may have been tempted to announce similar measures to stem currency appreciation will be keen to avoid the appearance of repeating BOT's mistakes. Instead, we expect central banks elsewhere in Asia to move in the opposite direction by liberalising existing restrictions on capital outflows, so as to help balance the net flow position. While we still expect inflows to dominate outflows, progressive liberalisation of foreign exchange restrictions will be a positive step in the medium term.

## Asian Central Bank, Inc

Another side effect of high net foreign capital inflows into Asia has been relatively rapid accumulation of foreign exchange reserves. China has led the way, with the foreign exchange reserves held by the People's Bank of China reaching US\$1.2tr by the end of 2006, surpassing that of Japan. Taken together, the foreign exchange reserve holdings of all Asian central banks reached nearly US\$2.7tr by

the end of 2006, rising more than US\$300bn over the course of the year.

#### FX reserves continue to rise



Source: Bloomberg

The accumulation of these assets is posing an ever-greater dilemma about how they are to be managed. Higher debt countries such as Indonesia and the Philippines have taken the opportunity of rapidly rising reserves to pay down public sector foreign currency debt, thereby reducing external vulnerabilities. Elsewhere, earlier this year the BOK announced that it would look to form the Korean Investment Corporation, modelled on Singapore's Government Investment Corporation, to manage at least a portion of the central bank's US\$230bn in foreign exchange reserves.

Most intriguingly, China may also follow this model. In mid-January the Chinese government conducted its Financial Work Meeting, held every five years to determine financial sector policy decisions. The meeting results are not yet public, but it seems to be the case that the Chinese will create a separate department or agency mandated with managing at least a portion of China's FX reserves. To date, the PBOC's reserves have been managed by the State Administration for Foreign Exchange and primarily invested in highly rated and highly liquid fixed income paper. There is widespread speculation that the advent of this new body will see China diversify its investment strategy into lower quality and less liquid credits, including potential investments in real assets in the natural resources sector.

#### Bullish financial markets in 2007

An environment of solid growth, low inflation and high liquidity should mean that the financial markets in 2007 will look much the same as they did in 2006 – rallies in the equity markets, flat yield curves and appreciating exchange rates. We expect yield curves to have a positive slope by the end of next year, but the adjustment should come at the short end of the curve as the Fed cuts interest rates.

Our forecasts for key central bank interest rates are shown in the table below. In the United States, we believe the US Fed funds rate has reached its peak and that the BOJ will continue to normalise rates, reaching a 1.0% call target rate by end-2007.

#### Interest rate forecasts

| % pa            | Mar 07 | Jun 07 | Sep 07 | Dec 07 |
|-----------------|--------|--------|--------|--------|
| US Fed funds    | 5.25   | 5.25   | 5.0    | 4.5    |
| BOJ call target | 0.50   | 0.50   | 0.75   | 1.00   |
| BOK call        | 4.50   | 4.50   | 4.50   | 4.50   |
| PBOC 1-year     | 6.12   | 6.12   | 5.85   | 5.85   |
| CBC discount    | 2.87   | 2.87   | 2.87   | 2.87   |
| BI rate         | 9.25   | 8.75   | 8.00   | 8.00   |
| BSP rate        | 7.25   | 7.25   | 7.0    | 7.0    |
| BOT repo        | 4.5    | 4.25   | 4.0    | 4.0    |

Source: Economics@ANZ

In north Asia, interest rates have already peaked. We think the PBOC and BOK will resist raising interest rates in the absence of higher CPI, but will probably raise reserve requirements further this year. The Hong Kong Monetary Authority (HKMA) is also facing this dilemma, as commercial banks have again cut their prime rate despite no moves in the official HKMA rate. The Central Bank of China in Taiwan may announce one more rate rise, but weak domestic demand and low inflation provide plenty of reason to avoid further rate hikes from here.

Interest rates have peaked in SE Asia, as inflation is now rapidly falling away one year after fuel price subsidies were reduced or abolished in Thailand, Malaysia and Indonesia. Bank Indonesia is likely to be the most aggressive in reducing interest rates next year. We forecast a further 150 bps in cuts to take the target rate to 8% by the end of 2007.

#### FX forecasts

Our US Fed forecast leads us to expect a somewhat weaker US dollar this year. We believe the US dollar has further ground to lose against the yen, particularly as the BOJ raises interest rates.

#### Foreign exchange rate forecasts

|            | Mar 07 | Jun 07 | Sep 07 | Dec 07 |
|------------|--------|--------|--------|--------|
| US\$ - ¥   | 120    | 117    | 113    | 110    |
| € - US\$   | 1.32   | 1.30   | 1.29   | 1.29   |
| £ - US\$   | 1.94   | 1.92   | 1.90   | 1.89   |
| US\$ - CNY | 7.74   | 7.68   | 7.61   | 7.55   |
| US\$ - KRW | 924    | 922    | 915    | 905    |
| US\$ - TWD | 32.3   | 31.9   | 31.6   | 31.3   |
| US\$ - IDR | 8,800  | 8,650  | 8,500  | 8,300  |
| US\$ - PHP | 48.5   | 48.0   | 47.5   | 47.0   |
| US\$ - INR | 43.9   | 43.5   | 43.0   | 42.8   |
| US\$ - THB | 34.8   | 35.0   | 35.5   | 36.0   |

Source: Economics@ANZ

We expect most Asian currencies to strengthen against the US dollar on good risk appetite. Despite ongoing discussions between the US and China, we do not anticipate a faster pace of appreciation for the yuan, although the intra-day spot market may become more volatile as hedging instruments develop and the market matures.

## Australian Outlook

Tony Pearson, Head of Australian Economics

### Countdown to rate cuts

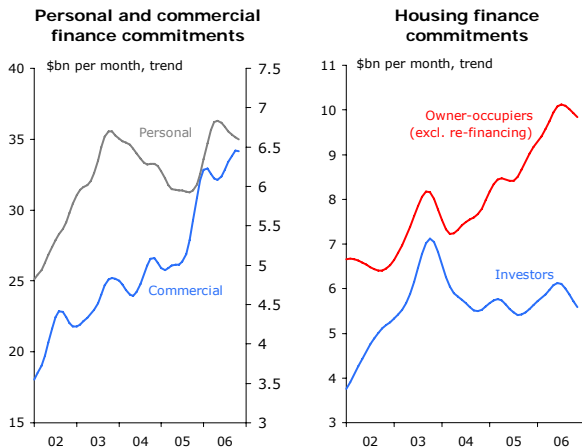
The Reserve Bank of Australia (RBA) raised the cash rate by another 25bp in November 2006, the third increase in six months, and the eighth in the tightening cycle which commenced in May 2002. This lifted the cash rate to 6.25%, equal to the peak in rates in late 2000.

Where to from here? Examination of RBA statements show that there is no standard checklist of variables that it considers in its policy deliberations. But there are two factors which figure prominently - credit growth and inflation. Of these, it is ultimately inflation (or expected developments in inflation) which drives policy, given the RBA's agreed target of maintaining inflation at between 2% and 3% over the course of the cycle. And in the short term, it is credit growth which is likely to be most directly impacted and to respond most rapidly to changes in policy settings.

So what are these two factors telling us?

Starting with credit, private sector credit rose by 1.1% in November and by 14.5% over the year, maintaining the slightly higher growth rates of the second half of 2006. Housing credit rose 1% in the month, other personal by 1.1% and business credit by 1.2%.

### Demand for finance begins to soften



Source: Australian Bureau of Statistics

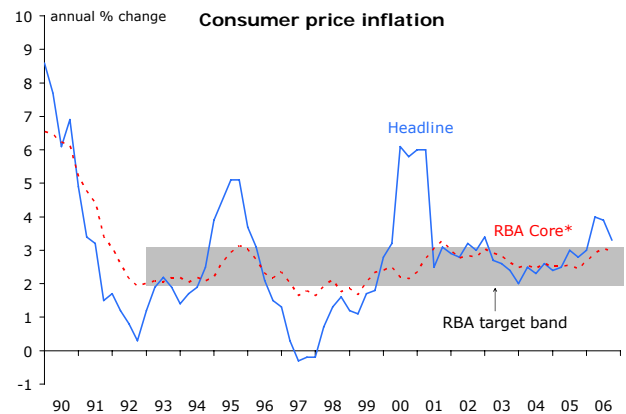
The good news from a policy perspective is that there are tentative signs that higher interest rates are beginning to cool the demand for new finance. The value of housing finance approvals fell in each of the five months to November and are down over 10% (excluding refinancing) since the recent peak in June 2006. Personal finance approvals fell by 1.2% in November, continuing the downturn from mid 2006. Commercial finance approvals fell 11.8% in November although this is a highly volatile series; in trend terms it was broadly flat.

We expect that these trends will lead to a slowing in credit growth through 2007. And this will be one

piece of evidence for the RBA that it has done enough.

The news on inflation is also good. Headline CPI fell by 0.1% in the December quarter reflecting a large fall in petrol and banana prices. The annual rate fell to 3.3%, continuing the deceleration from the June quarter peak of 4%. More relevant, the measures of core inflation favoured by the RBA (weighted median and trimmed mean) both rose by 0.5%, giving annual rates of 3% and 2.9% respectively, just at the top (but not above) the RBA target zone. The quarterly pattern for the core measures provides tentative evidence that underlying inflationary pressures are now subsiding from the peak in the June quarter 2006. Annualising the quarterly increase suggests core inflation is now running at just 2% pa – right at the bottom of the RBA target zone.

### Inflation turns down



\*Average of trimmed mean and weighted median measures  
Source: Reserve Bank of Australia

While special factors such as petrol and banana prices have contributed to the recent rise and fall of inflation, a more fundamental development driving lower inflation has been the sub-trend growth of the non-farm sector. We expect this to continue through 2007 which will help to keep inflation comfortably within the target zone.

We forecast the annual rate of headline inflation to fall below 2% by the September quarter 2007 and for core inflation to fall and stabilise at an annual rate of around 2½% by year end. Taken together, the prognosis for credit and inflation suggest that interest rates have peaked in this cycle.

How long might interest rates remain unchanged? The table below shows the length of peaks and troughs in the "modern" (announced rates) era of monetary policy. The length of time for which rates are held at peaks and troughs is quite variable. The 1994-96 peak lasted 18 months; the 2000-01 peak lasted five months. The time scale for troughs has varied from five to twelve months. While each cycle is different, this suggests it would be outside the historical norm to hold policy unchanged past mid 2008.

## Duration of interest rate peaks and troughs

| Peak/Trough | Dates           | Duration  |
|-------------|-----------------|-----------|
| Trough      | Jul 93 – Aug 94 | 12 months |
| Peak        | Dec 94 – Jul 96 | 18 months |
| Trough      | Dec 98 – Nov 99 | 10 months |
| Peak        | Aug 00 – Feb 01 | 5 months  |
| Trough      | Dec 01 – May 02 | 5 months  |

Source: ANZ Economics

The RBA will not abandon its slightly restrictive policy stance until it is reassured that the inflation dragon has been put safely back into its cave. But it would then want to ease off the brakes a touch to help rekindle non-farm growth. We believe that process will begin in late 2007 - early 2008. Although timing is always problematic, we have penciled in an indicative 25bp rate cut in November 2007 and another in February 2008. This follows the pattern which has been established in recent periods of adjusting policy settings after the release of inflation data. That will reduce the cash rate to 5.75%, at the top of the neutral range. These adjustments will be very much "fine tuning" of policy with the underlying objective of prolonging the now 15 years of unbroken economic expansion.

## Sub-trend growth to continue

While this cycle of expansion in the Australian economy has been long, it is now characterised by modest rather than spectacular growth. In the September quarter real GDP increased by only 0.3%, the smallest quarterly rise in over three years. More telling, growth over the year to September was only 2.2%, the sixth quarter out of the preceding eight in which annual growth had been below 3%.

To be fair, the latest growth data was heavily impacted by the drought, with reduced rural output subtracting 0.3% from GDP in the quarter. But even after allowing for this, growth in the non-farm sector was tepid, increasing by 0.6% in the quarter and by 2.6% over the year.

We know that rural output will rebound once the drought breaks. While the timing of that is uncertain, recent rains in some areas coupled with signs that the El Nino conditions are moderating is providing some hope for better conditions for the planting of the next winter crop.

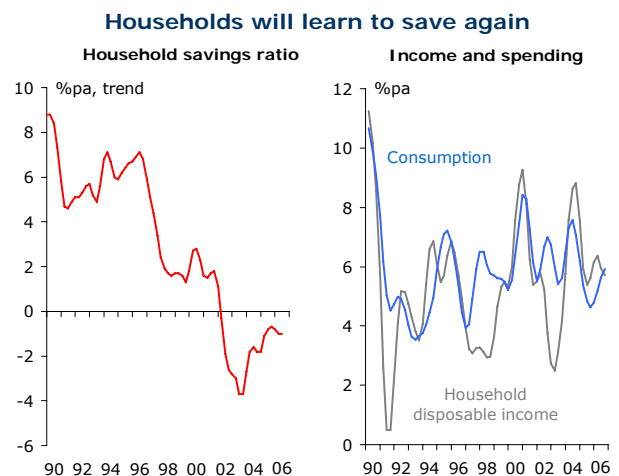
It is the slowing in non-farm growth which is of more concern in the medium term. This reflects a slowing and/or flat performance in key drivers. Household consumption growth has cooled as households seek to rebuild their finances in response to higher interest rates. Businesses are not increasing their investment spending at the same frantic pace as the past four years. Construction of dwellings remains in a gentle trend decline particularly in those states where residential property price growth has been weak or negative.

And the external sector remains a drag on growth, with import volumes continuing to outpace exports. There is a chance of an increased boost from the government sector – it is after all an election year in NSW (March) and for the Commonwealth (towards year end) – but that is by no means a certainty.

Overall non-farm economic activity is forecast to be lukewarm in 2007 before accelerating to around trend in 2008 in response to lower interest rates.

## Household spending has steadied

Retail sales rose by 0.2% in November following a 0.9% surge in October, with the annual rate running at 6.7%. Spending has been supported by solid growth in household incomes on the back of strong employment gains and solid increases in wages. Large falls in petrol prices from the June 2006 peak have helped free up some spending power. Together these factors have helped to offset the drag on disposable income from the interest rate increases. Having said that, the rate rises have made the household sector more cautious, with some consolidation of finances leading to an improvement in the household savings ratio (notwithstanding that it remains slightly negative). With little prospect of interest rate relief until the end of 2007 we expect this more cautious behaviour to continue, with household consumption growing more slowly than household disposable income.



Source: Australian Bureau of Statistics

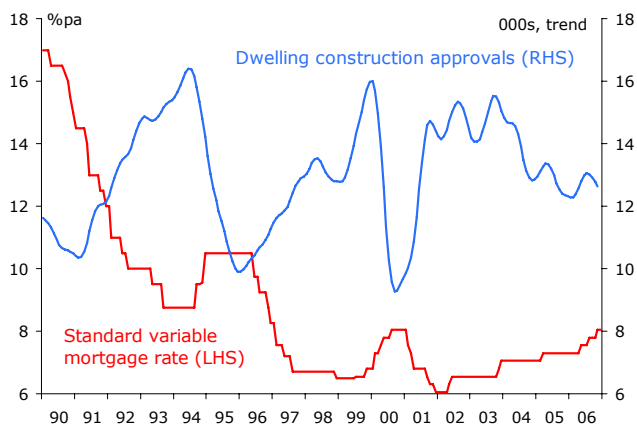
On the positive side, consumer confidence rebounded strongly at the end of 2006, with falls in petrol prices and continued strong employment growth more than offsetting the negative impact of the interest rate increases. While consumer confidence does not line up all that well with spending in the short term, broadly speaking we can expect that a confident household is one that is not about to close its purse strings.

Balancing these factors points to moderate rather than strong growth in consumption in 2007. We see growth of around 3%, about the same as in 2006 and 2005.

## Dwelling construction will continue to ease

Prospects for the dwelling construction sector remain soft in the short term. We warned in our last quarterly publication that the then-apparent signs of an upturn were a false dawn, and this assessment has proved correct. The cumulative impact of the three rate increases in 2006 has led to a renewed downturn in dwelling construction approvals, and this will lead to a further slowing in dwelling construction work done through 2007. This will exacerbate the emerging shortfall in dwellings and will lay the groundwork for a solid upturn in construction towards the end of the year. Over the year as a whole, dwelling investment will be broadly flat; it won't drag on growth but neither will it be a driver of economic activity.

### Higher interest rates will place a further drag on dwelling construction



Source: Reserve Bank of Australia

The story on house prices is more positive. Data from the Australian Bureau of Statistics suggest there has been a reacceleration of growth of prices of established houses, with a nation-wide increase over the year to September quarter of 9.5%, the highest in over two years. However this masks big differences between the capital cities. Perth continues to record the strongest price gains, with annual growth of 46%! At the other end of the scale, Sydney recorded a paltry gain of just 1.4% over the year. These differences reflect the variation in the economic environment of the cities, with Perth enjoying exceptionally strong growth in economic activity, population and employment, and Sydney showing much weaker performance on all fronts.

## Business investment to ease

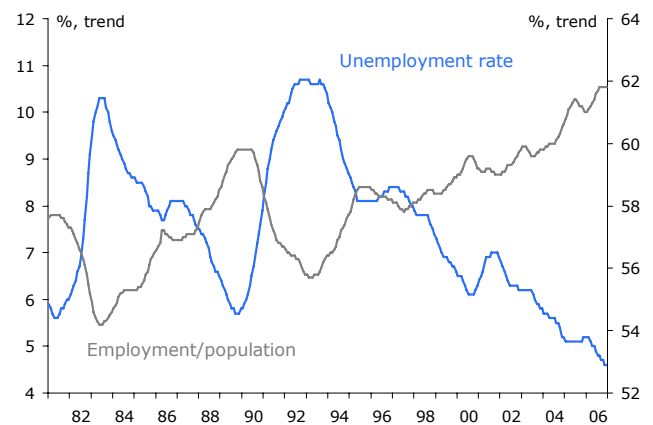
Surveys continue to point to a significant slowing in the growth of business investment in 2007. This is not because business has given up on Australia as a place to make money; rather it reflects the gradual completion of projects that have been in the pipeline for some time and the fact that new projects will no longer be added at a faster pace than completions. Note that we are not predicting a fall in business investment; the *level* of spending will remain high but it will not continue to grow. In 2006 business

investment expanded by around 13%; in 2007 we expect a broadly flat outcome. This area of spending will no longer be a driver of growth.

## Labour market conditions remain tight.

Employment grew by a further 44,600 in December taking the total number of jobs created over 2006 to over 300,000. The unemployment rate remained at a thirty year low of 4.6%. And this occurred as participation in the workforce – measured as the ratio of employed persons to the total working age population – rose to a new historical high.

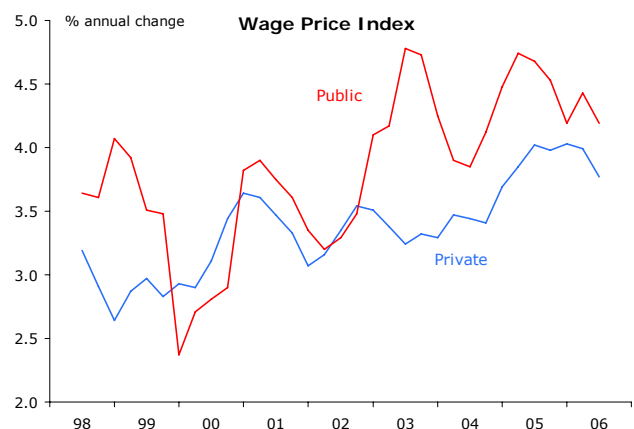
### Low unemployment and high labour market participation



Source: Australian Bureau of Statistics

All of the increase in the employment participation rate has been for women. This reflects inter alia additional subsidised child care places to allow mothers to return to the workforce, and demographic changes such as a greater number of single and financially independent women. But more fundamentally, it reflects the availability of jobs – participation rates tend to rise as unemployment falls as formerly discouraged workers enter the workforce.

### Wages costs remain contained



Source: Australian Bureau of Statistics

There is a limit to how much further the unemployment rate can be reduced or participation increased, although it is difficult to quantify these barriers. Nevertheless, it is unlikely employment can continue to grow at its recent stellar pace –

indeed trend data already show a slowing over recent months. Having said that, the labour market will remain very tight, with employers continuing to struggle to attract and retain workers.

Despite the tight labour market conditions, official data suggest wages growth remains relatively contained at around 4% pa. Anecdotal evidence suggests that sectors of the economy experiencing strong growth – such as mining and construction – are experiencing wage increases greater than this.

### Winners and losers

There continue to be significant variations in the economic performance across the states and across different business sectors. The business sector which is doing best in terms of profitability is the mining sector, with gross profit rising by one third over the year to the September quarter – no real surprises there given continued strong global demand and high prices for key Australian commodities. At the other end of the spectrum the industries with declining profitability are property and business services and construction (heavily influenced by trends in residential construction).

#### Business profitability is weak outside the mining sector

| Industry                       | Gross Operating Profit (%) |
|--------------------------------|----------------------------|
| Mining                         | 33.7                       |
| Manufacturing                  | 7.2                        |
| Construction                   | -3.1                       |
| Wholesale                      | 5.1                        |
| Retail                         | 0.6                        |
| Transport and storage          | 9.5                        |
| Property and business services | -4.1                       |
| Other selected industries      | -10.3                      |
| <b>All industries</b>          | <b>9.5</b>                 |
| <b>Ex-mining</b>               | <b>1.3</b>                 |

Source: Australian Bureau of Statistics

#### Gross State Product, quarterly change

|     | Mar 06 | Jun 06 | Sep 06 |
|-----|--------|--------|--------|
| NSW | -1.2   | -0.1   | -0.1   |
| VIC | -0.1   | 1.7    | 0.6    |
| QLD | 3.0    | 0.7    | 2.7    |
| WA  | -2.2   | 2.2    | 1.3    |
| SA  | 0.3    | 2.5    | -1.2   |
| TAS | -1.9   | -2.4   | -0.1   |
| ACT | -1.1   | 4.3    | -1.8   |
| NT  | 0.1    | 5.6    | 12.8   |

Source: Australian Bureau of Statistics, Economics@ANZ

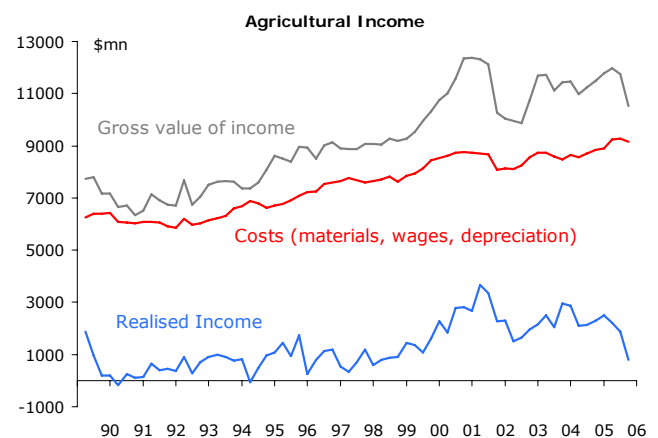
These differences in industry performance are also contributing to differences between the states. The NT, WA and Queensland, which have a relatively

high exposure to mining, continue to show solid rates of growth. The south eastern seaboard states, including Tasmania, are doing much less well. Calculations of gross state product from the quarterly national accounts suggest NSW has experienced three quarters of negative growth, placing it in technical recession (the measure of gross state product is partial as it excludes inter alia transfers between states and trade in services, but it is the broadest measure we have).

### Is the drought beginning to ease?

The rural sector has been hit hard by the drought. Production of the three main winter crops has been most seriously affected, with production of wheat, barley and canola expected to fall by over 60% in 2006-07. This is already impacting on national growth. Realised nominal agricultural income (measured as gross value of production less costs) more than halved in the September quarter, and was the weakest quarterly result since December quarter 1998. To emphasise that point, agricultural income in the September quarter was significantly lower than at the lowest point in the 2002-03 drought episode. Farm GDP overall fell by 10% in the September quarter, reducing national GDP growth by 0.3%.

#### Drought bites hard



Source: Australian Bureau of Statistics

The positive news is that there are tentative signs the tide is beginning to turn. In mid to late January there were heavy though scattered rains across central Australia and South Australia, and across western NSW and Victoria. More importantly, the latest report from the Bureau of Meteorology (issued 23 January 2007) observes that the current El Nino pattern is beginning to weaken. It suggests there is an increased chance of above-normal rainfall for February to April 2007 in a band stretching from northwest WA through to western Victoria. Most of NSW is still a 50/50 proposition, and there is an increased chance of below normal rain over northern Queensland. Nevertheless, overall it suggests there is now an improved prospect of above normal rains across a fair chunk of the winter grains growing belt. If this is realised it would lead to increased rural production in the latter half of 2007 which would help lift overall economic activity.

## New Zealand Outlook

*Khoon Goh, Senior Economist (NZ)*

### The fabled soft landing

The New Zealand economy has achieved the fabled soft landing. Annual GDP growth slowed from 2.1% in 2005 to 1.5% in 2006. Tight financial conditions in the form of a high level of the exchange rate and a prolonged period of restrictive monetary policy setting, not to mention the worst oil shock since the late 1970s, means that this can be regarded as a good growth performance.

Recent indicators suggest that growth might be reaccelerating. Business confidence took a step up late last year, and the housing market looks to be gaining a third wind. Lower petrol prices, improving migration trends, and fiscal spending are providing considerable economic impetus. Certainly, economic activity might surprise on the upside early this year.

We are coy about reading too much into a pick up at this stage, however. The key drivers of the economic slowdown over the past two years, namely a high exchange rate and restrictive monetary policy settings, remain. The currency will be a key dampening transmission mechanism in 2007.

Imbalances are also curtailing the ability for the economy to regain momentum. Below-trend growth is the prescription needed to purge the economy of these imbalances. The economy has already been slowing for the past two years. Yet, imbalances abound in the form of an unsustainable current account deficit, high non-tradable inflation and record household debt levels. This suggests the scene is set for another year or two of below-trend growth. Any reacceleration in economic momentum from this point will simply worsen the imbalances and risk a much sharper slowdown down the track. The Reserve Bank of New Zealand (RBNZ) is also poised to hike rates again if necessary to ensure that any reacceleration in growth does not take hold, for fear of exacerbating inflation pressure.

### Differing fortunes

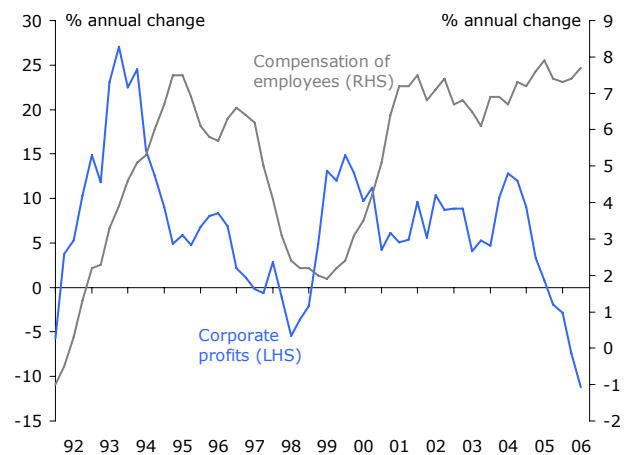
The rural sector is being hit hard by the tighter financial conditions. High commodity prices mask differing fortunes within the sector. Although international dairy prices have risen sharply, lamb prices are down. Rising costs are eroding profitability further. Rural land prices have peaked, with a record number of properties on the market, and a sizeable gap opening between the listing and selling price. The rural chequebook remains firmly shut. This is expected to progressively filter through into the urban centres and the residential housing market.

The corporate sector is similarly feeling the pinch. Corporate profits are down 11% on a year ago, although this follows four years of record profit growth. The manufacturing sector has effectively been in recession for the past two years, and export

competitiveness continues to be eroded by the high exchange rate. The resurgence in the NZ\$ over the second half of last year and early this year will hit exporters especially hard, given that most of their hedging would have run out. While some commodity exporters have the benefit of high commodity prices to offset the rising NZ\$, non-commodity exporters have no such luxury.

The household sector has been insulated to date with the 2005 and 2006 slowdown unevenly shared. Labour hoarding by firms means households continue to enjoy the best job market in a generation, helping to keep consumer spending and the housing market buoyant. The labour share of income has risen to a 15-year high. The Government's coffers are also awash with cash resulting in a record operating balance of 7.3% of GDP for the 2006 fiscal year, and tax cuts look to be around the corner.

### Labour income and profit growth



Sources: ANZ National, Statistics NZ

Corporate profits will continue to decline over the coming year. The economic environment remains earnings unfriendly given a modest growth and sticky inflation backdrop. Margins have fallen by as much as 3% in the past year. A tight labour market environment and poor labour productivity performance over the past two years have hampered the corporate sector's ability to contain rising wage costs, and a strong competitive environment has not allowed them to pass on cost increases. Expect business investment to remain weak in 2007 as firms shelve investment plans and focus on cost containment. The million dollar question is when cost containment will shift to the labour arena.

### Households set to share the growth burden

We expect the slowdown to be progressively shared over 2007. A strong corporate sector focus on costs will see less demand for labour. This, in turn, will see the unemployment rate rise over the next two years, but still remaining low by historical standards. With less job security than they have been used to, households will be more sensitive to any interest rate changes given the additional leverage they have taken on over the past few

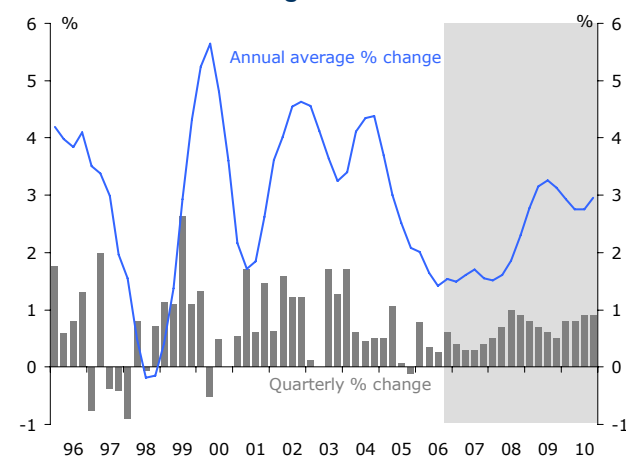
years, and have less of an appetite for more debt. As the interest rate effect fully works its way through the pipeline over this year, consumer spending will slow further. Residential investment will continue to find support from net migration, but the easing labour market will provide less support for house prices.

The housing market will ease, but avoid a rout. Given stable net migration above 10,000 per annum, it is difficult to envisage a material downturn. The outright declines in nominal house prices in previous cycles coincided with net migration outflows and economic distress, both of which are absent in our central forecasts. Although current house price valuations indicate that the market is stretched, a gradual easing towards fair value is expected, rather than an abrupt adjustment.

### Looking for the inevitable upswing

Modest growth in 2007 will represent the third year of soft performance. Provided this dampens inflation pressure, an upswing from this juncture will be at hand as day inevitably follows night. The economic recovery will be a late 2008 story, and crucially depends on the NZ\$ giving ground in 2007. Monetary policy will provide no relief until late 2008. The export sector needs a lower NZ\$ in order to recover, and given where the currency is at the moment, it will not be until 2008 and 2009 before the export rebound occurs. Consumer spending will no longer be turbo-charged by debt to the same extent as in previous years, especially with the wealth effect from house prices waning. A period of household consolidation is expected. Government spending, while capable of stepping up several gears, will remain low key in 2007, leaving the big spend-up for next year, which is an election year. All these suggest no big engine to drive growth in 2007 and early 2008, but the stage will be set for a recovery in late 2008 and 2009.

**Economic growth forecast**



Sources: ANZ National, Statistics NZ

### A base of support

Tightness in financial conditions, through a combination of tight monetary policy and a high

currency, dominate the outlook for 2007. An effective floor to growth is being provided by Government spending, infrastructure investment, reasonable net migration inflows and high commodity prices.

While the economic cycle we are forecasting is a benign one, the imbalances leave the economy vulnerable to shocks. However, there is considerable scope for both fiscal and monetary policy to respond to unexpected shocks. In the absence of a major catastrophe, the economy will likely avoid a hard landing scenario. In addition, an abundance of liquidity both domestically and globally means it is hard to get too bearish on growth.

### Key financial market views

We expect interest rates to remain on hold for 2007 and most of 2008, with the easing cycle to start in December 2008. This will be an exceptionally long period for rates to be on hold, especially in a restrictive setting. But it is a view that is warranted given the concerns that the RBNZ has about the medium-term inflation outlook, and current market sentiment that rates may in fact have to shift up, particularly given the risk of further fiscal stimulus in 2008.

We find it difficult to see the RBNZ engaging in a new tightening cycle, even if it is a late-cycle insurance policy, with growth sitting at 1.5% and inflation below 3%. For this to happen, the RBNZ will need to be convinced that a strong sustained economic recovery is underway. The evidence of this to date is mixed and we expect broader economic forces, namely the impact of a high currency, to dominate as 2007 progresses.

In many respects, 2007 feels like the reciprocal of 2006, when a series of weak partial indicators saw commentators raise prospects for a recession. Sifting through the tea leaves, the consensus was too bearish then, and likely too bullish at present.

In the near-term, the risk profile for interest rates will nonetheless remain firmly on the upside, particularly if the slowdown does not alleviate inflation pressure sufficiently, or if signs emerge of a sustained recovery in domestic demand.

The NZ\$ will remain well bid early in 2007 by yield chasers, but is set for a downward move in the latter part of the year. The key judgement here is that the currency market will focus less on the yield-differential, and more on the underperforming growth differential as the high currency takes its toll on the New Zealand economy. A reassessment upwards of global growth and interest rate prospects will help in this regard. The critical judgement underpinning our interest rate and currency views is that the recent upturn in partial indicators will not be sustained for long in the first part of 2007.

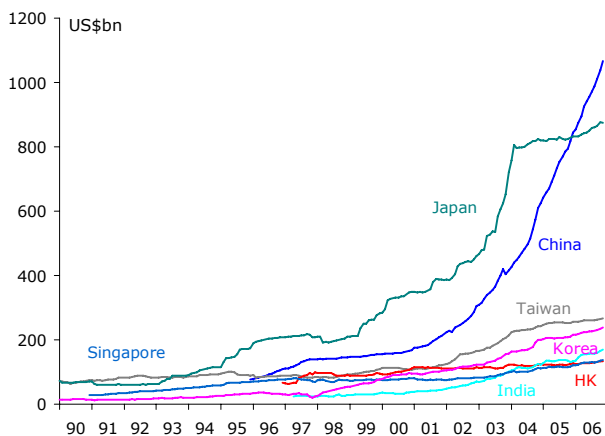
## Financial Market Update

Warren Hogan, Head of Markets Research  
Cherelle Murphy, Economist, Markets

### Global growth and liquidity

We expect global liquidity conditions to remain buoyant over the year ahead, particularly given our view that US rates are likely to fall mid year. Increasingly sophisticated financing arrangements and high levels of confidence in the global financial system will support strong growth in broader measures of money and liquidity. The baton of balance sheet leveraging has been passed from the household sector to the corporate sector. Corporate balance sheet expansion still has some way to run. Add to this the increasingly important role of Asian central bank reserves, which have doubled over the last three years and to a lesser extent, recycled oil money, and we believe that global asset markets will continue to generate strong returns due to high levels of demand this coming year.

Asian central bank reserves



Sources: Bloomberg, Economics@ANZ

### Asian central banks will continue to impact the global capital markets

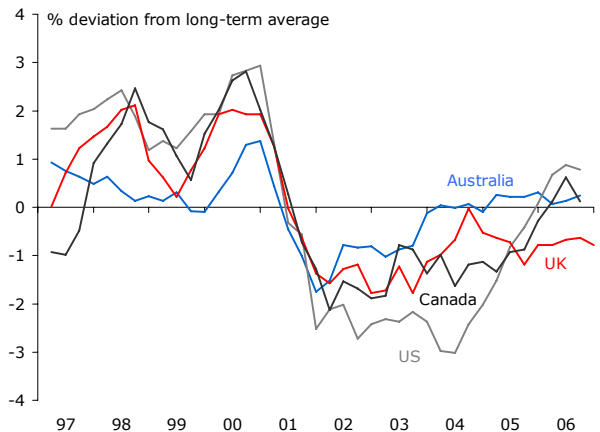
The rise of Asian central bank reserves will continue to be an important theme for global markets in 2007. It is still a point of debate whether term yield curves in the major markets are inverted because of Asian central bank buying. Unanswered questions include: Why would central bank demand be forcing 10 year yields down relative to 2 and 3 year yields? Aren't Asian central banks buying across the curve? Isn't the demand for long-term fixed income securities from pension and insurance companies the cause of curve inversion?

While this debate is alive and well, the one factor we feel strongly about is the disconnect between bond markets and money markets around the world. Tighter monetary policy and strong demand for fixed income securities from Asian central banks is causing much lower term yields than money market yields. The most obvious result is sharply inverse front end yield curves but also much lower levels of long-term interest rates for all levels of official rates.

### Short-term rates largely stable in 2007

Although global growth has been above trend for a number of years, consumer price inflation has been reasonably well contained. In conjunction with low inflation expectations, central banks have had the flexibility to normalise interest rates at a leisurely pace. Real interest rates in most economies are now around long-term average rates. Against the backdrop of continued global growth yet modest inflation, we believe interest rates have or will soon peak in 2007.

Real cash rates, deviation from 10 year average



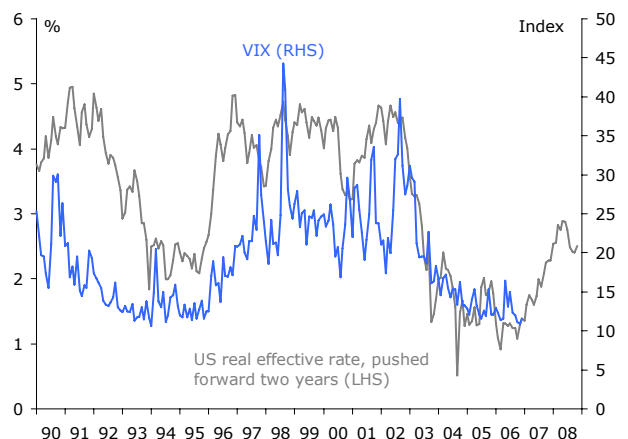
Sources: Bloomberg, Economics@ANZ

### Market volatility will remain subdued

We expect financial market volatility to rise in 2007 from the historically low levels seen in recent years. That being said, volatility is expected to remain at low levels by historical standards over the next six to 12 months. High levels of liquidity and continued strength in economic activity will support prices across the major asset classes.

The chart below shows the relationship between the VIX index and the US real effective interest rate. The US real effective rate is an index of interest rates of different maturities adjusted for inflation. The chart suggests we are at a turning point in the global volatility cycle, although any pick-up will be subdued in the short-term.

VIX and US real effective interest rates



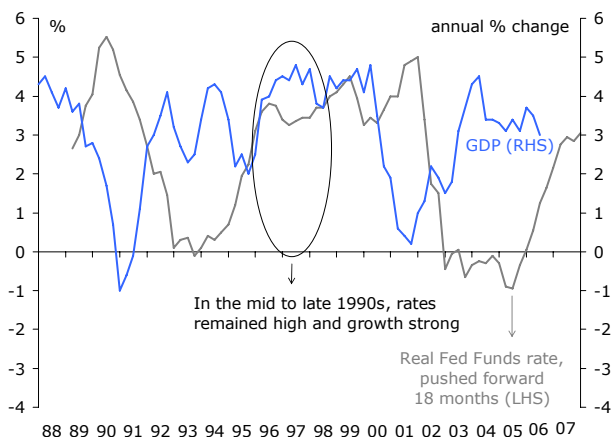
Sources: Bloomberg, Economics@ANZ

## US financial market outlook

Most leading indicators suggest the US economy will trough in early 2007, registering below trend growth of around 2% to 2.5% over the first half of the year. Some indicators are telling a more worrisome story. The inverted yield curve is historically consistent with a recession in the US economy while housing sentiment indicators are slumping. In our view, the leading indicators that suggest a recession is likely in 2007 have lost their predictive power in the current environment. As such, we are comfortable forecasting that the current downturn will be modest by historical standards.

In the absence of a deflationary shock or a recession, neither of which we regard as a high probability in the next 12 months, short-term real interest rates will remain around current levels for the next few years, with a tendency to drift higher if the economic expansion remains robust. If we go back to the same stage of the previous business cycle, that is, the mid cycle slowdown of 1995 and 1996, this is exactly what happened. After normalising interest rates post recession (1993 and 1994), the Federal Reserve kept the real rate broadly stable (or took it higher) through the second half of the 1990s recession.

US real cash rate and US GDP



Sources: Bloomberg, Economics@ANZ

Our central forecast calls for a mild easing of monetary policy starting in mid 2007, of around 50bps. This would be similar to the easing cycle of 1995/96 (75bps) and the easing cycle of 1998 (75bps). In such circumstances, we would expect outright yields to rally, with the 2-year yield likely to fall to around 4.25% (25bp through the trough in the Funds rate). Our models suggest that the 2/10-year yield curve should remain broadly stable given this outlook for monetary policy. At best we see a modest steepening to +10bps compared to the recent range of around -10bp to -20bp.

The 10-year yield will likely trough around 4.3%. Assuming 75bps of Fed easing in the second half of 2007, the new trading range for 10-year yields is unlikely to ratchet down substantially in 2007 and will probably remain mostly within the 2006 range of 4.40% to 4.80%.

This suggests that even in the presence of easing, the strategic risk to US bond yields is bearish. A strong bullish position on US interest rate markets can only be justified with a weak US economy view that would result in a more aggressive rate cutting cycle from the Fed. This would be inconsistent with recent data flow, which has improved significantly.

Indeed, the US yield curve remains extremely flat by historical standards. The so-called conundrum, which appears to be in large part a function of a strong demand for securities from the public sector of oil producing nations and Asian nations, is unlikely to intensify. If anything, the risk is for an unwinding of the recent growth in the demand for long-term securities as Asian central bank reserve accumulation slows and oil prices stabilise. In this environment we are unlikely to see a substantial decline in long-term US interest rates.

Interestingly, if an unwinding of the conundrum does put upward pressure on long-term rates, there would be increasing pressure for Fed rate cuts. Below trend growth, easing inflation pressures and rising long rates would provide the Fed with incentive to take some pressure off the US economy with easier monetary policy. Ultimately, this would lead to a steepening of yield curves around the world.

If the Fed does not validate market pricing with actual easing, we think the greatest risk for investors is a significant re-pricing of US monetary policy expectations. This scenario could see the market price for rate hikes. A re-pricing of the front-end of the US curve would be very bearish for 2-year yields, and to a lesser extent, 10-year yields.

## Australian rates to drift lower

Recently the market has been supported by good buying interest in physical bonds from local and Asian accounts. Prior to a shift in market expectations in late January following a weaker than expected December quarter CPI release, 3-year swap yields rose to a 5 year high of 6.5% and 10 year bond yields moved to the top of the 5% to 6.1% range which had prevailed for much of the last five years.

Although some uncertainty exists over the outlook for global interest rates, the expectation that Australian short-term interest rates have peaked should act as a cap on further rises in Australian term yields. We are forecasting a steady decline in 3 and 10 year yields over the next 12 months although the extent of the decline will be largely determined by global trends in interest rates.

The 3s10s yield curve is well off its recent lows of around -38bp just before the RBA last lifted interest rates and is currently trading around -15bps. With the likelihood that 3-year bonds will remain steady around the current cash rate and will drift a little lower later in the year, the shape of the curve will be largely determined by movements in long-term interest rates. As such, we expect the yield curve to

remain within a broad +10bp to -20bp range over the next six to twelve months.

In the second half of the year, as the global economic slowdown becomes more obvious we should see rates heading lower. We think 3-year and 10-year yields will fall to a 5.5% to 5.75% trading band. As the inflation pressures ease, and the RBA drops its tightening bias, the yield curve should steepen, due mainly to movement at the short end. However we cannot see the yield curve regaining a positive slope until 2008.

### The A\$ will depreciate to US\$0.73 by year end

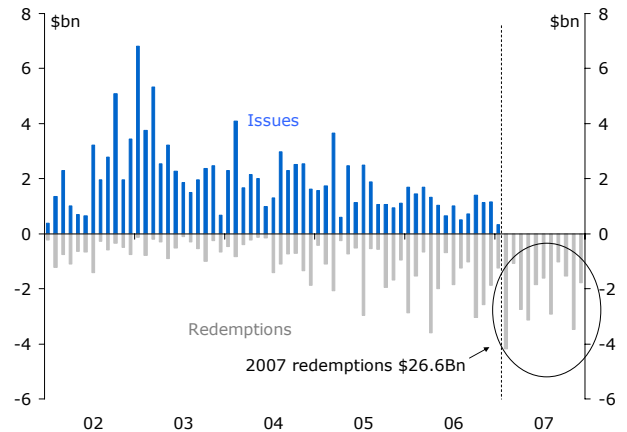
Rising Australian interest rates supported the currency through the last quarter of 2006 and the global search for yield saw the A\$ move to a ten month high of US\$0.7980 in the early days of 2007. This was despite a strengthening US\$, which benefited from a more bearish view on US Treasuries following better than expected US data. The A\$ gains were more substantial on the cross rates, with the A\$ rising to a 12 month high against the € above 0.61 and a nine year high against the ¥ above 96. The Trade Weighted Index rose to a 3 year high.

One of the few developed country currencies that the A\$ has struggled against has been the NZ\$. The New Zealand currency has benefited from its high yields and the possibility of further rate hikes. The A\$ has recently tested 11-month lows against the NZ\$ at around 1.11 and could fall further with outlook for monetary policy in each country diverging further. Markets are currently pricing in another rate hike in New Zealand, while in Australia, markets backed away from their expectations of further rate rises following a moderate December quarter inflation data. We would not rule out a move below NZ\$1.10. This would occur if the RBNZ remains hawkish, or actually implements a rate hike in the March quarter, against our expectations.

In the short term the search for yield should keep the A\$ bid against the US\$ and near the top of a US\$0.76 to US\$0.80 cent range. However, over the course of 2007, rising interest rates in other parts of the globe, particularly Japan, will erode Australia's interest rate advantage and we expect a mild depreciation over the year to around US\$0.73. Carry trades, where the A\$ is the target currency, are expected to become less attractive for global investors who in recent years have exploited Australia's high interest rates. Another factor that will accentuate this downward pressure is the redemption of A\$ denominated Uridashi bonds, which are fixed income investments held directly by Japanese retail investors. A\$ selling pressure will pick up as the high levels of Uridashis issued through the last three years start to mature. We estimate there will be \$26.6bn of Uridashi maturities in 2007, up from \$22.9bn in 2006. The issues and maturities of A\$ denominated Eurobonds, which consist mainly of Uridashi's are shown below.

Despite the poor outlook for the A\$ against the US\$, the longer-term A\$ outlook is favourable compared to the NZ\$. Australia's economy is expected to outperform New Zealand's despite our expectation of a slowdown in both countries. Also, the Uridashi maturity profile in Australia, although larger than last year, at 3% of Australian GDP, is nowhere near as large as the NZ\$ Uridashi maturity profile, which we estimate to be worth 10% of NZ GDP in 2007.

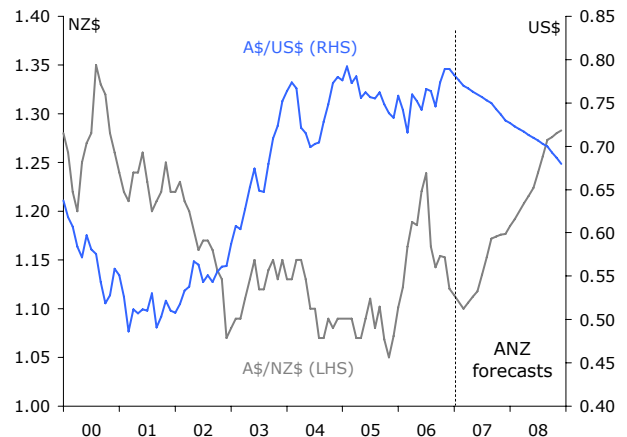
### A\$ Eurobonds, issues and redemptions



Sources: Bloomberg, RBA, Economics@ANZ

Commodity prices which appear to be flattening out are likely to exert neither a strong positive or negative force on the currency this year, although Australian commodity prices are expected to hold better than their New Zealand equivalents and this too will support the A\$ against the NZ\$.

### A\$ forecasts



Sources: Bloomberg, Economics@ANZ

### Equity markets

Equity markets moved to record highs in the first month of 2007 and outlook for Australian equities remains solid. However the year ahead is unlikely to be as bright as in 2006 with a mild global economic slowdown on the horizon. The 17% gains in ASX200 over the last six months have not taken equity prices to historically unprecedented levels compared to earnings. At 16.8, the price to earnings ratio of the ASX 200 is still below the last six year's average of around 20.

The resources sector will struggle to repeat the stellar gains made last year as commodity prices plateau, although export volumes are yet to show the full benefits of the investment boom and this will provide some positive stimulus for the sector.

High levels of global liquidity are expected to be a positive force for the local stock market with free flowing capital continuing to search for returns. Local corporates with relatively low debt ratios are likely to be subject to bids from private equity firms, as in 2006, with Australia's balance sheets prey to the global trend toward leveraged buy-outs. This may cause firms to increase leverage to provide quick returns to shareholders and protection from takeover. This could lift performance, especially in the short-term, although it may erode medium-term credit worthiness.

### Base metals mixed

In the commodities complex, we have seen some mixed performances. Many of the base metals have dropped sharply in response to investor concerns about the prospects for US economic growth over the coming year. However, other metals have moved higher. Nickel and tin recently hit record highs driven by underlying solid demand, and while supply was also constrained by short term factors including labour strikes which made investors nervous about already low stockpiles.

As noted above, we see commodities prices remaining at high levels but drifting off modestly in response to slower global demand, unwinding of recent speculative activity and rising global mining capacity. However as noted above, the outlook for emerging economies remains solid and as these are the most intensive users of base metals we are reluctant to become overly pessimistic on the outlook for prices.

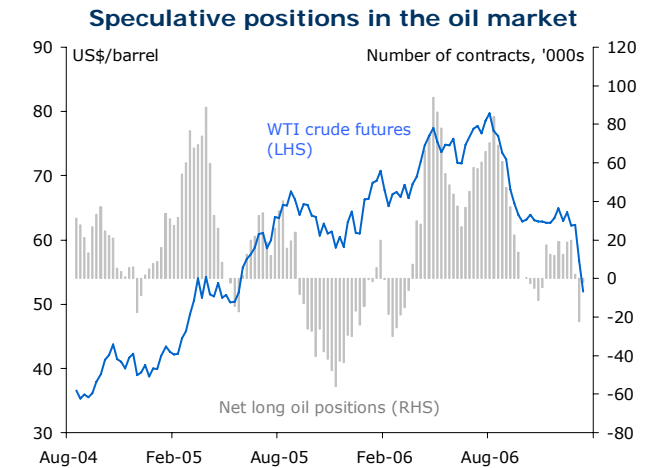
Nevertheless, different forces are underwriting different outlooks for the various markets. Zinc, for example, is likely to be boosted by the still strong global demand for steel and impending shortages. We expect demand to outpace supply, which is being constrained due to the long lead time between investment and new capacity. The outlook is grimmer in the copper market, with global stockpiles building. This market is also likely to feel the effects of the US housing market slowdown.

### Oil to remain in US\$55-65bbl range in 2007

Oil prices have experienced dramatic moves over the quarter, trading in a US\$50 to US\$67 per barrel range over the last quarter. Short term price action has not been supportive, particularly due to the sustained break of the broad US\$60-US\$65 trading range that had held since August. Crude oil futures are currently 45% below last year's near US\$80 peak, and close to the bottom of the recent range. But we believe the temporary move below US\$50 a barrel was an overreaction on the downside and maintain our median term expectations for the oil

price to remain in US\$55 to US\$65 per barrel price range.

Many of the factors that drove oil prices to \$US50 a barrel range are temporary. Unseasonably warm weather in the northern hemisphere winter has been exasperated by heavy stop-loss selling by speculators. The International Money Market (IMM) data suggests the speculative market went from net long position on crude all through December to net short in the first weeks of January.



But neither of these events are long term. Supply remains constrained and geopolitical events and oil security breaches are further risks. Demand is also likely to remain strong as the global economy continues to expand albeit at a slower pace. Emerging regions which are the very economies most likely to see a pick-up in oil demand are expected to lead global growth again in the year ahead.

One reason for the fall in oil prices in recent weeks were comments from OPEC member Saudi Arabia and this could be a reason for why we don't see oil prices returning to record highs. Saudi Arabia's oil minister appears publicly relaxed about oil prices below \$60 a barrel and also said that the country planned to lift production by 40% by 2009 and double its refining capacity over 5 years to keep up with global demand. This may offset some of the supply concerns due to energy security, especially from the Middle East.

So although oil may not return to the US\$50 a barrel mark in the short term, neither do we expect it to return to the US\$70+ region.

## Feature Article: Carbon trading

Riki Polygenis, *Economist, Australia*  
Julie Toth, *Senior Economist, Industry*

*Carbon trading is part of a suite of measures aimed at reducing the greenhouse gas emissions that are contributing to global climate change. Australia has not yet officially joined any international carbon trading schemes or implemented its own regime, but we are moving ever closer to doing so. Some Australian businesses have already joined carbon trading or credit schemes on a voluntary basis.*

### Carbon emissions and climate change

Over the past decade, the developed world has become increasingly aware of — and alarmed by — climate change and particularly ‘global warming’. While debate rages about exactly when and how the global climate will change, fewer governments remain sceptical that it is changing due to manmade factors, in addition to its natural long-term cycles.

The pollutants identified as the causes of climate change are collectively known as ‘greenhouse gasses’. The three biggest greenhouse gasses are carbon dioxide (CO<sub>2</sub>, emitted by fossil fuels), nitrous oxide (N<sub>2</sub>O, from animals, industry and cars) and methane (from animals and decomposing matter). Globally, methane levels are high but fairly stable. N<sub>2</sub>O and CO<sub>2</sub> levels however, are continuing to rise, both in terms of emissions and their concentrations in the atmosphere. CO<sub>2</sub> has been identified as the single biggest climate threat, with global annual CO<sub>2</sub> emissions estimated to have risen from less than 1bn tonnes (carbon equivalent) in 1900, to 2bn tonnes in 1950, and to nearly 7bn tonnes in 2000.<sup>4</sup>

For these and other reasons, CO<sub>2</sub> is a key focus in the battle against climate change. The Kyoto Protocol identified CO<sub>2</sub> as the first of six greenhouse gasses that signatory developed countries must reduce and/or start trading by 2012, relative to their 1990 levels. Australia and the US are prominent among the nations who have not yet ratified Kyoto.<sup>5</sup>

### Why trade in carbon emissions?

Carbon trading is one of several global emissions reductions policies agreed by signatories of the Kyoto Protocol. Most other policies are aimed at directly reducing the level of emissions from particular sources (e.g. through renewable energy targets or new technologies). In contrast, carbon trading is based on the premise that from a global perspective, the source of the CO<sub>2</sub> does not matter

so much as the total amount. If the total amount can be capped, then the emissions below that maximum should be able to move to their highest value use through transparent market pricing. This will reduce the financial cost (in terms of lost production and higher prices) of the emissions cap. In this sense, carbon trading is about reducing the cost of pre-agreed maximum emissions levels rather than about reducing emissions *per se*.

However, if the right to produce CO<sub>2</sub> is market-priced and the system is enforced so that CO<sub>2</sub> cannot be emitted for free, then the price itself will act as a further rationing mechanism on emissions. While the idea of trading CO<sub>2</sub> emissions is relatively new, pricing and trading in waste and pollution is not. Attaching a price to ‘negative externalities’ (as unpriced pollution is categorised in economics jargon) and allowing limited trading goes back at least to the 1970s, when the US attempted to regulate and trade sulphur dioxide, in response to acid rain. Other waste products are regularly traded. Once a regulatory and trading system is established, then each pollutant can be freely traded to find its own price, much like any other business input or waste item that must be disposed of at some cost.

### Existing carbon trading schemes — Europe

The EU’s Emission Trading Scheme (ETS) is the world’s first international CO<sub>2</sub> trading system. It is part of the EU’s commitment to reducing its total greenhouse gas emissions to 8% below 1990 levels under the Kyoto Protocol by 2012.

The ETS is a ‘cap and trade’ system. It first creates scarcity in the market by capping the total emissions allowed and then enables a market to operate within that cap. The ETS is being implemented in three phases. The first trading period (2005 to 2007) is now underway, the second will run from 2008 to 2012, coinciding with the Kyoto Protocol’s first compliance period, and the third will commence in 2013.

The ETS is large but it is not comprehensive. The first phase includes around 12,000 energy-intensive industrial sites across the EU that are collectively responsible for close to half of all EU CO<sub>2</sub> emissions. Sites covered by the scheme include oil refineries, energy generators, coking ovens, iron and steel plants, and factories making cement, glass, lime, bricks, ceramics, pulp and paper. Significant sectors are currently excluded from the ETS such as aviation and other transport and (unsurprisingly) agriculture. These produce 21% and 10% of the EU’s CO<sub>2</sub> emissions respectively (43% and 1.5% respectively in the UK).

### ETS mechanics

The maximum annual CO<sub>2</sub> emissions permitted by each site (credits and allowances) are set out in the National Allocation Plans (NAPs) submitted by each member state to the European Commission (EC). The EC assesses the NAPs against 12 criteria, including each state’s Kyoto Protocol CO<sub>2</sub> targets.

<sup>4</sup> World Meteorological Organisation; Earth Policy Institute; Worldwatch; BBC News Online; DEFRA, UK.

<sup>5</sup> The *Kyoto Protocol to the United Nations Framework Convention on Climate Change* was negotiated in 1997 and commenced operation in Feb. 2005. By the end of 2006, 169 UN member countries had signed onto it, covering an estimated 55% of global greenhouse gas emissions. More immediate action on emissions is required of developed rather than of developing countries that ratify the Protocol.

At the end of each trading year, participating companies must report their annual CO<sub>2</sub> emissions (verified by a third party) and surrender 'credits' corresponding to their emissions level for that year. Companies that exceed their own cap (as set out in their NAP) can buy unused credits on the secondary market from those who have credits to spare or face fines. Fines have been set at €40 per excess tonne of CO<sub>2</sub> in the first phase (2005-07), rising to €100 per excess tonne in the second phase (2008-12). With fines far exceeding the price of carbon credits in the secondary market, the scheme creates financial incentives for companies to at least keep their emissions below their NAP allowance. The market price for credits is a function of supply and demand and there is no interference by the EC.

There is also a link between the ETS and the Joint Implementation (JI) and the Clean Development Mechanism (CDM) programs of the Kyoto Protocol. Companies that implement emissions reduction projects in other countries through these programs can, in principle, convert the credits they earn from those projects into ETS allowances. The CDM is already operational. The JI trading program will begin in 2008. While there will be limits on the extent to which these credits can be used by sites under the ETS, critics argue that they undermine the EU's pledge to cut emissions at home.

#### ETS effectiveness

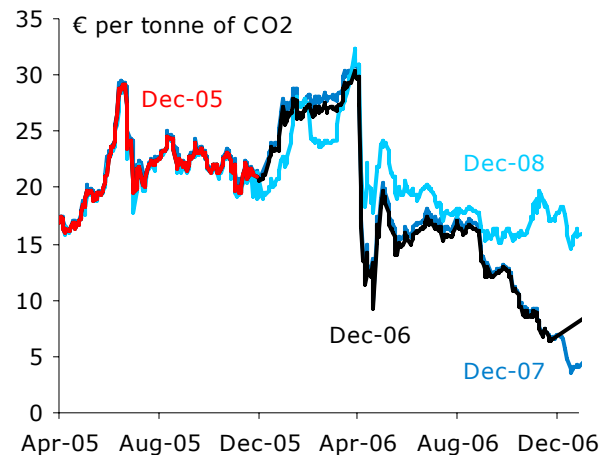
The ETS has operated for only two years, so its effect on local and global CO<sub>2</sub> emissions is not yet clear. From an operational perspective, some major teething problems have already become apparent. Between April 2005 and May 2006, the price of carbon credits on the secondary market increased from around €17 to over €30. However, prices crashed in May 2006 when it was revealed that many member states had over-allocated their total credits in their NAPs, creating a large surplus and calling into question the ability of the ETS to cap CO<sub>2</sub> emissions. In fact, the UK was the only major member to exceed its total allocation in 2005.

Futures prices for ETS carbon emissions for settlement in December 2007 are now at €4.0, having fallen further recently, as a mild European winter has curbed energy demand. In addition, lower gas prices have made gas even more attractive for use in electricity generation over coal which produces double the CO<sub>2</sub> emissions for each unit of power generated than gas. Futures prices for settlement in the second trading period from 2008 are much higher, however, at around €16, with greater scarcity in the market expected (see below).

Globally, carbon trading has boomed since the start of the ETS scheme. The World Bank estimates that the value of carbon credits traded worldwide in 2005 (the first year of the ETS) was around US\$10bn, with London the leading centre of trade. It notes that "trading firms, brokers and banks are among

those expected to make money through commissions for organizing carbon deals".<sup>6</sup>

ETS carbon emissions futures prices  
(by settlement date)



Source: European Climate Exchange (ECX)

#### A few ETS hiccups

Most ETS member states have so far been unwilling to submit a NAP that is below their business-as-usual scenarios, in terms of their total carbon caps, which risks undermining the ETS's credibility. The NAPs must be consistent with member countries' commitments to reduce emissions under the Kyoto Protocol. However, because the ETS only covers around half of the EU's CO<sub>2</sub> emissions and does not include the other greenhouse gases required to be reduced under Kyoto, member states have argued that the required emission reductions will happen outside the ETS but within other Kyoto programs.

A related issue has been that credit allocations for individual sites are based on expected future rather than historical emissions, giving an incentive to exaggerate the future size and growth of sites. The tendency to exaggerate was exacerbated in the first trading period, because nearly all allocation permits were given out free of charge, with only around 10% auctioned. Environmental groups argue more credit allocations should be auctioned.

Meanwhile, business groups complain that the ETS has already led to electricity price rises and is putting pressure on the electricity sector to invest heavily in switching to cleaner production (e.g. from coal to gas). In the absence of competition in the EU electricity market, they argue these costs will be passed onto consumers and especially to power-intensive industries. The EC rejects this, saying the ETS should not be confused with emissions targets.

This situation is set to improve in the second stage of ETS trading for a number of reasons:

- member states will be required to show how they will meet their Kyoto targets, rather than simply ensuring they are 'in line'. This will include

<sup>6</sup> BBC News Online, 20 April 2006.

guidelines on how many ETS credits generated from JI and CDM programs will be permitted;

- Phase two of the ETS will run alongside the Kyoto compliance period of 2008-12 making it easier to ensure consistency with Kyoto targets;
- The EC is taking a tougher approach to members' NAPs following criticism that it was too lenient in phase one. NAPs for the second trading period have now been settled for roughly half of the member states. Member states originally submitted their NAPs with few allocation cuts, but the EC rejected or amended all but one.

### Existing carbon trading schemes – Chicago

The Chicago Climate Exchange is a self-regulated voluntary program that allows participants to trade greenhouse gas emissions, through direct trading and through credits from 'offset' providers. Members that reduce their emissions below a required level can sell or bank their surplus emission allowances, while those with emissions over their allowance can buy credits from other members or from eligible offsetting projects such as methane collection and carbon sequestration.

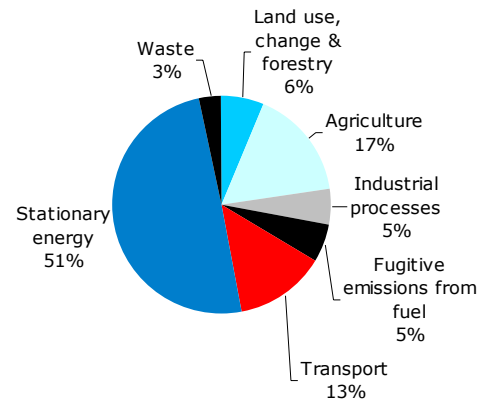
Both the Chicago and European Climate Exchanges (the main exchange for European ETS trading) are open to registered brokers, banks and private clients around the world, in addition to the original emissions producers and offset providers.

The Chicago Exchange was set up to service companies in North America (the US, Canada and Mexico), with offset sites located mainly in Brazil. To date, most members are still located in the US, but a handful of Australian business entities have joined, including the City of Melbourne, the first municipal entity outside the US to do so. The exchange claims benefits for members including: a 'first mover advantage' into emissions trading; local and global policy influence; and valuable media exposure. The City of Melbourne says it joined to gain direct experience of this infant market and to eventually profit from selling carbon credits itself.<sup>7</sup>

### Development of carbon trading in Australia

Australia's emissions sources differ from Europe's due to our geographic, demographic and industry profile. As in all OECD countries, the energy sector is our single largest source of emissions, but relatively more of our emissions come from agriculture and land use, with less from transport and industry (see figure below). Reflecting this mix, 73% of emissions are CO<sub>2</sub> and 21% are methane. Australia's contribution to global greenhouse gas emissions is small (1.4%), but our CO<sub>2</sub> emissions 'intensity' is higher than average, at 17.35 tonnes per person and 0.81kg per dollar of GDP, compared with the OECD average of 11.08 tonnes per person and 0.48kg per GDP dollar in 2003.<sup>8</sup>

### Australia's greenhouse gas emissions by source, 2004 (calculated in CO<sub>2</sub> equivalents)



Source: ABS 4613.0 *Australia's Environment*, 2006

The Australian Government is a signatory to the United Nations Framework Convention on Climate Change but, controversially, has not ratified the Kyoto Protocol attached to it. Since Kyoto, the Australian Government has set up several inquiries into the issues and options for emissions trading in Australia, including a Senate Inquiry (1998), an National Emissions Trading Taskforce (from 2004, under COAG) and most recently, a joint business-government task group (due to report in May 2007). While a carbon tax has been ruled out, other policy proposals such as CO<sub>2</sub> emissions trading have not. In examining the options, the Government has made it clear that keeping energy prices down for households and especially for industry is a priority.

A \$500mn Low Emissions Technology Demonstration Fund is currently being spent on new technologies to reduce emissions, mainly in energy-related projects. The focus on the energy sector can also be seen in the recently announced Australia-China Clean Coal Initiative, which will promote co-operation on relevant technologies, since both countries are heavily reliant on coal as an energy source.

In the absence of a national emissions trading scheme, state governments have recently raised the possibility of launching their own trading schemes. In submissions to the National Emissions Trading Taskforce however, industry made clear its view that any scheme must be nationally and internationally consistent and be compatible with existing state government policies, such as mandatory renewable energy targets.<sup>9</sup>

Lack of government action has meant that some Australian companies have joined the Chicago Exchange (see above) and/or smaller local schemes that provide carbon offsets for businesses (typically through tree plantations) rather than carbon trading *per se*. Examples include the CO<sub>2</sub> Group and Greenfleet. Although currently small, their existence shows that a growing segment of corporate Australia is moving ahead of Government and is keen to embrace CO<sub>2</sub> trading.

<sup>7</sup> Chicago Climate Exchange; European Climate Exchange.

<sup>8</sup> ABS 4613.0, *Australia's Environment*, 2006.

<sup>9</sup> *Australian Financial Review*, 8 Jan 2007, p. 5.

## Australian and New Zealand Economic Forecasts

|                                   | Annual (period average) % ch. |         |         |         | Quarter % ch. |           |           |           |
|-----------------------------------|-------------------------------|---------|---------|---------|---------------|-----------|-----------|-----------|
|                                   | 2005                          | 2006(e) | 2007(f) | 2008(f) | Sep-06        | Dec-06(f) | Mar-07(f) | Jun-07(f) |
| <b>Australia</b>                  |                               |         |         |         |               |           |           |           |
| GDP                               | 2.8                           | 2.4     | 2.5     | 3.7     | 0.3           | 0.6       | 0.4       | 0.8       |
| Household consumption             | 3.0                           | 2.9     | 3.1     | 3.7     | 0.7           | 0.9       | 0.7       | 0.7       |
| Dwelling investment               | -3.7                          | -1.8    | 1.3     | 8.5     | 0.6           | 0.2       | -0.7      | -0.7      |
| Business investment               | 15.9                          | 7.5     | -0.4    | 0.1     | -1.7          | 0.4       | -0.1      | -0.4      |
| Public demand                     | 4.3                           | 4.4     | 3.9     | 3.8     | 0.7           | 0.9       | 0.9       | 1.0       |
| <i>Domestic final demand</i>      | 4.3                           | 3.6     | 2.5     | 3.5     | 0.1           | 0.8       | 0.5       | 0.5       |
| Net Exports (cont. to growth)     | -1.4                          | -0.8    | -0.8    | -0.1    | 0.4           | -0.7      | -0.4      | 0.0       |
| CPI                               | 2.7                           | 3.5     | 2.4     | 2.6     | 0.9           | -0.1      | 0.8       | 0.6       |
| Wages                             | 4.1                           | 4.0     | 4.1     | 4.0     | 0.8           | 1.1       | 1.2       | 0.9       |
| Employment                        | 3.2                           | 2.0     | 2.3     | 1.8     | 1.1           | 0.3       | 0.7       | 0.3       |
| Unemployment rate (%)             | 5.1                           | 4.9     | 4.7     | 4.7     | 4.8           | 4.6       | 4.6       | 4.7       |
| Current account balance (A\$ bn)  | -54.1                         | -51.0   | -55.2   | -65.7   | -12.1         | -12.4     | -12.8     | -13.3     |
| (% of GDP)                        | -5.8                          | -5.1    | -5.2    | -5.9    | -4.8          | -4.8      | -4.9      | -5.0      |
| <b>New Zealand</b>                |                               |         |         |         |               |           |           |           |
| GDP                               | 2.1                           | 1.5     | 1.5     | 2.3     | 0.3           | 0.6       | 0.4       | 0.3       |
| CPI                               | 3.2                           | 2.6     | 2.2     | 2.8     | 0.7           | -0.2      | 0.3       | 0.7       |
| Wages                             | 5.4                           | 5.1     | 3.4     | 3.5     | 1.6           | 0.9       | 0.9       | 1.0       |
| Employment                        | 2.8                           | 2.2     | 0.2     | 0.4     | -0.4          | 0.2       | 0.0       | 0.0       |
| Unemployment rate (%)             | 3.6                           | 3.8     | 4.0     | 4.4     | 3.8           | 3.8       | 3.8       | 3.9       |
| Current account balance (NZ\$ bn) | -13.9                         | -14.2   | -13.2   | -13.5   | -4.6          | -3.8      | -1.7      | -2.6      |
| (% of GDP)                        | -9.0                          | -8.9    | -7.9    | -7.8    | -9.1          | -8.9      | -8.1      | -7.7      |

## Financial Market Forecasts

|                                | Annual (period end) |        |          |          | Quarter (period end) |        |            |            |
|--------------------------------|---------------------|--------|----------|----------|----------------------|--------|------------|------------|
|                                | 2005                | 2006   | 2007 (f) | 2008 (f) | Sep-06               | Dec-06 | Mar-07 (f) | Jun-07 (f) |
| <b>Interest rates (% p.a.)</b> |                     |        |          |          |                      |        |            |            |
| <i>Australia</i>               |                     |        |          |          |                      |        |            |            |
| 90 day bank bills              | 5.65                | 6.44   | 5.82     | 5.97     | 6.17                 | 6.44   | 6.42       | 6.42       |
| 10 year bond rate              | 5.20                | 5.88   | 5.65     | 5.90     | 5.51                 | 5.88   | 5.75       | 5.80       |
| <i>United States</i>           |                     |        |          |          |                      |        |            |            |
| 3 month LIBOR                  | 4.54                | 5.36   | 4.60     | 5.40     | 5.37                 | 5.36   | 5.40       | 5.40       |
| 10 year bond rate              | 4.39                | 4.70   | 4.75     | 5.05     | 4.63                 | 4.70   | 4.60       | 4.60       |
| <i>Euro area</i>               |                     |        |          |          |                      |        |            |            |
| 3 month LIBOR                  | 2.49                | 3.73   | 4.25     | 3.60     | 3.42                 | 3.73   | 3.90       | 4.00       |
| <i>New Zealand</i>             |                     |        |          |          |                      |        |            |            |
| 90 day bank bills              | 7.68                | 7.73   | 7.40     | 6.95     | 7.61                 | 7.73   | 7.65       | 7.50       |
| <b>Exchange rates</b>          |                     |        |          |          |                      |        |            |            |
| A\$/US\$                       | 0.7334              | 0.7896 | 0.7300   | 0.6800   | 0.7456               | 0.7896 | 0.7700     | 0.7600     |
| NZ\$/US\$                      | 0.6836              | 0.7042 | 0.6200   | 0.5300   | 0.6515               | 0.7042 | 0.7000     | 0.6800     |
| A\$/¥                          | 86.16               | 93.87  | 80.30    | 74.80    | 87.94                | 93.87  | 92.40      | 88.92      |
| A\$/€                          | 0.6199              | 0.5995 | 0.5659   | 0.5620   | 0.5884               | 0.5995 | 0.5833     | 0.5846     |
| A\$/£                          | 0.4256              | 0.4025 | 0.3862   | 0.3736   | 0.3987               | 0.4025 | 0.3969     | 0.3969     |
| A\$/NZ\$                       | 1.0728              | 1.1213 | 1.1774   | 1.2830   | 1.1444               | 1.1213 | 1.1000     | 1.1176     |
| US\$/¥                         | 117.5               | 118.9  | 110.0    | 110.0    | 117.9                | 118.9  | 120.0      | 117.0      |
| €/US\$                         | 1.183               | 1.317  | 1.290    | 1.210    | 1.267                | 1.317  | 1.320      | 1.300      |
| A\$TWI                         | 62.70               | 64.90  | 59.00    | 56.44    | 62.60                | 64.90  | 63.11      | 62.10      |

## ANZ Research

## Economics@ANZ

**Saul Eslake**  
Chief Economist  
+61 3 9273 6251  
eslakes@anz.com

**Fiona Allen**  
Business Manager  
+61 3 9273 6224  
allenf@anz.com

**Tony Pearson**  
Head of Australian  
Economics  
+61 3 9273 5083  
pearsont@anz.com

**Julie Toth**  
Senior Economist,  
Industry  
+61 3 9273 6252  
tothj@anz.com

**Mark Rodrigues**  
Senior Economist,  
Australia  
+61 3 9273 6286  
rodrigum@anz.com

**Riki Polygenis**  
Economist,  
Australia  
+61 3 9273 4060  
polygenr@anz.com

**Amber Rabinov**  
Economist,  
Australia  
+61 3 9273 4853  
rabinova@anz.com

**Amy Auster**  
Head of International  
Economics  
+61 3 9273 5417  
austera@anz.com

**Katie Dean**  
Senior Economist,  
International  
+61 3 9273 5466  
deank1@anz.com

**Jasmine Robinson**  
Senior Economist,  
International  
+61 3 9273 6289  
robinsj7@anz.com

**Dr. Alex Joiner**  
Economist,  
International  
+61 3 9273 6123  
joinera@anz.com

**Paul Braddick**  
Head of Financial  
System Analysis  
  
+61 3 9273 5987  
braddicp@anz.com

**Ange Montalti**  
Senior Economist,  
Financial System  
Analysis  
+61 3 9273 6288  
montalta@anz.com

**Warren Hogan**  
Head of Markets  
Research  
+61 2 9227 1562  
hoganw1@anz.com

**Cherelle Murphy**  
Economist, Markets  
  
+61 3 9273 1995  
murphc10@anz.com

## ANZ Investment Bank

**Warren Hogan**  
Head of Markets  
Research  
+61 2 9227 1562  
hoganw1@anz.com

**Sally Auld**  
Senior Interest Rate  
Strategist  
+61 2 9227 1809  
aulds@anz.com

**Tony Morriss**  
Senior Currency  
Strategist  
+61 2 9226 6757  
morria15@anz.com

**David Croy**  
Strategist  
  
+44 20 7378 2070  
croyd@anz.com

**Cherelle Murphy**  
Economist, Markets  
  
+61 3 9273 1995  
murphc10@anz.com

**Patricia Gacis**  
Fixed Income Analyst  
  
+61 2 9227 1272  
gacisp@anz.com

**Sarah Percy-Dove**  
Head of Credit  
Research  
+61 2 9227 1142  
percydos@anz.com

**John Manning**  
Senior Credit Analyst  
  
+61 2 9227 1493  
manninj1@anz.com

**Bradley Bugg**  
Senior Credit Analyst  
  
+61 2 9227 1693  
buggb@anz.com

## Research &amp; Information Services

**Mary Yaxley**  
Head of Research &  
Information Services  
+61 3 9273 6265  
yaxley@anz.com

**Marilla Chant**  
Senior Information  
Officer  
+61 3 9273 6263  
chantm@anz.com

**Manesha Jayasuriya**  
Information Officer  
  
+61 3 9273 4121  
jayasurm@anz.com

## ANZ New Zealand

**Cameron Bagrie**  
Chief Economist  
+64 4 802 2212  
bagriec@anz.com

**Khoon Goh**  
Senior Economist  
+64 4 802 2357  
gohk@anz.com

**Philip Borkin**  
Economist  
+64 4 802 2199  
borkinp@anz.com

**Sean Comber**  
Economist  
  
+64 4 802 2286  
combers@anz.com

**Steve Edwards**  
Economist  
  
+64 4 802 2217  
edwards1@anz.com

**Kevin Wilson**  
Rural Economist  
  
+64 4 802 2361  
Kevin.Wilson@nbz.co.nz

**Important Notice**

Australia and New Zealand Banking Group Limited is represented in:

**AUSTRALIA** by

Australia and New Zealand Banking Group Limited ABN 11 005 357 522  
10th Floor, 100 Queen Street, Melbourne 3000, Australia  
Telephone +61 3 9273 6224 Fax +61 3 9273 5711

**UNITED KINGDOM** by:

Australia and New Zealand Banking Group Limited  
ABN 11 005 357 522  
Minerva House, PO Box 7, Montague Close, London, SE1 9DH, United Kingdom  
Telephone +44 20 7378 2121 Fax +44 20 7378 2378

**UNITED STATES OF AMERICA** by:

ANZ Securities, Inc. (Member of NASD and SIPC)  
6th Floor, 1177 Avenue of the Americas  
New York, NY 10036, United States of America  
Tel: +1 212 801 9160 Fax: +1 212 801 9163

**NEW ZEALAND** by:

ANZ National Bank Limited  
Level 7, 1-9 Victoria Street, Wellington, New Zealand  
Telephone +64 4 802 2000

In Australia and the UK, ANZ Investment Bank is a business name of Australia and New Zealand Banking Group Limited, ABN 11 005 357 522 ("ANZBGL") which is incorporated with limited liability in Australia. ANZBGL holds an Australian Financial Services licence no. 234527 and is authorised in the UK by the Financial Services Authority ("FSA"). In New Zealand, ANZ Investment Bank is a business name of ANZ National Bank Limited WN / 035976 ("ANZ NZ").

This document is being distributed in the United States by ANZ Securities, Inc. ("ANZ S") (an affiliated company of ANZBGL), which accepts responsibility for its content. Further information on any securities referred to herein may be obtained from ANZ S upon request. Any US person(s) receiving this document and wishing to effect transactions in any securities referred to herein should contact ANZ S, not its affiliates.

This document is being distributed in the United Kingdom by ANZBGL for the information of its market counterparties and intermediate customers only. It is not intended for and must not be distributed to private customers. In the UK, ANZBGL is regulated by the FSA. Nothing here excludes or restricts any duty or liability to a customer which ANZBGL may have under the UK Financial Services and Markets Act 2000 or under the regulatory system as defined in the Rules of the FSA.

This document is issued on the basis that it is only for the information of the particular person to whom it is provided. This document may not be reproduced, distributed or published by any recipient for any purpose. This document does not take into account your personal needs and financial circumstances. Under no circumstances is this document to be used or considered as an offer to sell, or a solicitation of an offer to buy.

In addition, from time to time ANZBGL, ANZ NZ, ANZ S, their affiliated companies, or their respective associates and employees may have an interest in any financial products (as defined by the Australian Corporations Act 2001), securities or other investments, directly or indirectly the subject of this document (and may receive commissions or other remuneration in relation to the sale of such financial products, securities or other investments), or may perform services for, or solicit business from, any company the subject of this document. If you have been referred to ANZBGL, ANZ NZ, ANZ S or their affiliated companies by any person, that person may receive a benefit in respect of any transactions effected on your behalf, details of which will be available upon request.

The information herein has been obtained from, and any opinions herein are based upon, sources believed reliable. The views expressed in this document accurately reflect the author's personal views, including those about any and all of the securities and issuers referred to herein. The author however makes no representation as to its accuracy or completeness and the information should not be relied upon as such. All opinions and estimates herein reflect the author's judgement on the date of this document and are subject to change without notice. No part of the author's compensation was, is or will directly or indirectly relate to specific recommendations or views expressed about any securities or issuers in this document. ANZBGL, ANZ NZ, ANZ S, their affiliated companies, their respective directors, officers, and employees disclaim any responsibility, and shall not be liable, for any loss, damage, claim, liability, proceedings, cost or expense ("Liability") arising directly or indirectly (and whether in tort (including negligence), contract, equity or otherwise) out of or in connection with the contents of and/or any omissions from this communication except where a Liability is made non-excludable by legislation.

Where the recipient of this publication conducts a business, the provisions of the Consumer Guarantees Act 1993 (NZ) shall not apply.