

Open partnerships  
Open possibilities

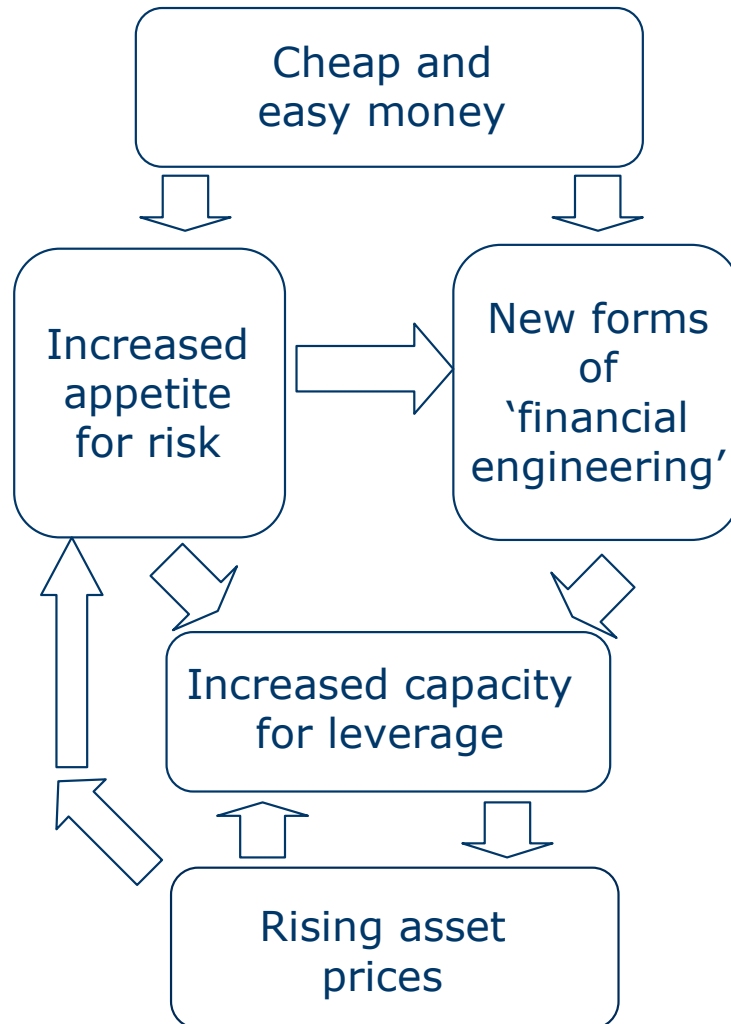
# What's going on in the world economy, and what does it mean for Australia's resources sector?

The Brisbane Mining Club  
21<sup>st</sup> February 2008

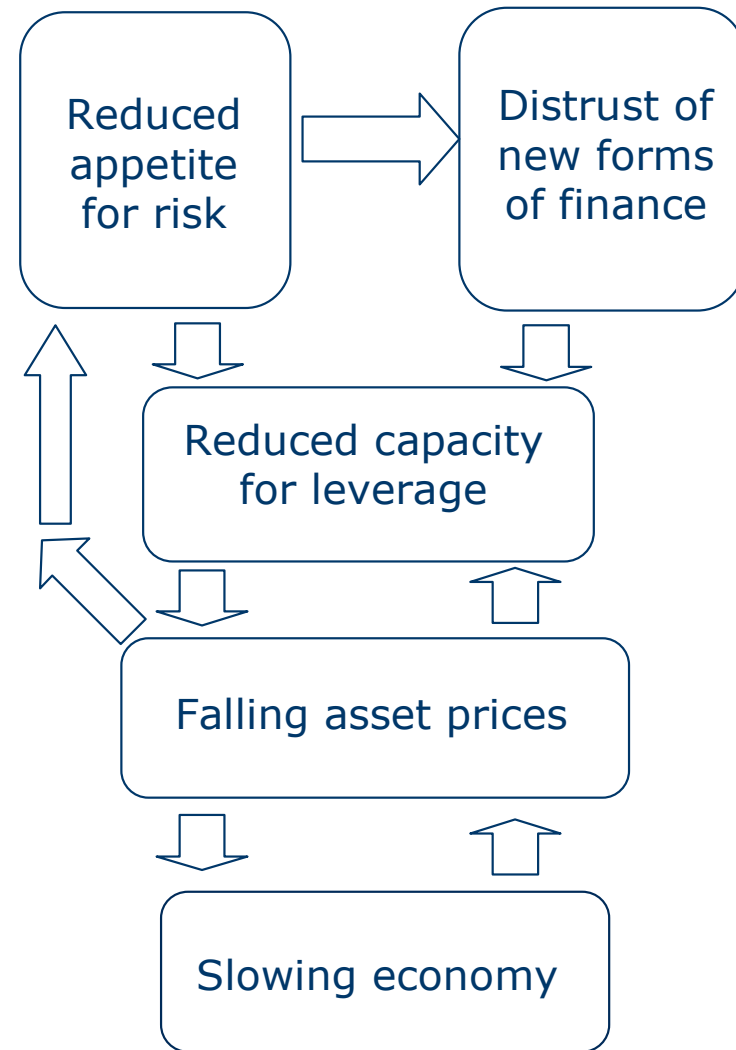
Saul Eslake  
Chief Economist

# The current global financial crisis stems from the bursting of a 'credit market bubble'

## From this ...



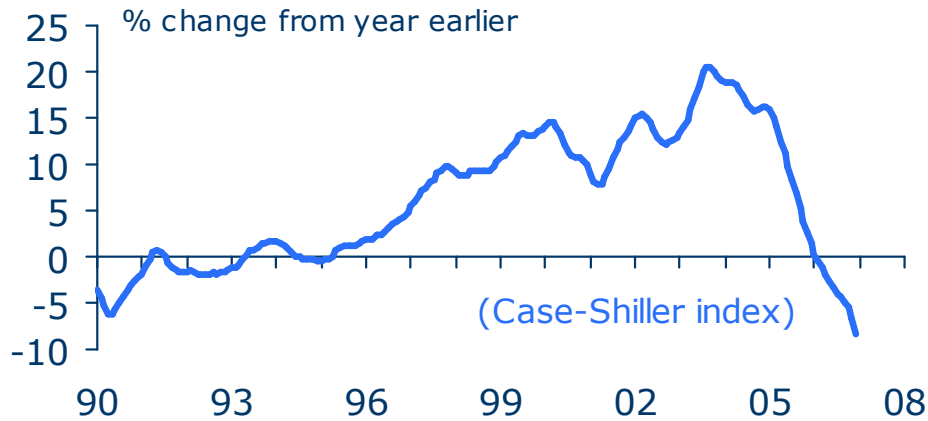
## To this ....



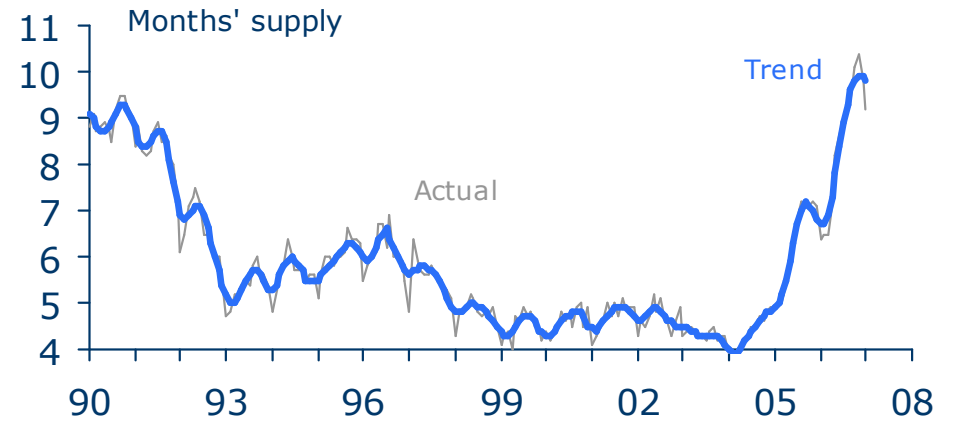
# The US housing bubble has burst, like the equities bubble earlier this decade <sup>3</sup>

## US housing market

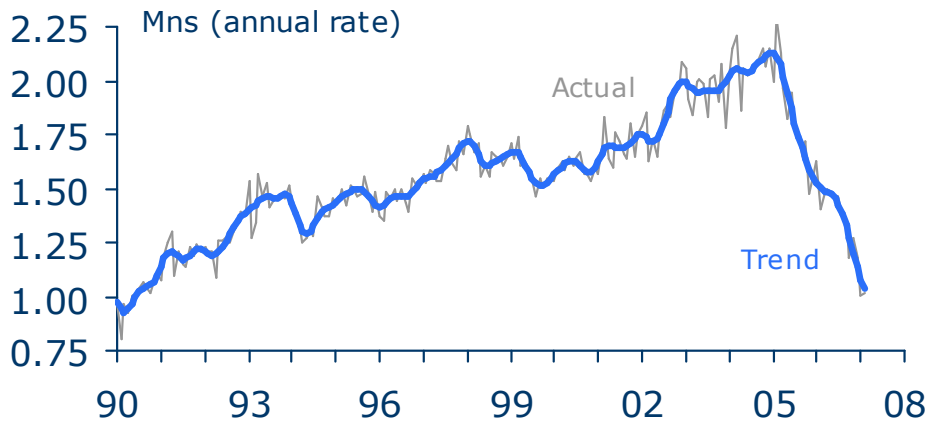
### US house prices



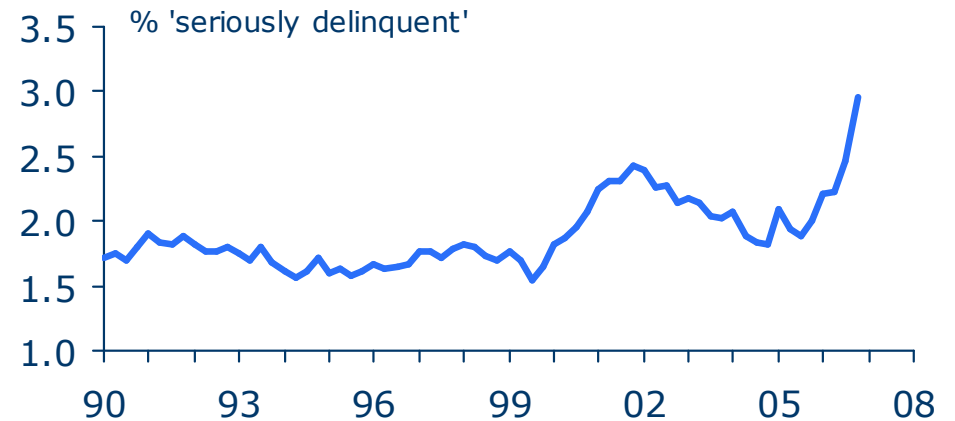
### US unsold homes



### US housing starts



### US mortgage delinquencies

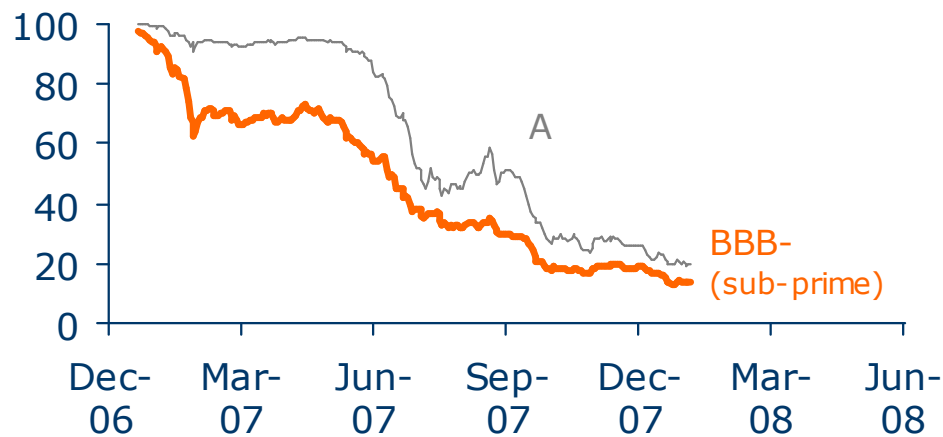
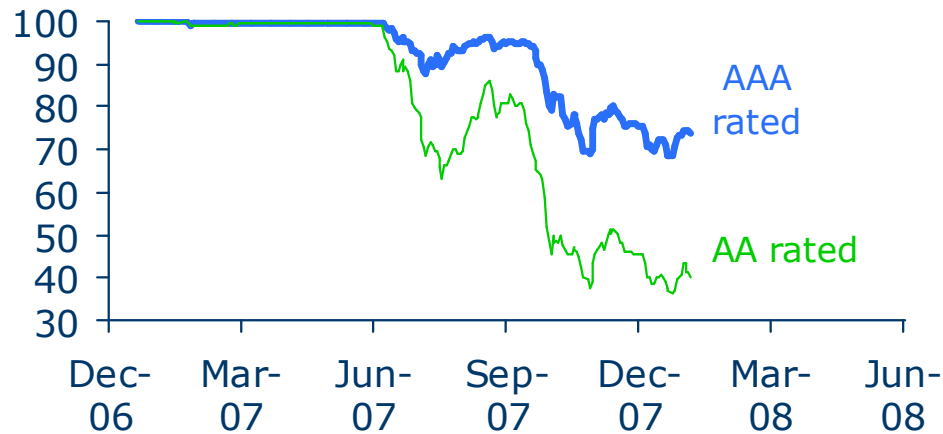


Sources: S&P; US Commerce Department; US National Association of Realtors; US Mortgage Bankers' Association.



# Dramatic declines in the value of mortgage-backed securities have led to substantial losses incurred by big global banks

## ABX index of prices of US mortgage-backed securities



## Losses announced by major banks since mid-2007

Bank	Total (US\$ bn)
Merrill Lynch	24.5
Citigroup	22.1
UBS	18.3
HSBC	10.7
Morgan Stanley	9.4
Bank of America	7.9
Washington Mutual	6.5
Credit Agricole	4.9
Wachovia	4.7
JPMorgan Chase	3.2
Canadian Imperial (CIBC)	3.2
Barclays	2.7
Bear Sterns	2.6
Royal Bank of Scotland	2.5
Deutsche Bank	2.3
Wells Fargo	1.7
<b>TOTAL*</b>	<b>141.0</b>

Source: Bloomberg.

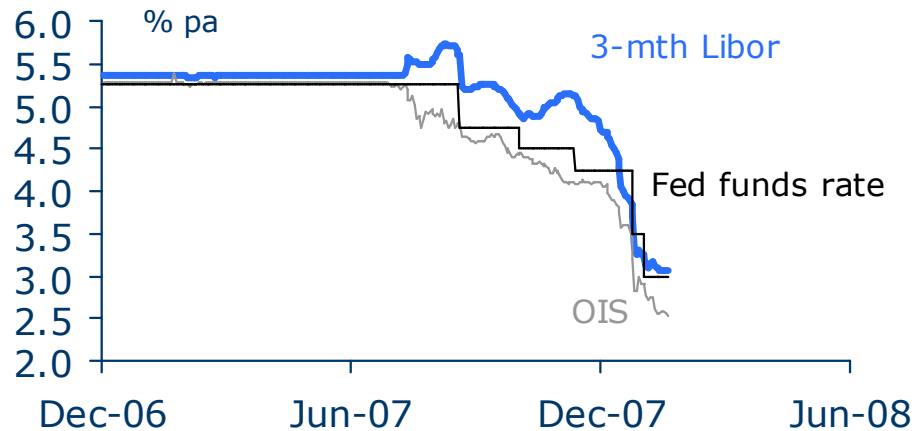
\* incl. smaller banks not shown separately.



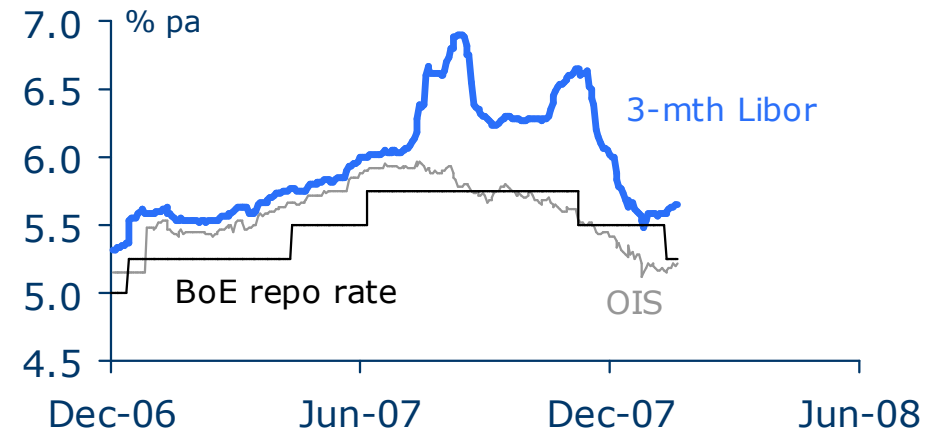
These losses (and fears of more to come) have made banks reluctant to lend to one another

## Inter-bank borrowing rates and overnight index swap (OIS) rates

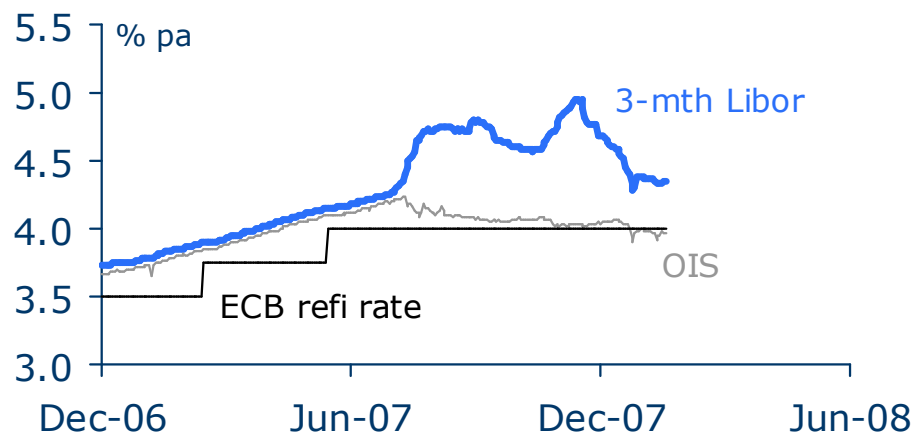
### United States



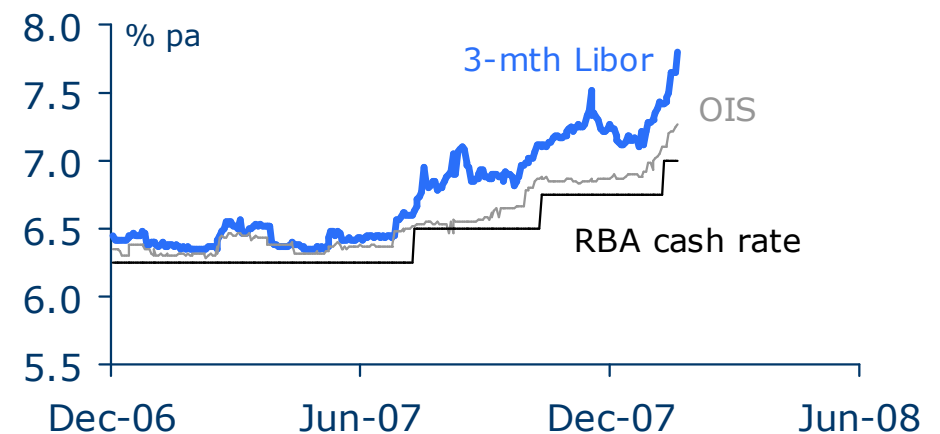
### United Kingdom



### Euro area



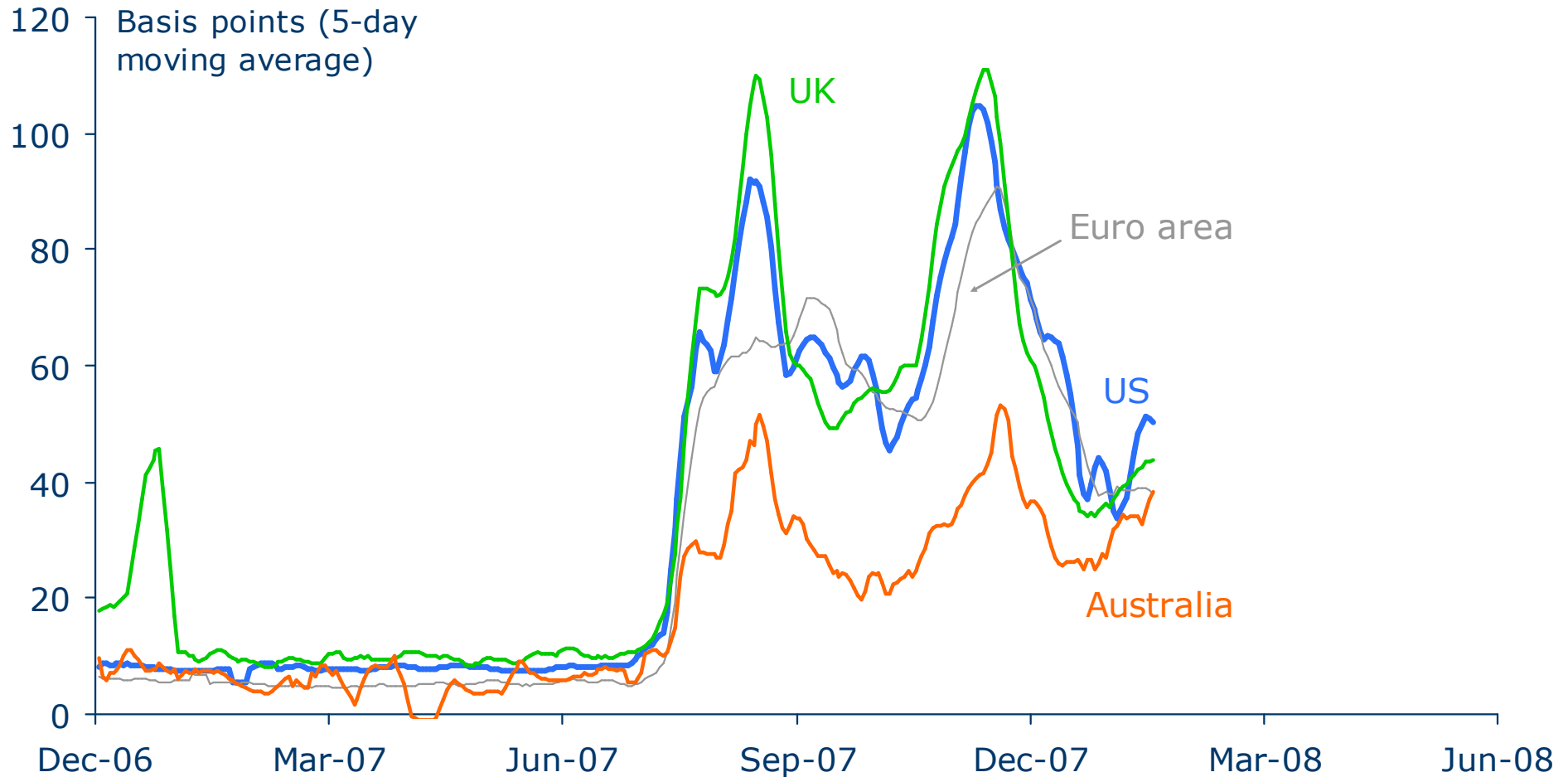
### Australia



\* The OIS is an indicator of market expectations of future movements in cash rates.  
Sources: Thomson Financial; Bloomberg.

These losses (and fears of more to come) have made banks reluctant to lend to one another

### Spreads between short-term (90-day) inter-bank borrowing rates and expected official cash rates

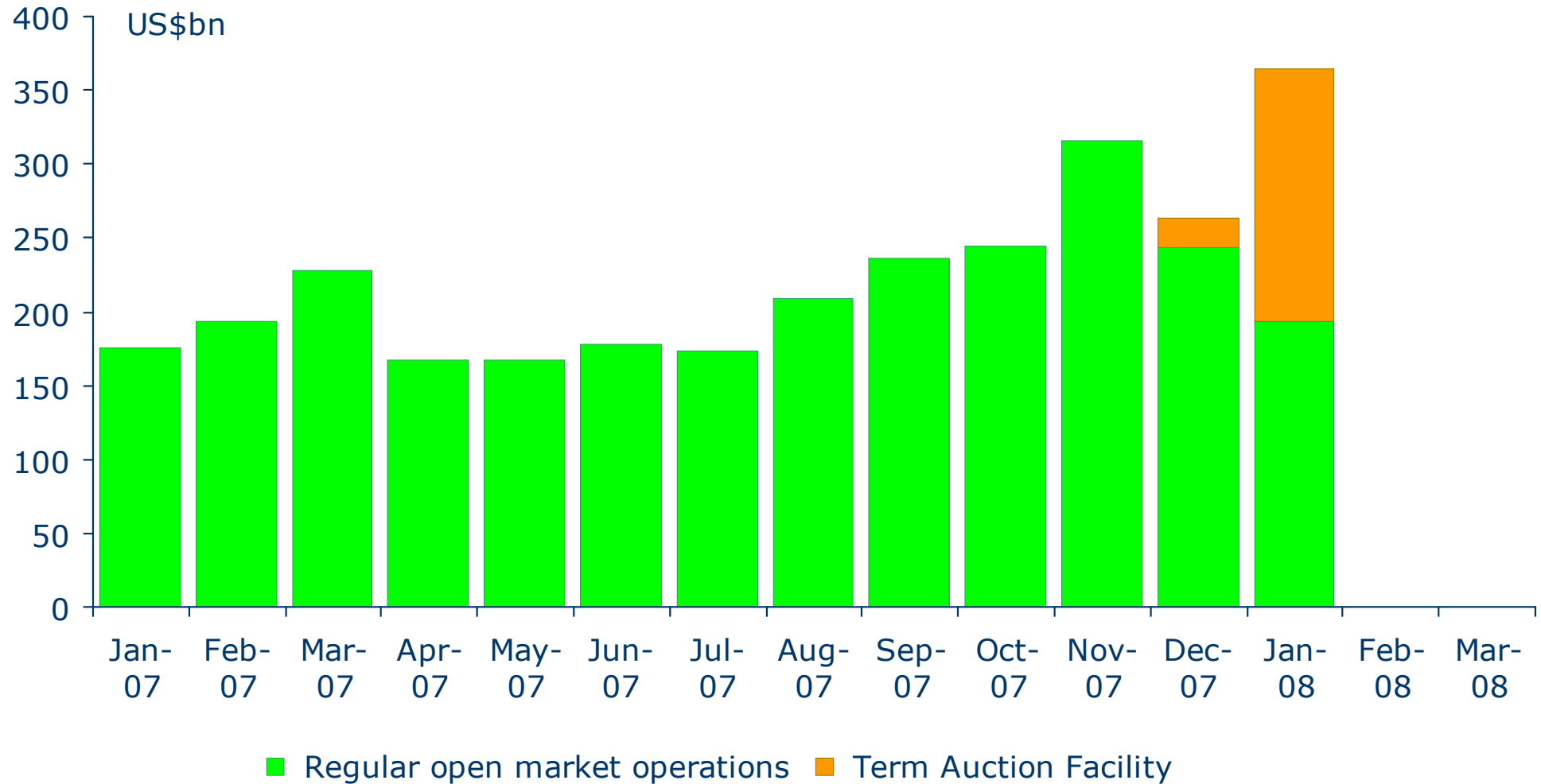


Sources: Thomson Financial; Bloomberg.



# The narrowing in money-market spreads largely reflects central bank efforts to inject additional liquidity

## Net cash injections to the US banking system by the Federal Reserve



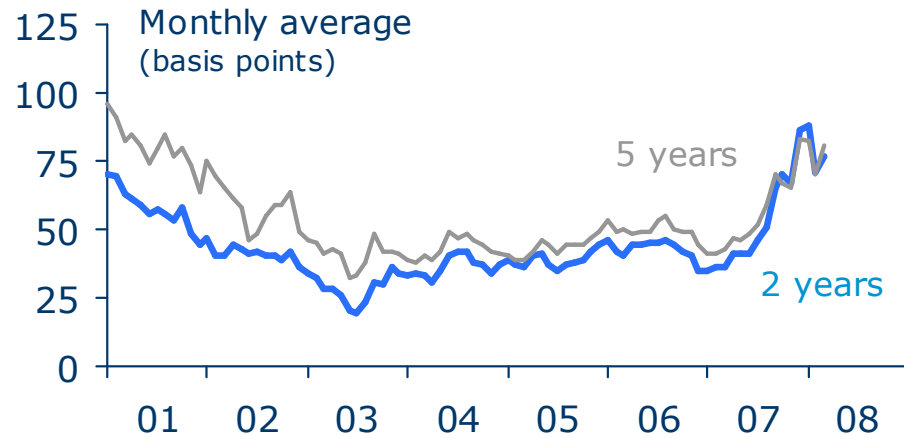
Source: US Federal Reserve.



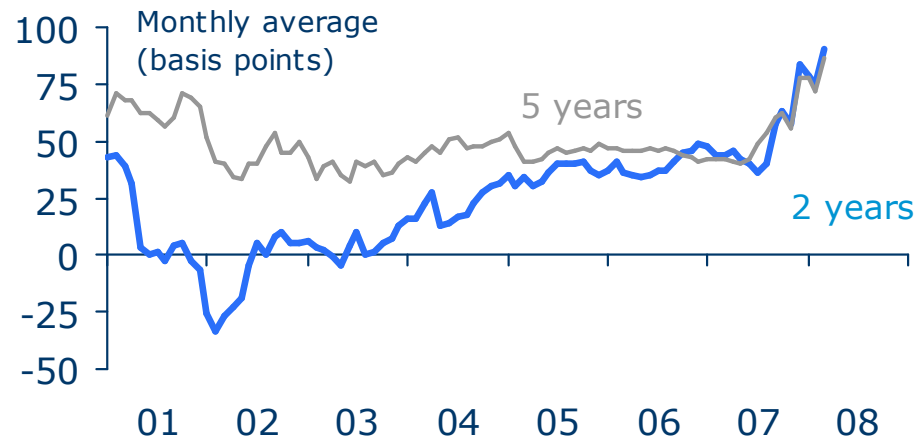
However longer-term borrowing spreads for both banks and corporates remain wide by historical standards

## Swap spreads

### United States

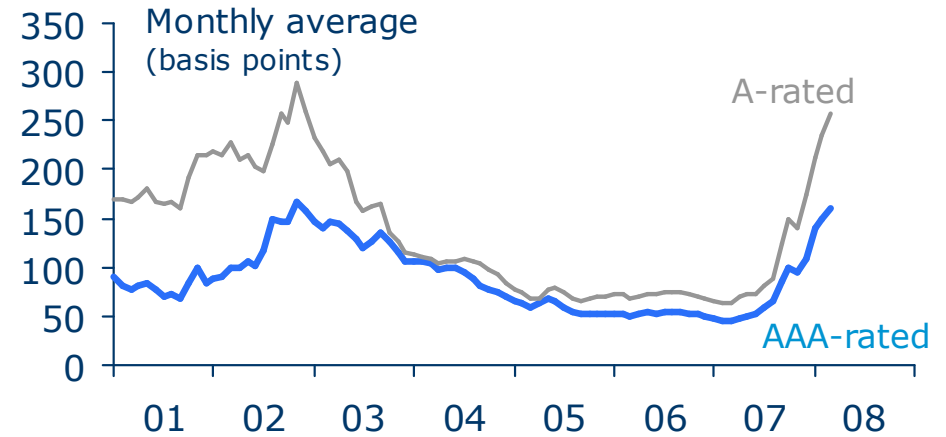


### Australia

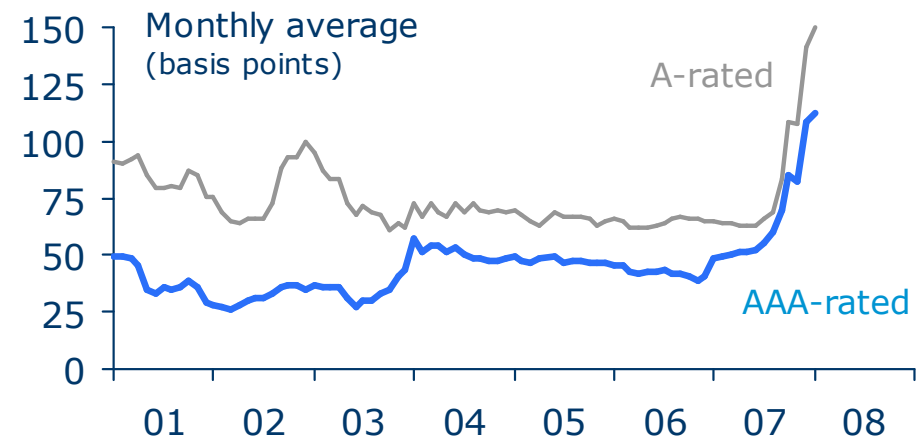


## Corporate bond yield spreads

### United States



### Australia

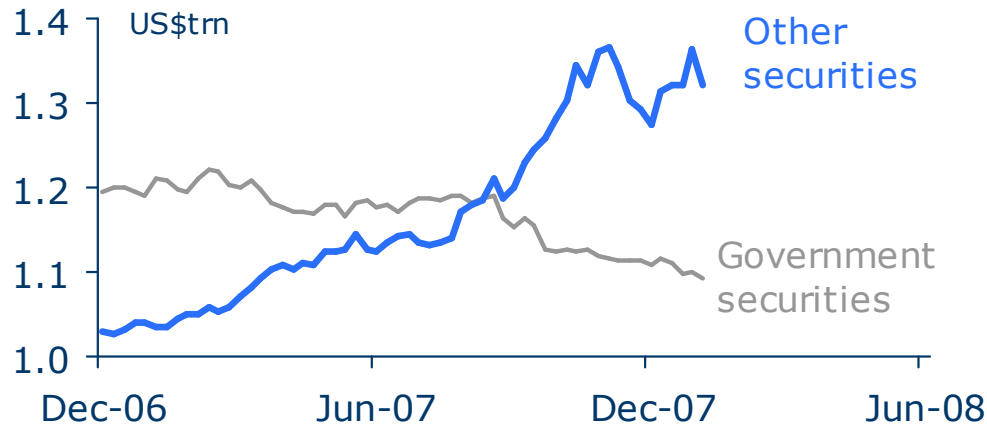


Note: spreads are to government bond yields of comparable maturities.  
Sources: Thomson Financial; Bloomberg; Reserve Bank of Australia.

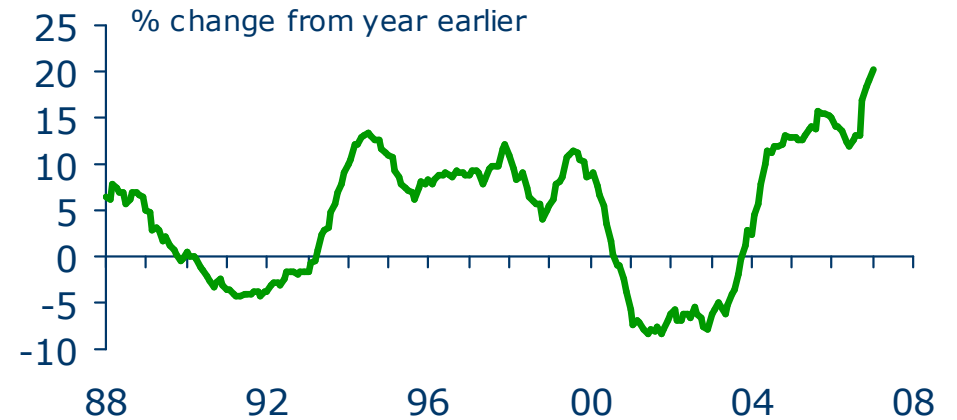


# Sharply diminished investor appetite for securities has forced banks to take large volumes of assets onto their balance sheets

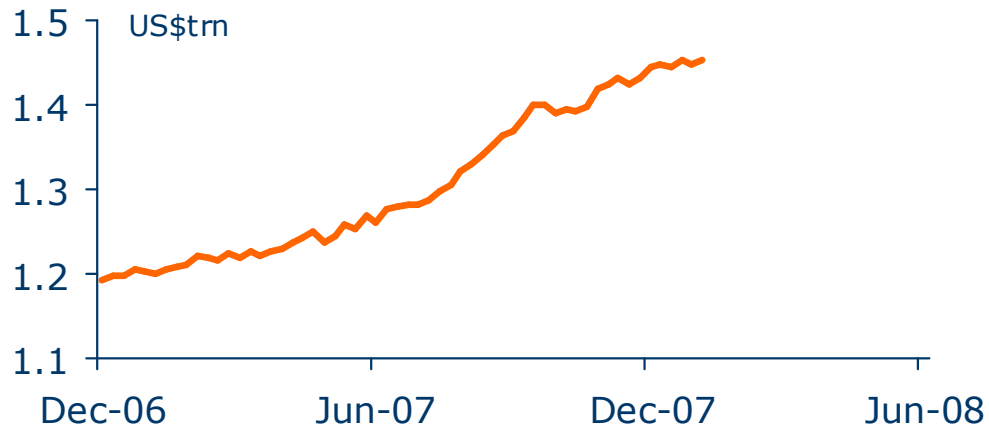
### US banks' securities holdings



### US banks' business lending



### US banks' commercial & industrial loans



### Australian financial intermediaries' business lending



Sources: US Federal Reserve; Reserve Bank of Australia.



# There are still plenty of downside risks facing the global financial system <sup>10</sup>

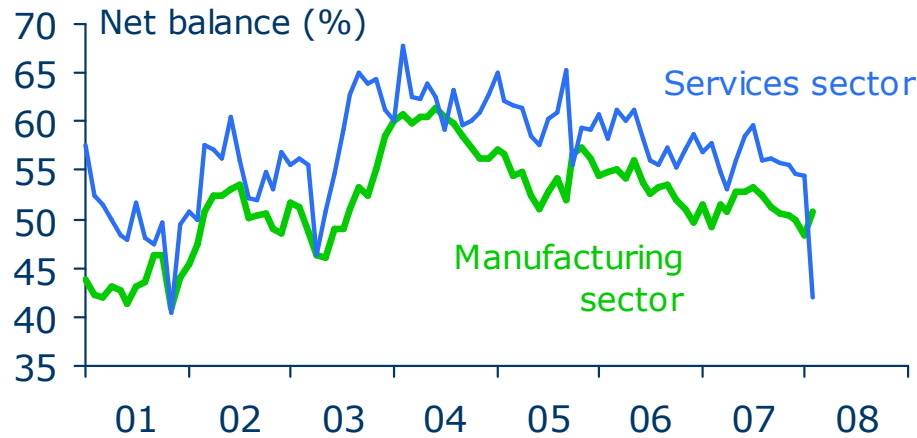
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- Further write-downs in the value of mortgage-backed securities as a result of on-going defaults and falling house prices
  - Another 1½mn variable-rate sub-prime mortgages face interest-rate resets this year (more than in 2007), and a further ½mn in 2009
  - estimates of eventual total losses are in the range US\$200-500bn (cf. \$133bn written off to date)
- Write-downs in the value of other securities 'guaranteed' by 'monoline' bond insurers whose credit ratings seem likely to be downgraded
  - these institutions have 'guaranteed' US\$2.4trn of municipal and consumer debt (of which \$900bn is structured finance debt (CDOs etc))
- Potential losses arising on other types of securities
  - such as those backed by commercial mortgages, leveraged loans, private equity buy-outs
  - 'credit default swaps' (derivatives intended to provide insurance to investors in debt securities against the risk of default)
- On-going pressure on banks' capital from having to expand balance sheets to meet needs of customers unable to debt issue securities, and from further write-downs
  - which in the most extreme case could result in banks being forced to ration credit

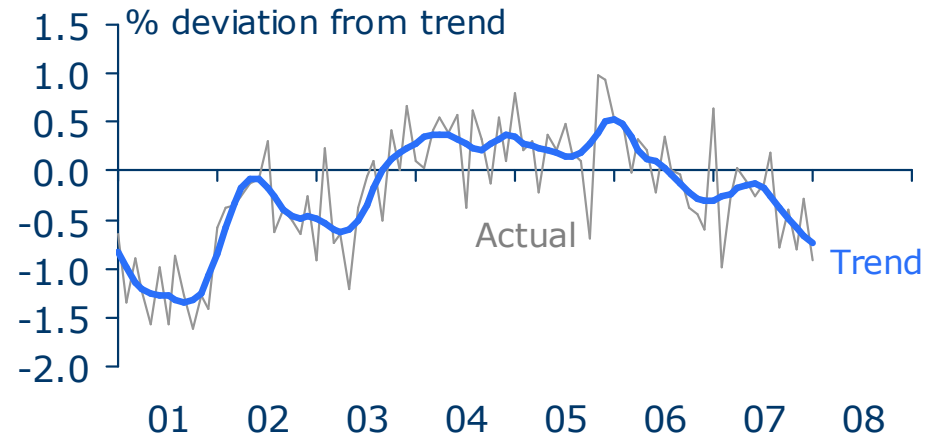
# A number of high-profile composite indicators suggest the US economy is in, or heading for, a recession

## Composite indicators of US economic activity

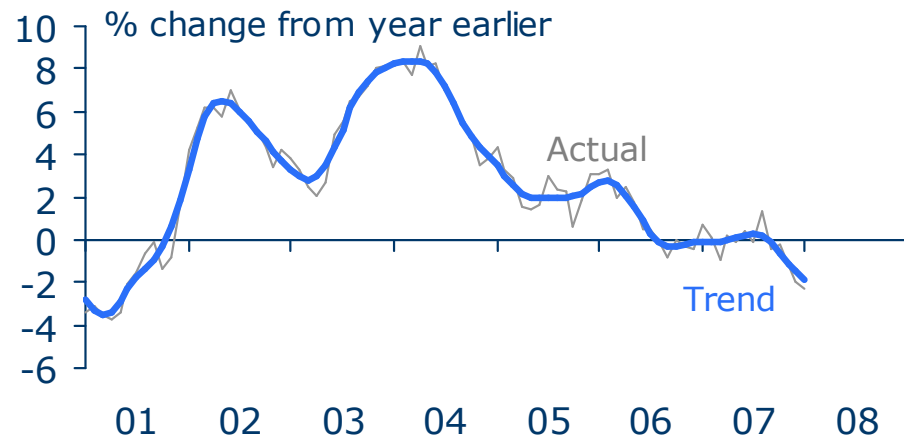
### Purchasing managers' indices



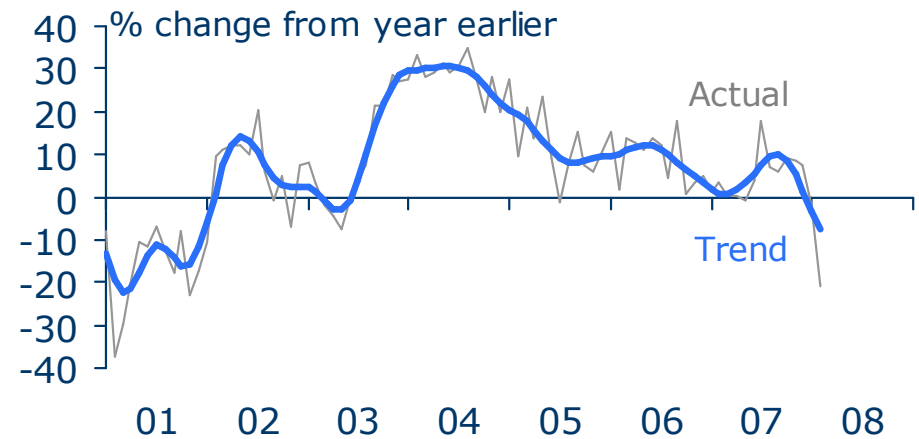
### Chicago Fed activity index



### Conference Board leading indicators



### Philadelphia Fed activity index



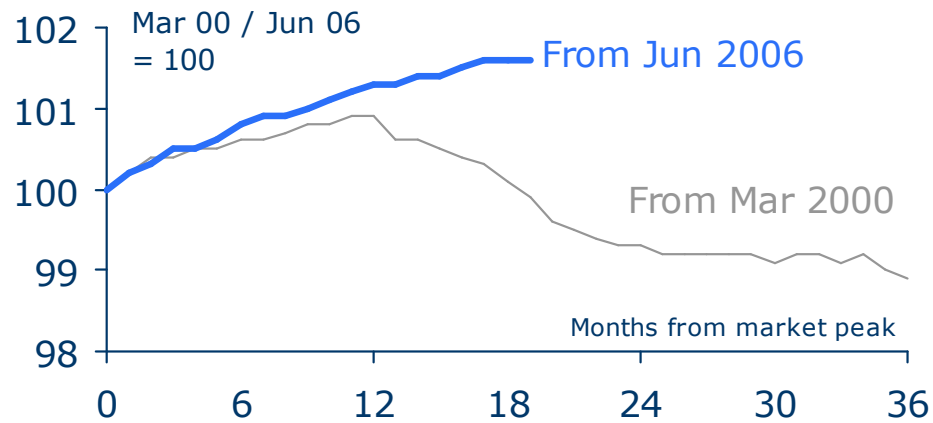
Sources: Institute of Supply Management (ISM); The Conference Board; Federal Reserve Banks of Chicago and Philadelphia.



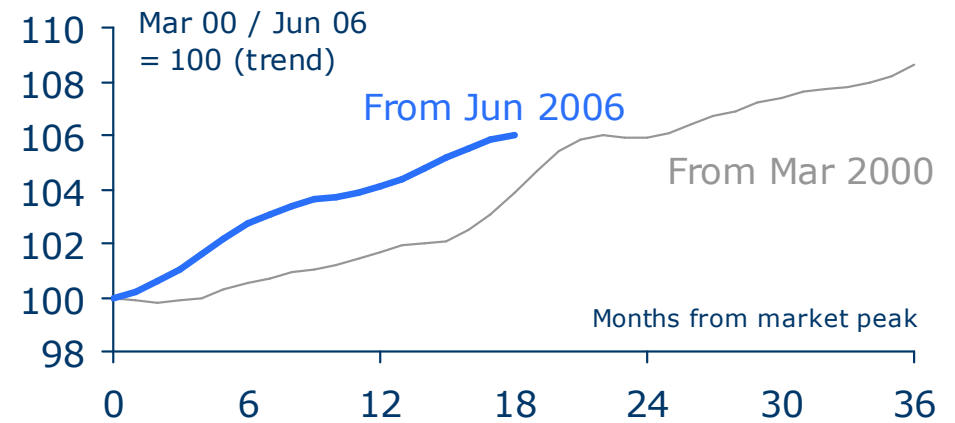
However other indicators suggest the US economy is holding up better than it did ahead of the last recession in 2001 12

## US economic indicators after the peaks of two most recent 'bubbles'

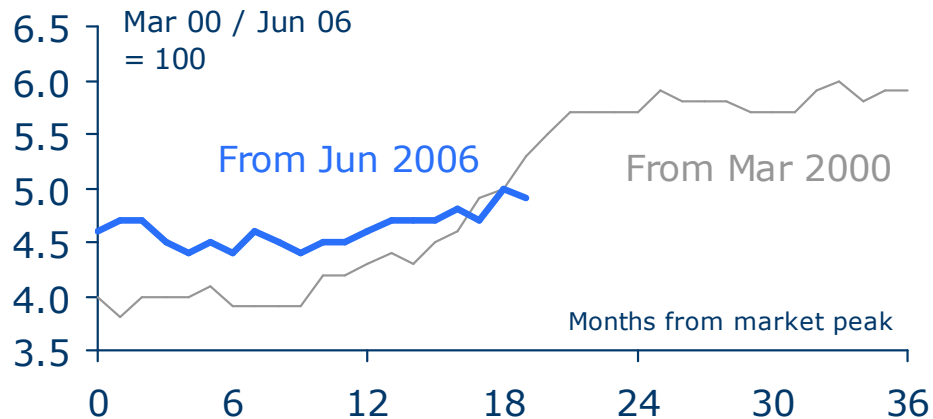
### Non-farm payroll employment



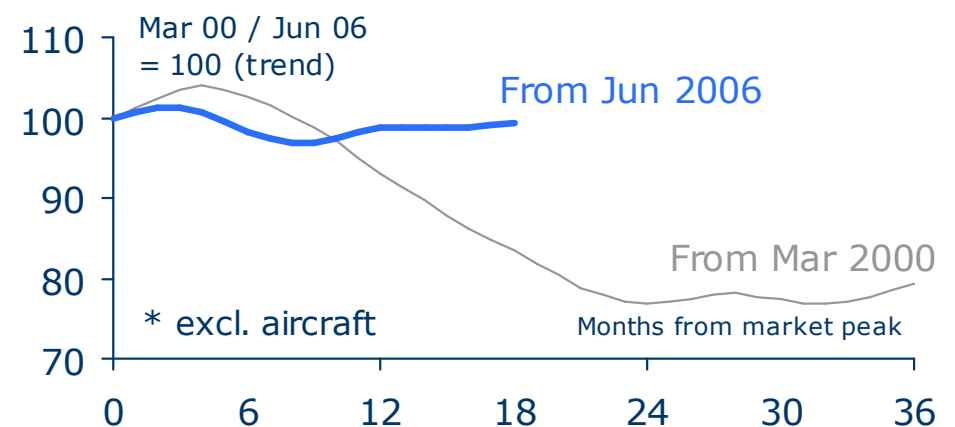
### Real retail sales



### Unemployment rate



### Non-defence capital goods orders\*



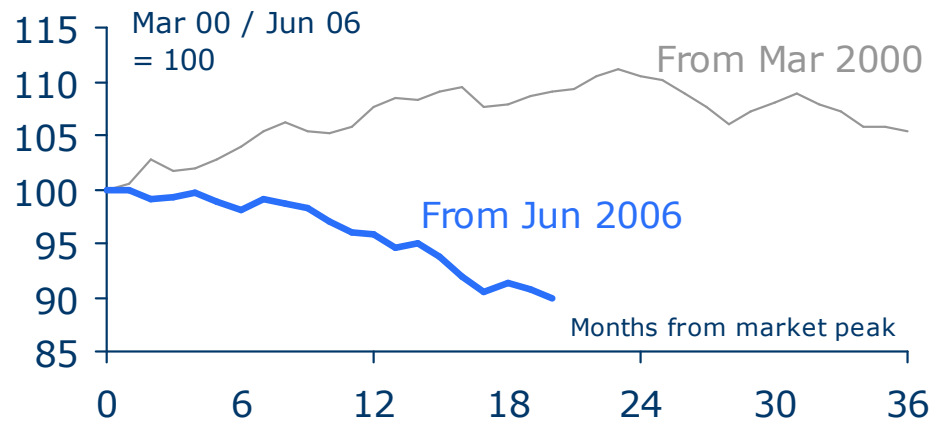
Sources: US Bureau of Labor Statistics; US Commerce Department; ANZ.



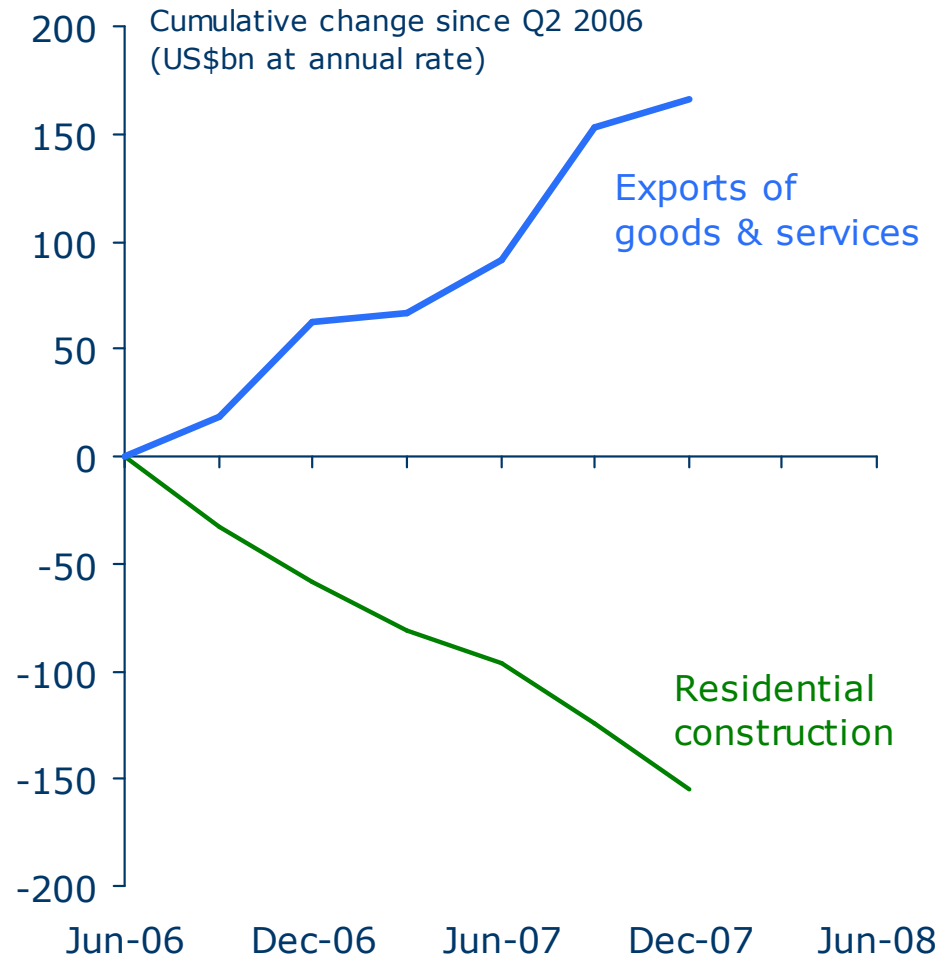
# Rising exports, aided by a weaker US\$, have more than offset the impact on GDP growth of falling housing construction

## US dollar, exports and housing

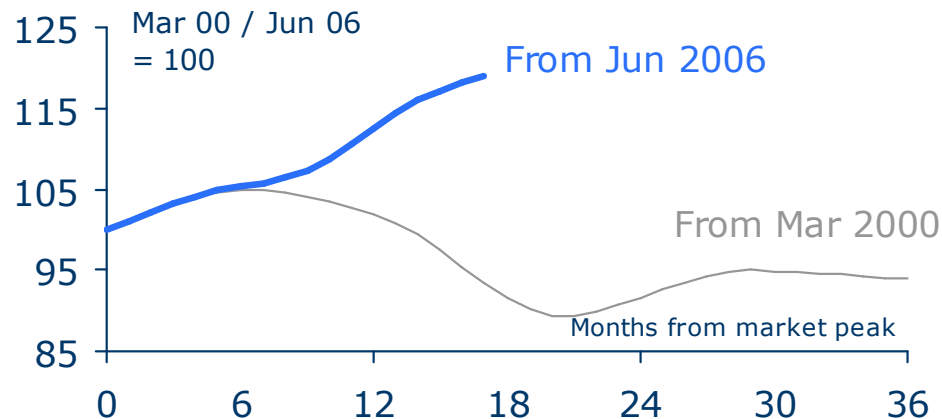
### Trade-weighted value of US\$



### Exports and housing



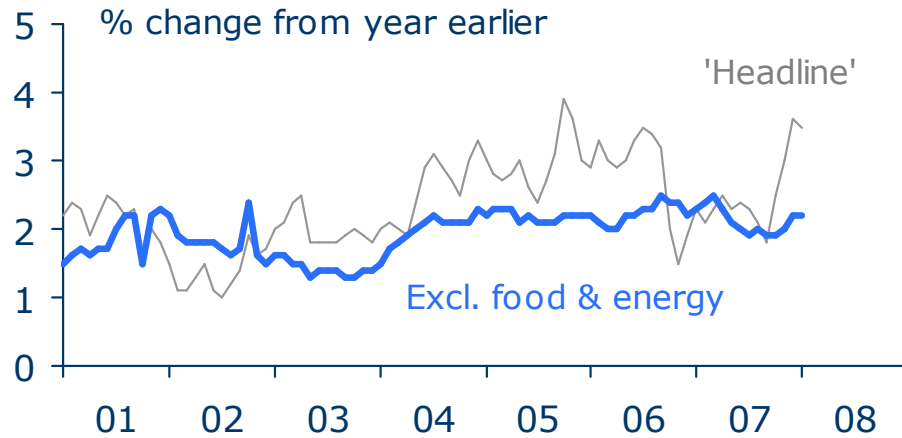
### Real exports of goods and services



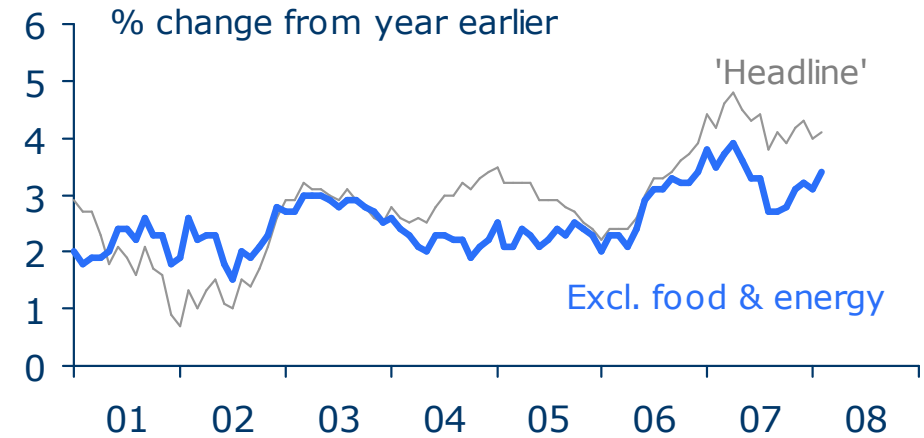
# Uncomfortably high inflation is making some central banks reluctant to cut interest rates aggressively (or at all)

## Consumer price inflation

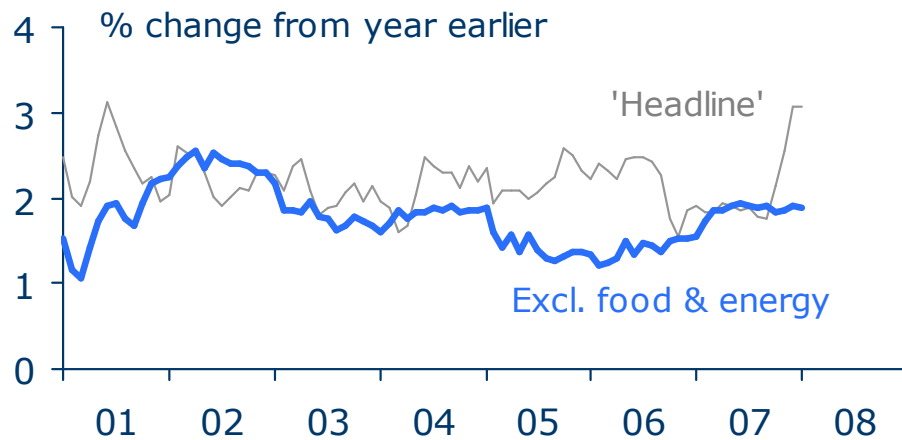
### United States\*



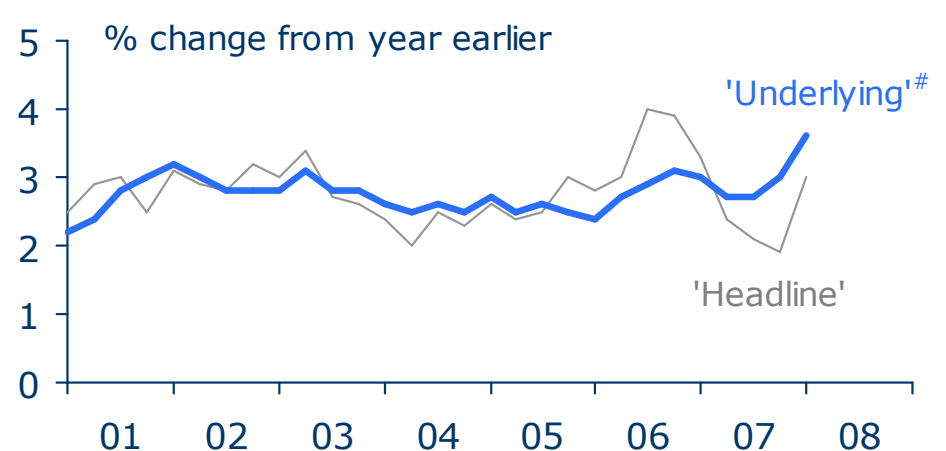
### United Kingdom



### Euro area



### Australia†

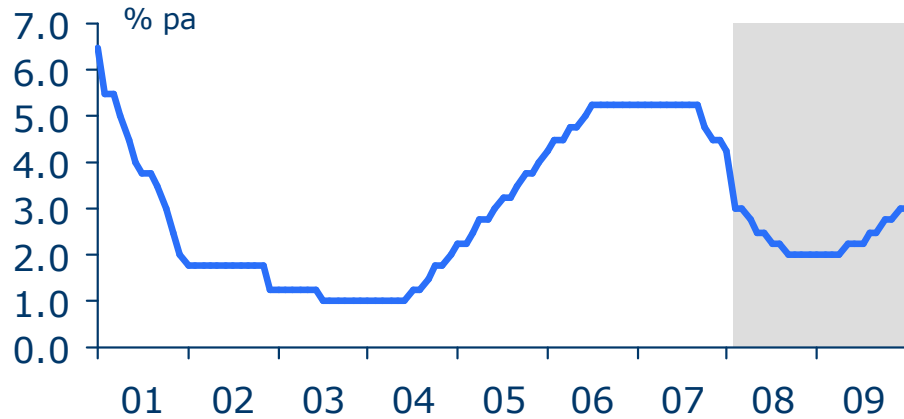


\* Personal consumption expenditure deflator. † excludes GST impact in 2001. ‡ Average of RBA's two preferred measures. Sources: US Bureau of Economic Analysis; Eurostat; UK Office of National Statistics; ABS; RBA.

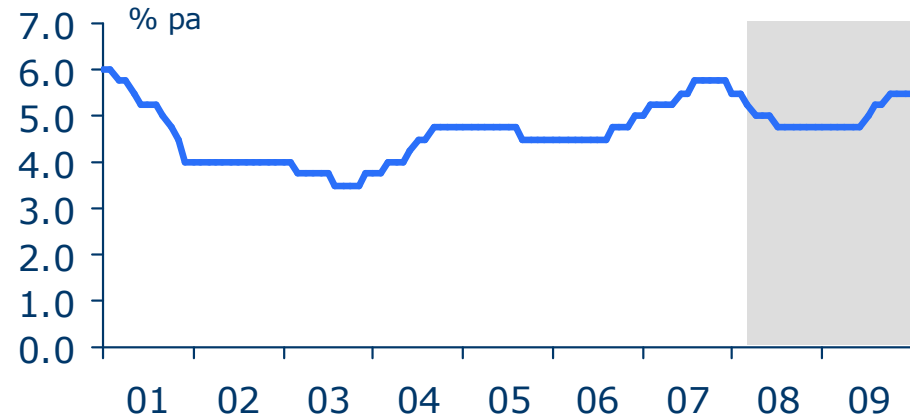
So far the US Federal Reserve has cut rates the most; the ECB hasn't cut at all; and Australia has lifted rates three times

### Monetary policy interest rates

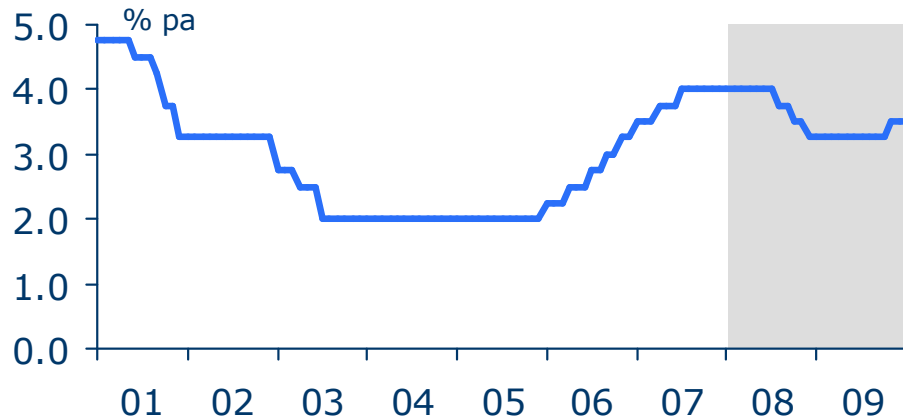
#### US federal funds rate



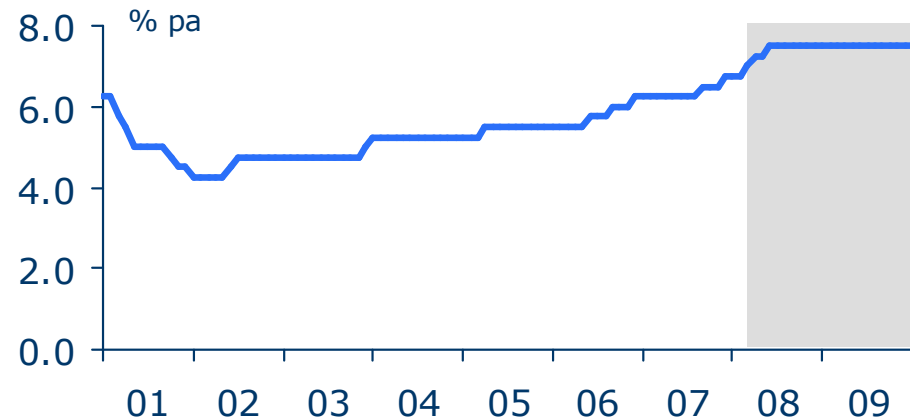
#### Bank of England repo rate



#### European Central Bank refi rate



#### Reserve Bank of Australia cash rate



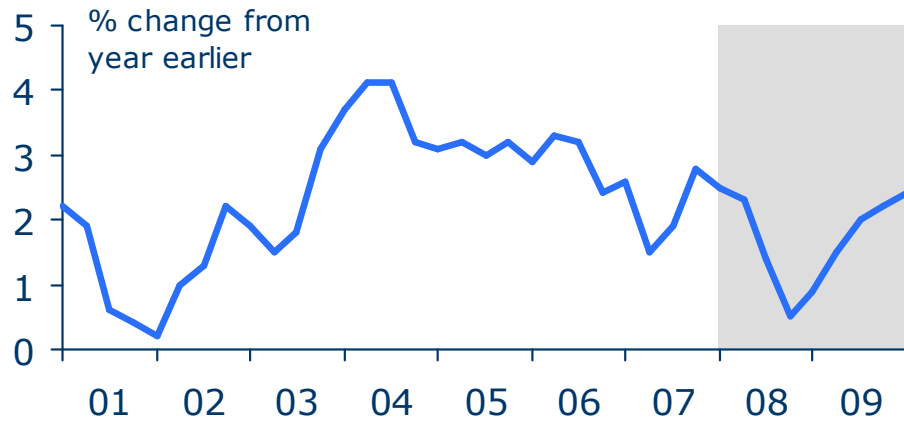
Sources: Federal Reserve; Bank of Japan; European Central bank; Bank of England; ANZ.



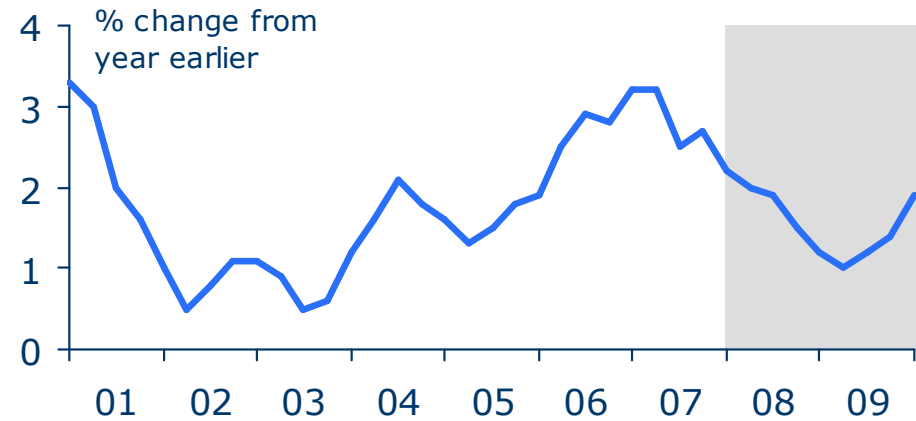
# All of the world's major advanced economies will experience slower growth in 2008

## Major advanced economies – real GDP growth

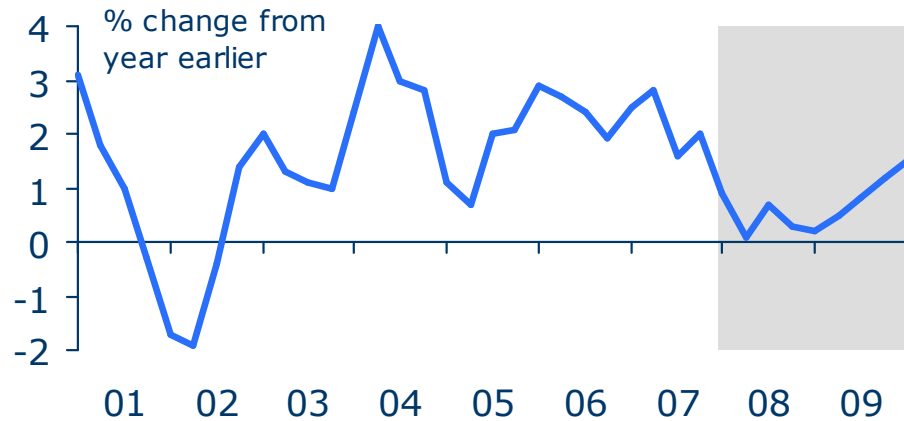
### United States



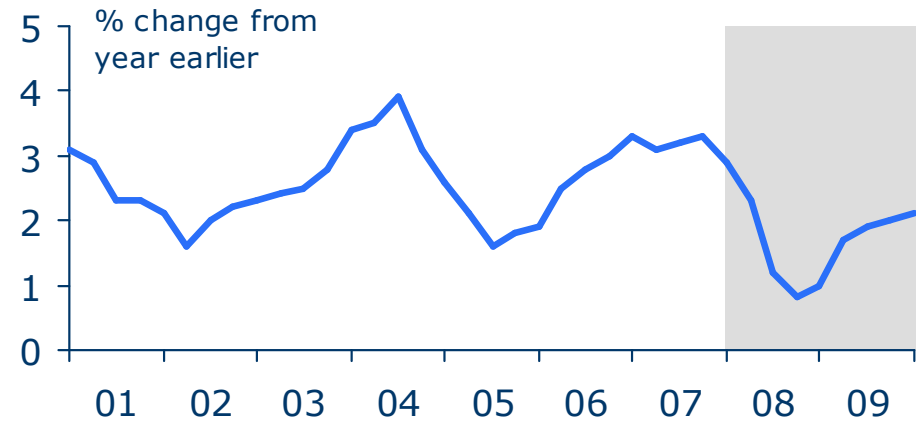
### Euro zone



### Japan



### United Kingdom



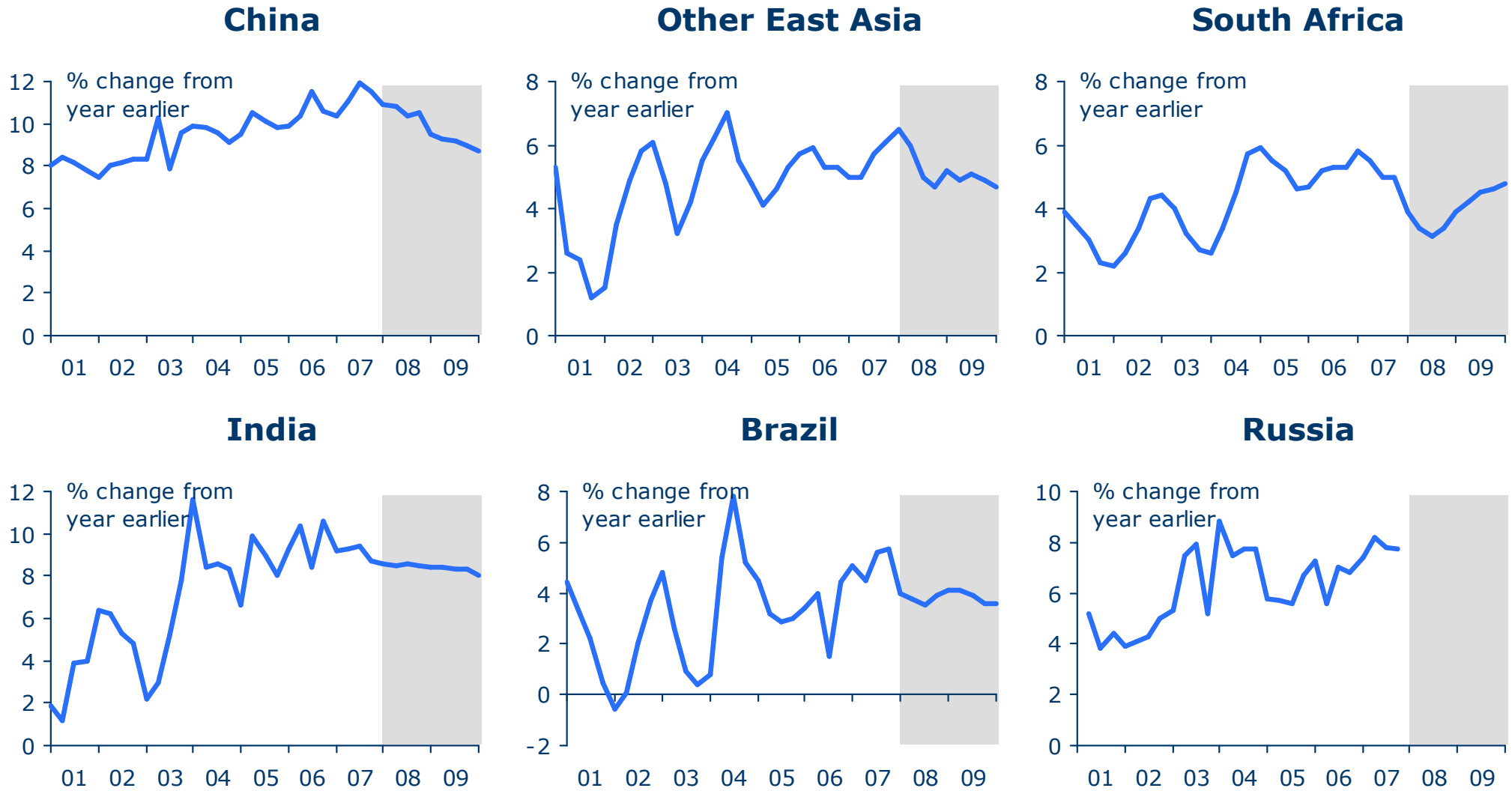
Sources: national statistical agencies; ANZ.





There'll be some slowing in major developing economies too, though more due to domestic policies than to weaker exports

### Major developing economies – real GDP growth



Sources: national statistical agencies; ANZ.



# Most developing countries are more worried about rising inflation than slowing growth

## Major developing economies – consumer prices

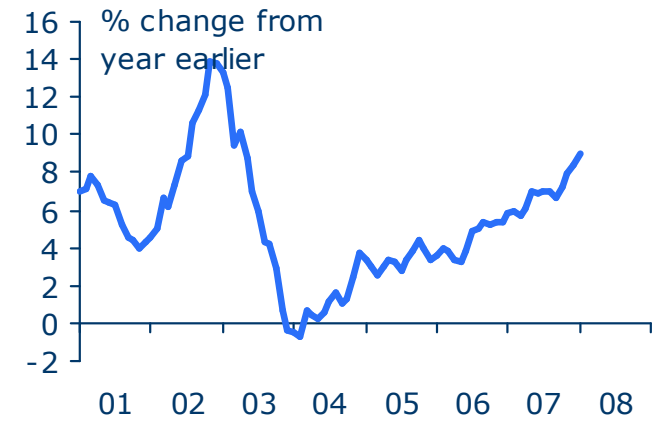
### China



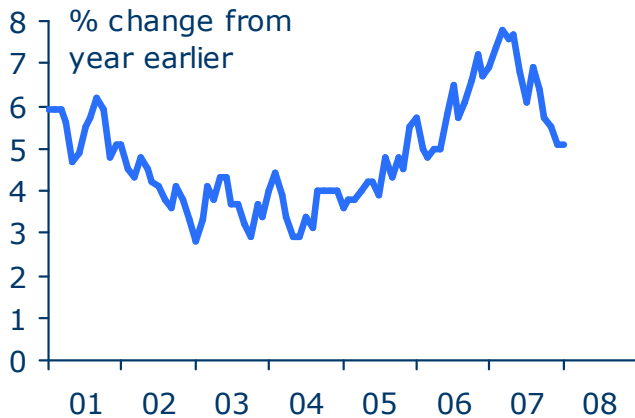
### Other East Asia



### South Africa



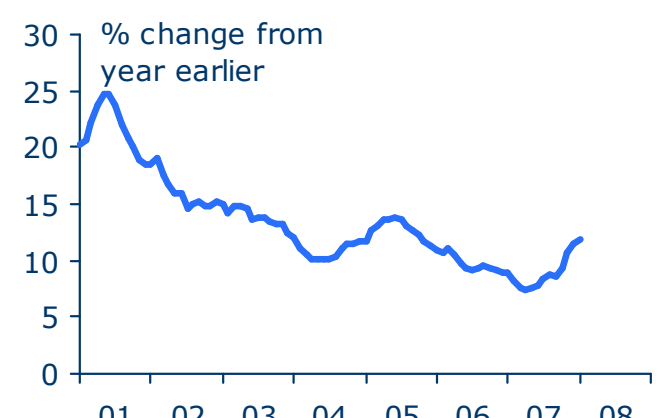
### India



### Brazil



### Russia



Sources: national statistical agencies; ANZ.

# Asian economies will feel the effects of a US slowdown, though not by as much as suggested by simple exports/GDP ratios

## Asian economies' exposure to a downturn in the US economy

Country	Exports as a % of GDP	Exports to US as a % of total*	Total export value-added as a % of GDP	US export value-added as a % of GDP	GDP impact of a 10%pt US import slowdown
China	34.1	21.4	12.6	2.7	-0.3
Hong Kong	197.9	15.2	42.6	6.5	-0.6
India	22.9	16.3	10.5	1.7	-0.2
Indonesia	33.5	11.8	13.9	1.6	-0.2
Japan	14.3	24.2	6.8	1.6	-0.2
Korea	42.5	15.0	19.8	3.0	-0.3
Malaysia	123.4	21.2	36.1	7.7	-0.8
Philippines	47.3	21.4	14.4	3.1	-0.3
Singapore	243.0	10.8	44.3	4.8	-0.5
Taiwan	65.9	20.8	25.7	5.3	-0.5
Thailand	73.6	16.4	28.8	4.7	-0.5
Vietnam	67.3	19.2	26.2	5.0	-0.5

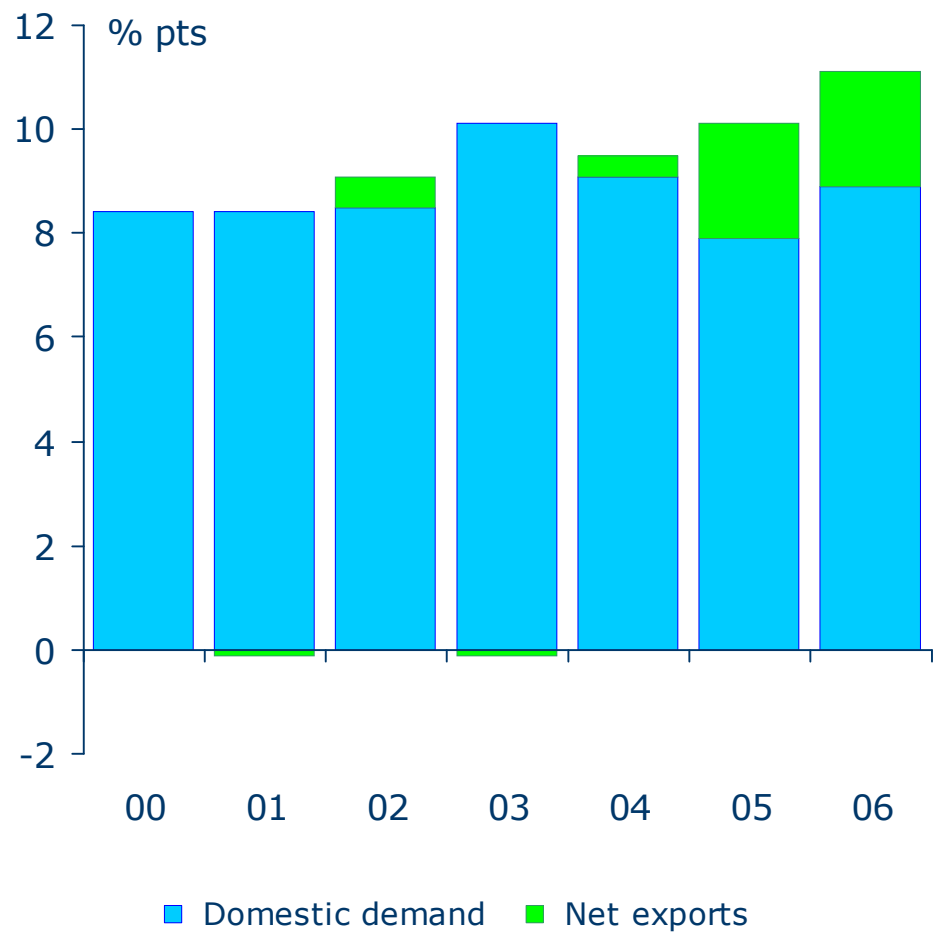
\* Includes indirect exposure through China.

Source: Jonathan Anderson (UBS, September 2006)

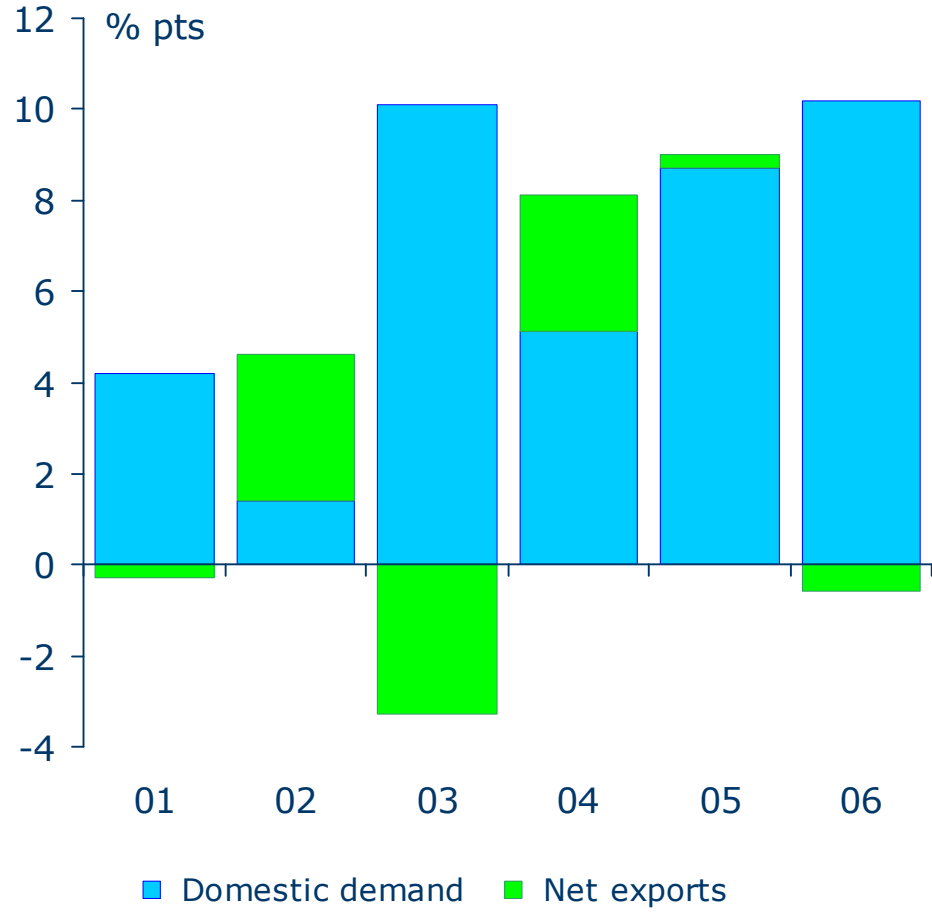


# China's and India's growth has been predominantly driven by domestic demand, not by net exports

### Contributions to China's real GDP growth



### Contributions to India's real GDP growth

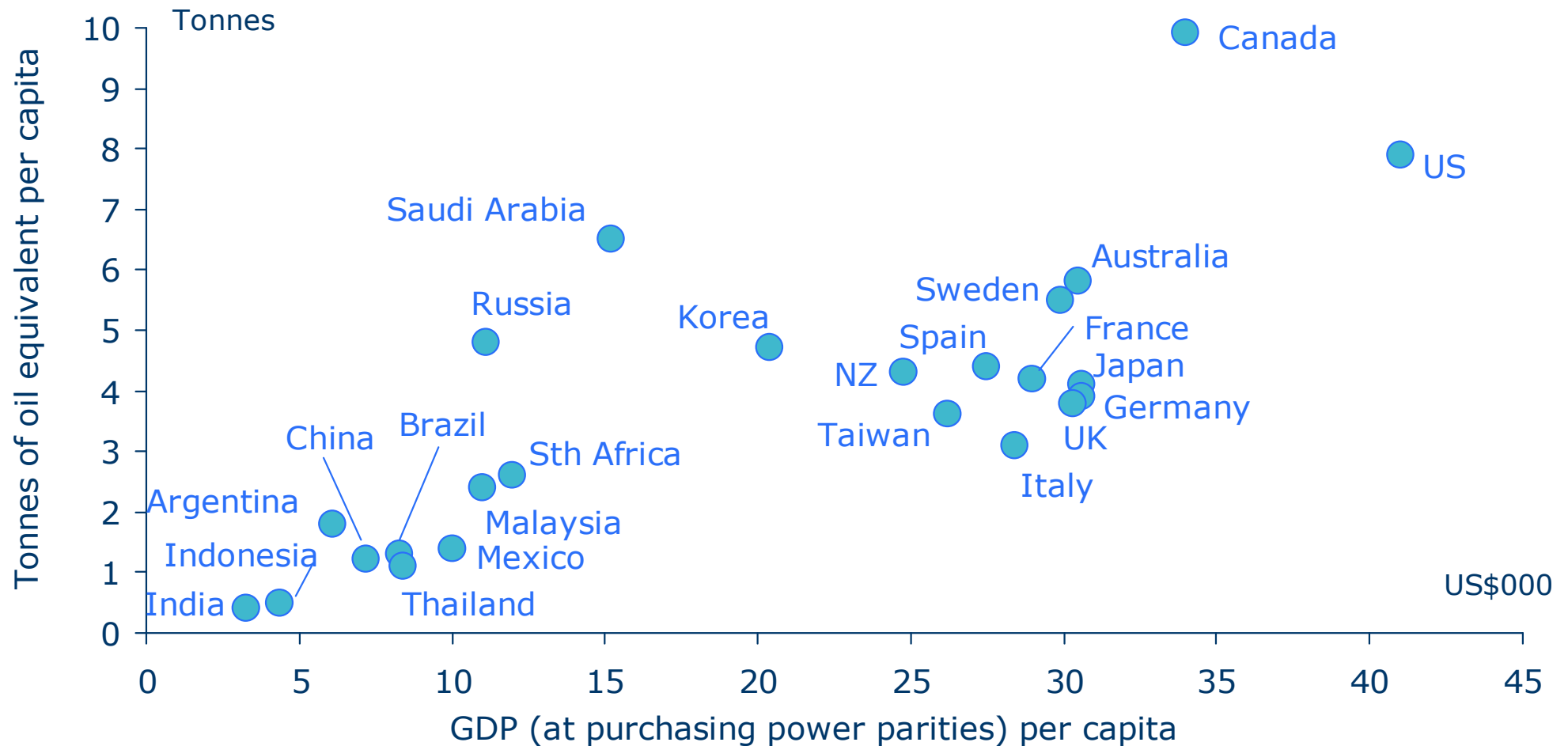


Source: China National Bureau of Statistics, CEIC.



# Developing country energy consumption will rise faster than incomes for the next few decades

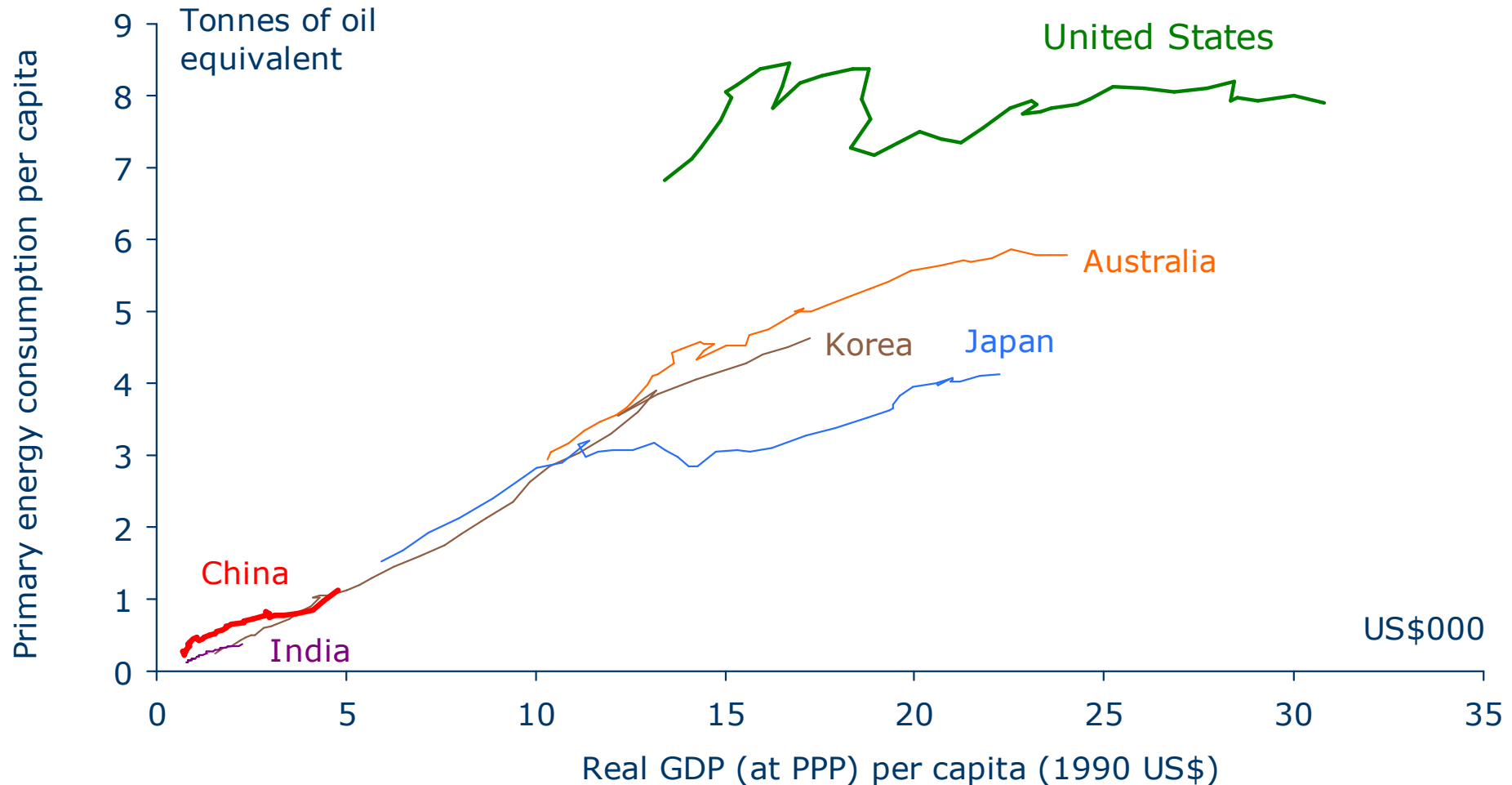
## Primary energy consumption and GDP per capita, 2005



Sources: BP Statistical Review of World Energy 2005; IMF World Economic Outlook September 2006; Economics@ANZ.

# Primary energy consumption in China, India etc will rise substantially

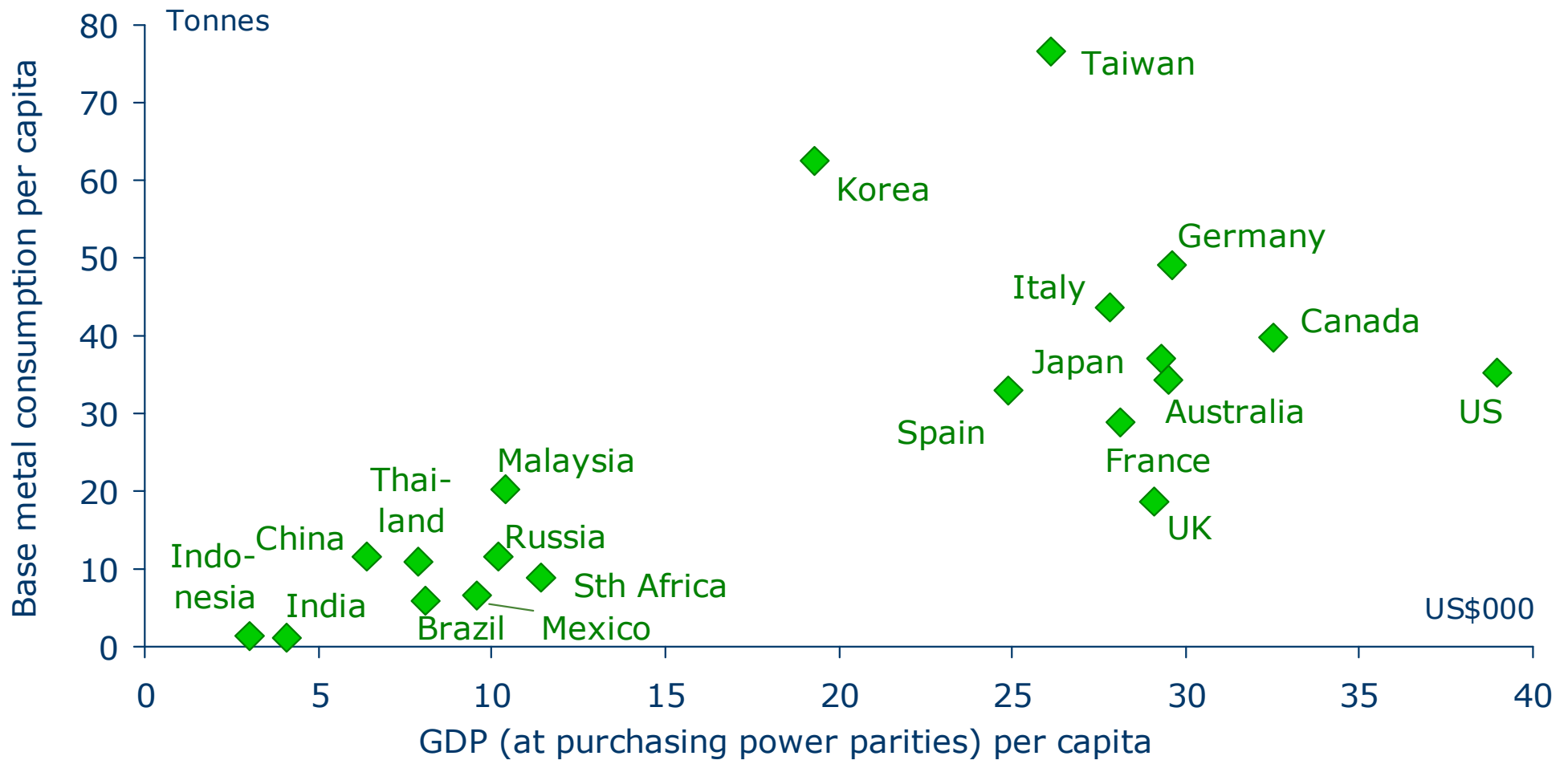
## Primary energy consumption and GDP per capita, 1965-2005



Sources: Groningen Growth and Development Centre *Total Economy Database*; BP *Statistical Review of World Energy* (2006); Economics@ANZ.

# The 'metal intensity' of developing country growth is likely to rise sharply

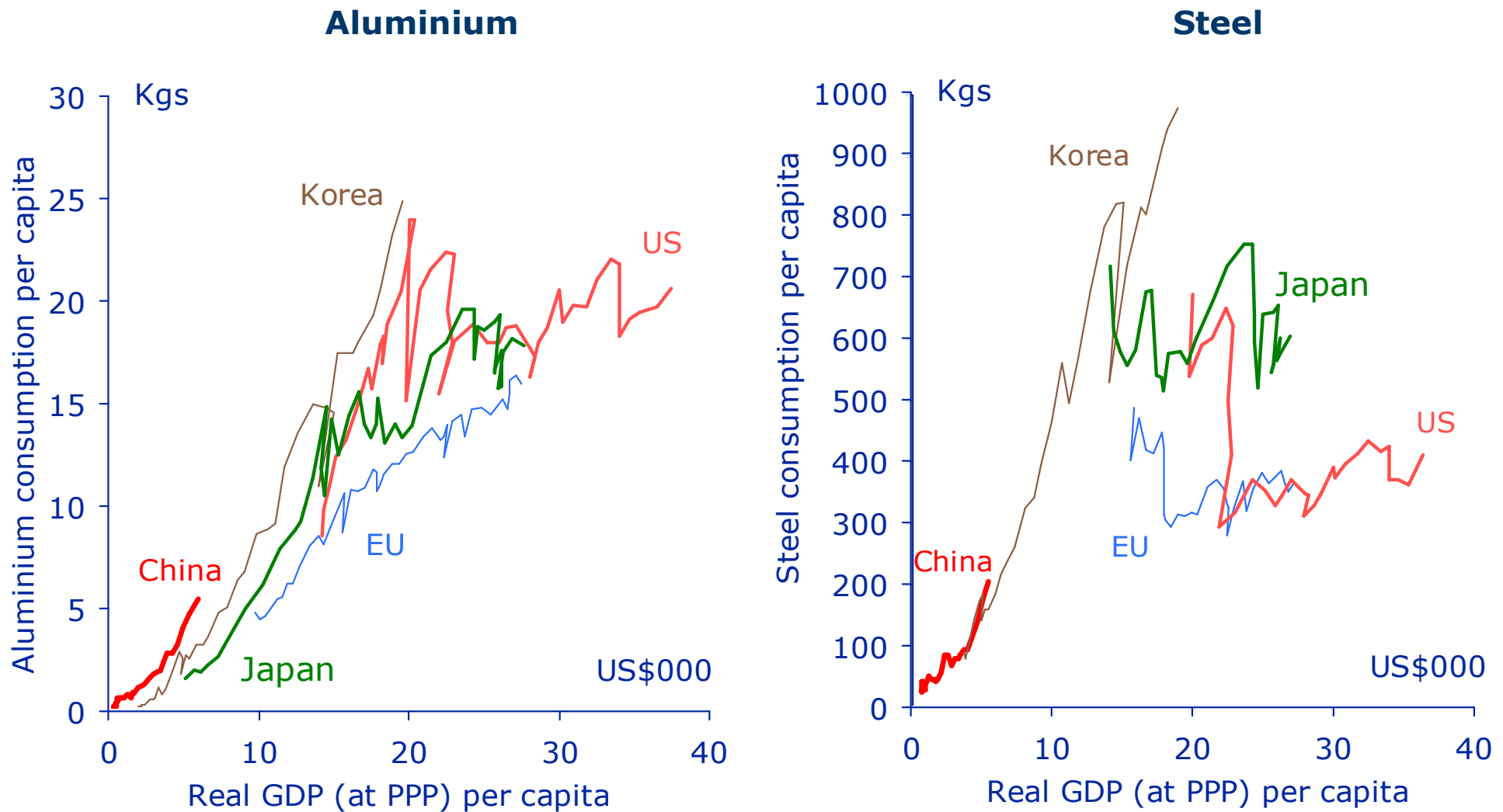
## Base metal consumption and GDP per capita, 2004



Sources: IMF World Economic Outlook September 2006; Economics@ANZ.

Metal demand from China (and other emerging markets) is likely<sup>24</sup> to continue to grow rapidly

## Metal consumption and GDP per capita, 1965-2005



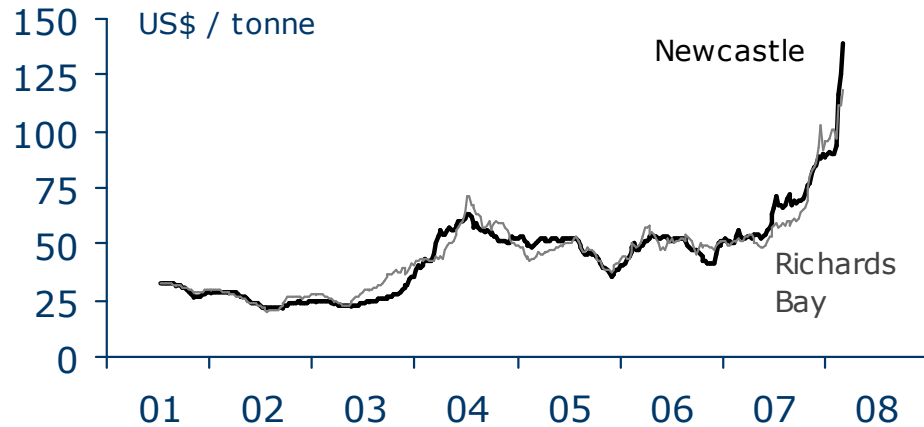
Sources: IMF World Economic Outlook September 2006; (Figure 5.7); Economics@ANZ.



# Coal and iron ore export prices are about to jump sharply, although the gains may not be fully sustained into 2009

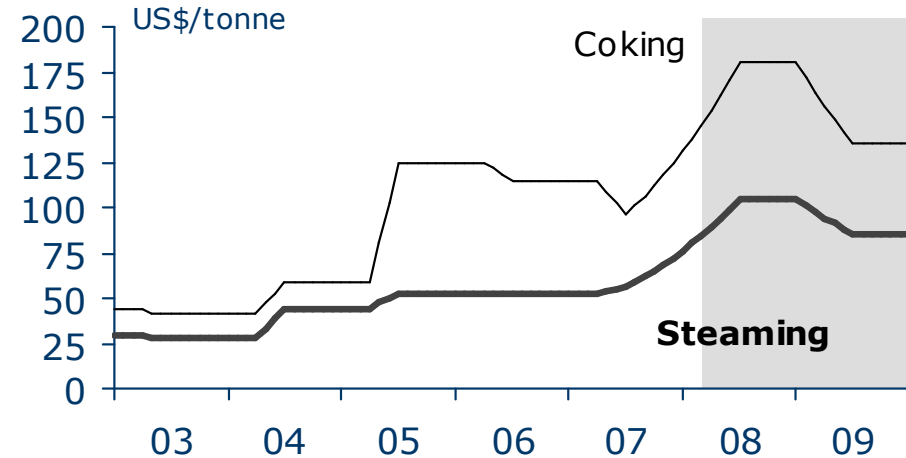
## Spot prices

### Thermal coal

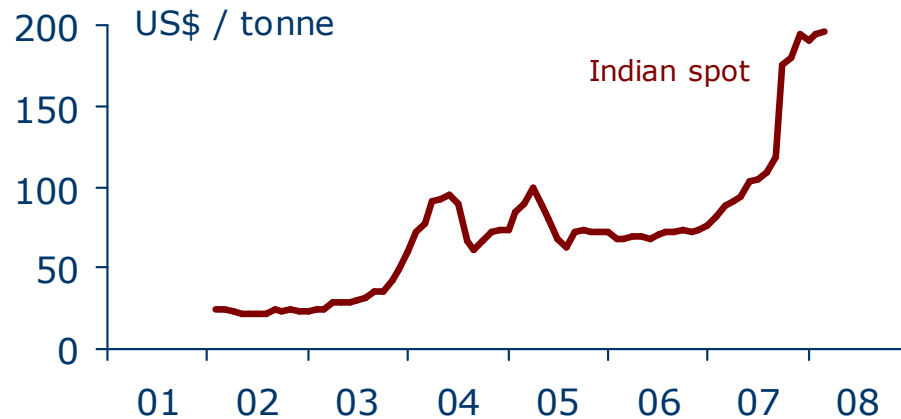


## Contract prices

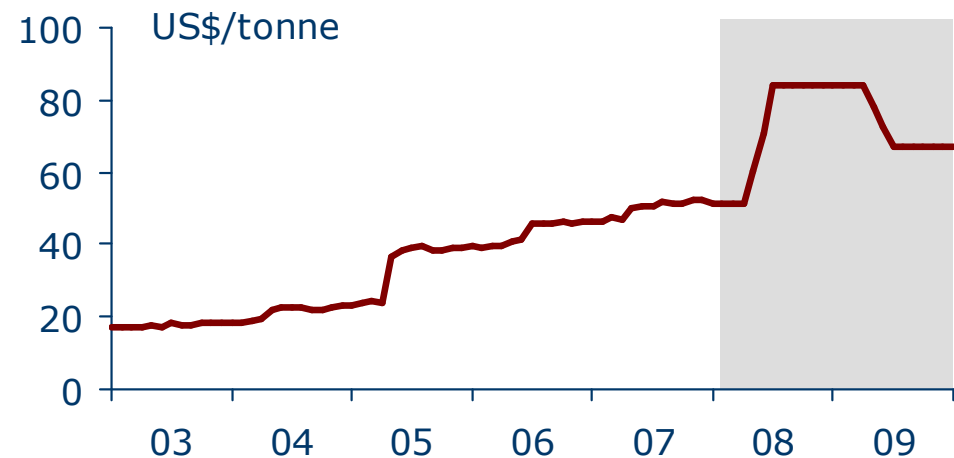
### Coal



### Iron ore



### Iron ore

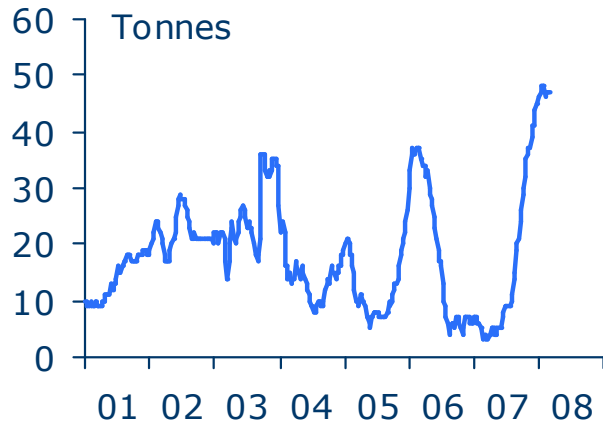


Sources: Bloomberg; RBA; ANZ.

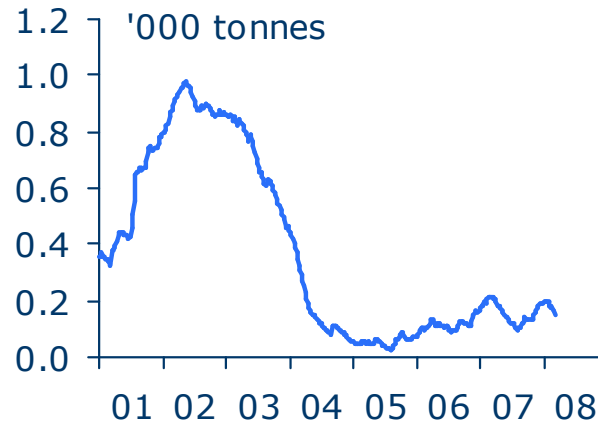
Base metal prices will continue to ease from very high levels;  
gold will fall back after US\$ bottoms in mid-2008

### Base metal inventories

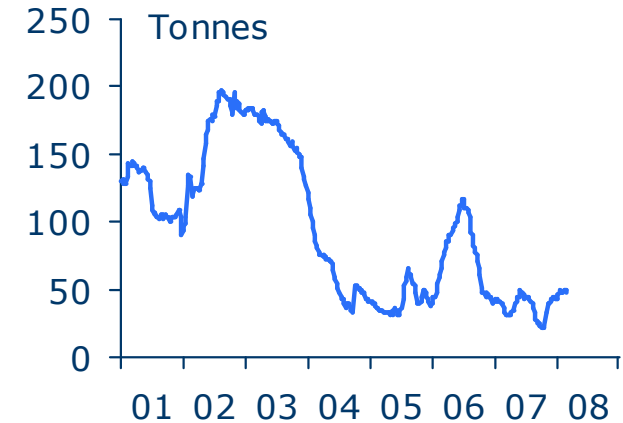
#### Nickel



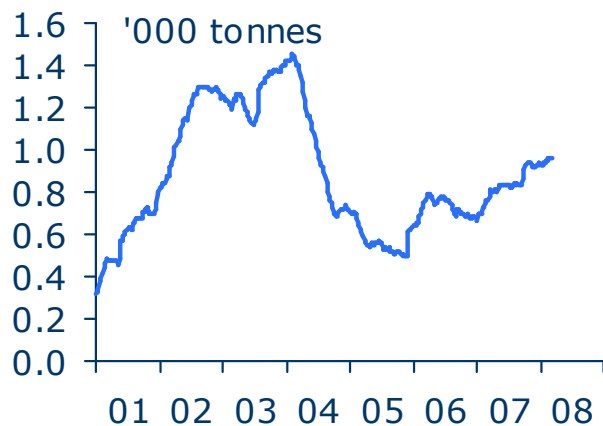
#### Copper



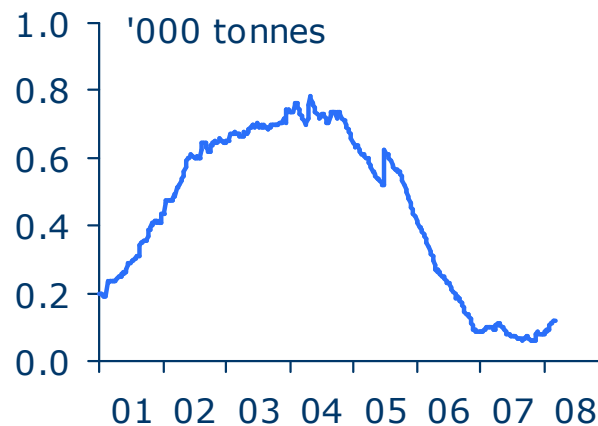
#### Lead



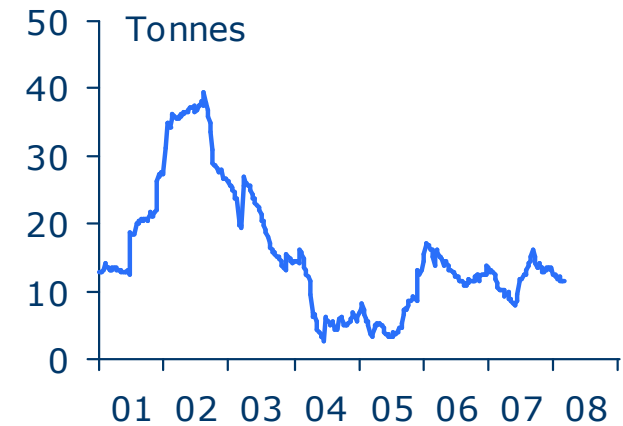
#### Aluminium



#### Zinc

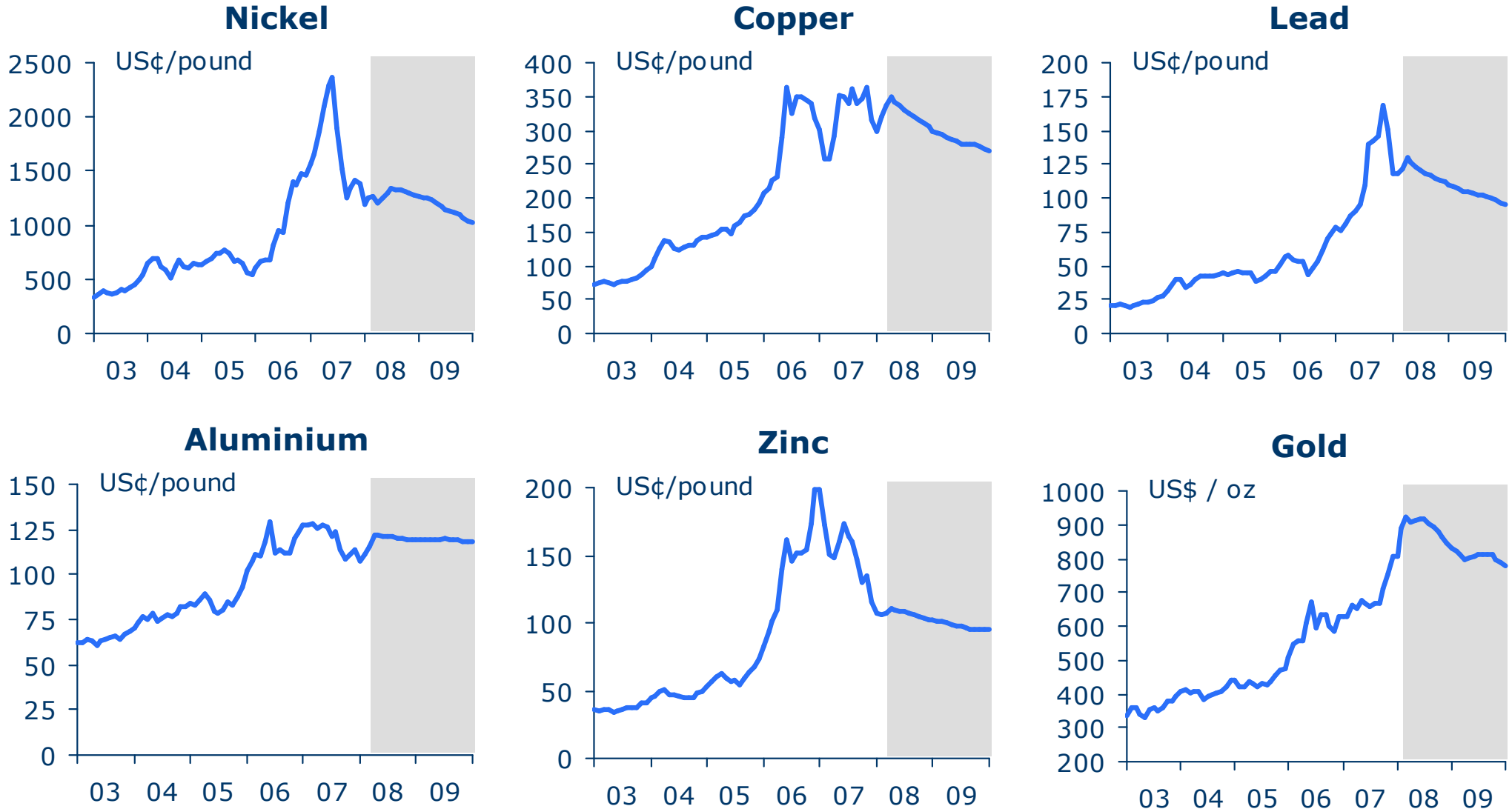


#### Tin



Base metal prices will continue to ease from very high levels;  
gold will fall back after US\$ bottoms in mid-2008

### Base and precious metal prices



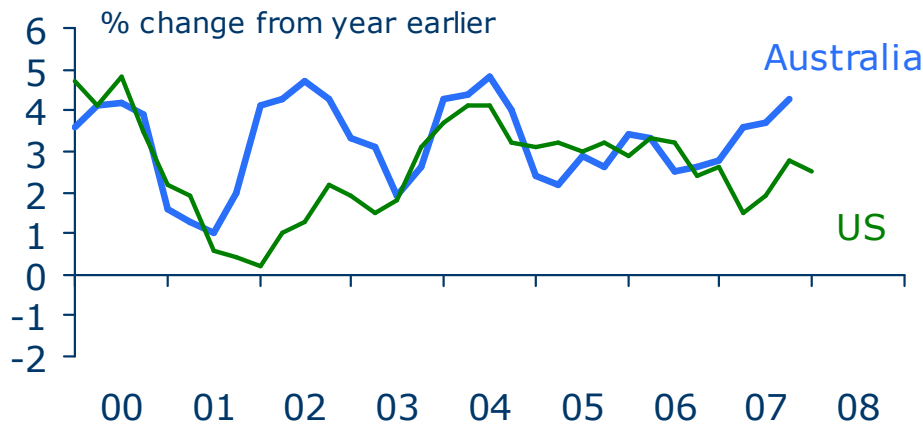
Sources: Thomson Financial; ANZ.



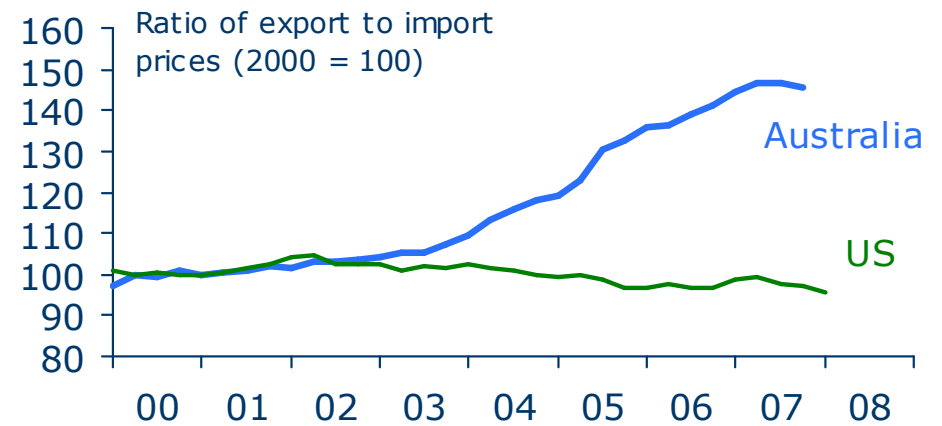
# Australian and US economic cycles have not been closely correlated this decade, and are diverging further now

## Australian and US economic indicators

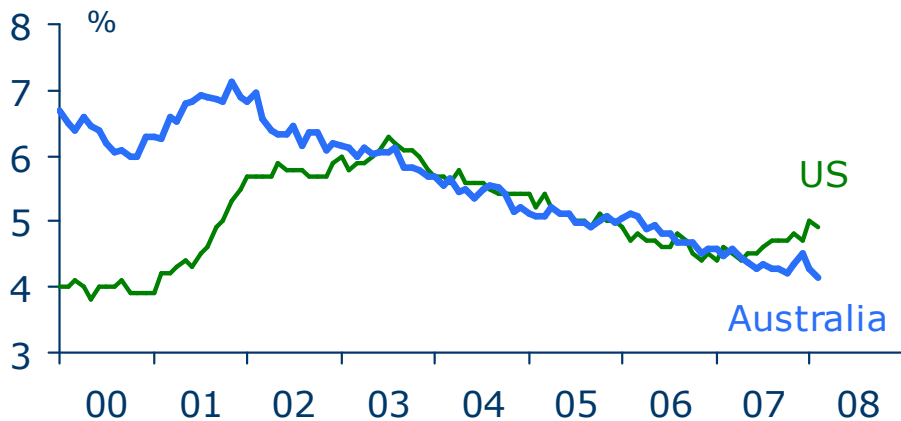
### Real GDP growth



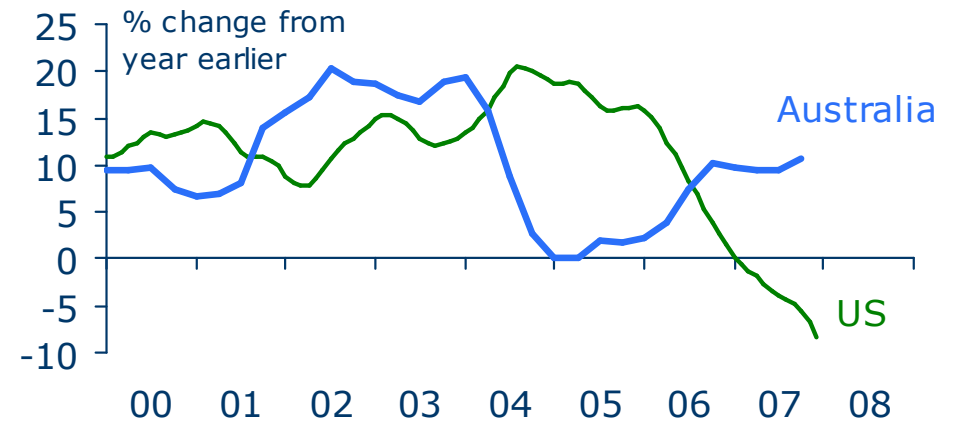
### Terms of trade



### Unemployment



### House prices

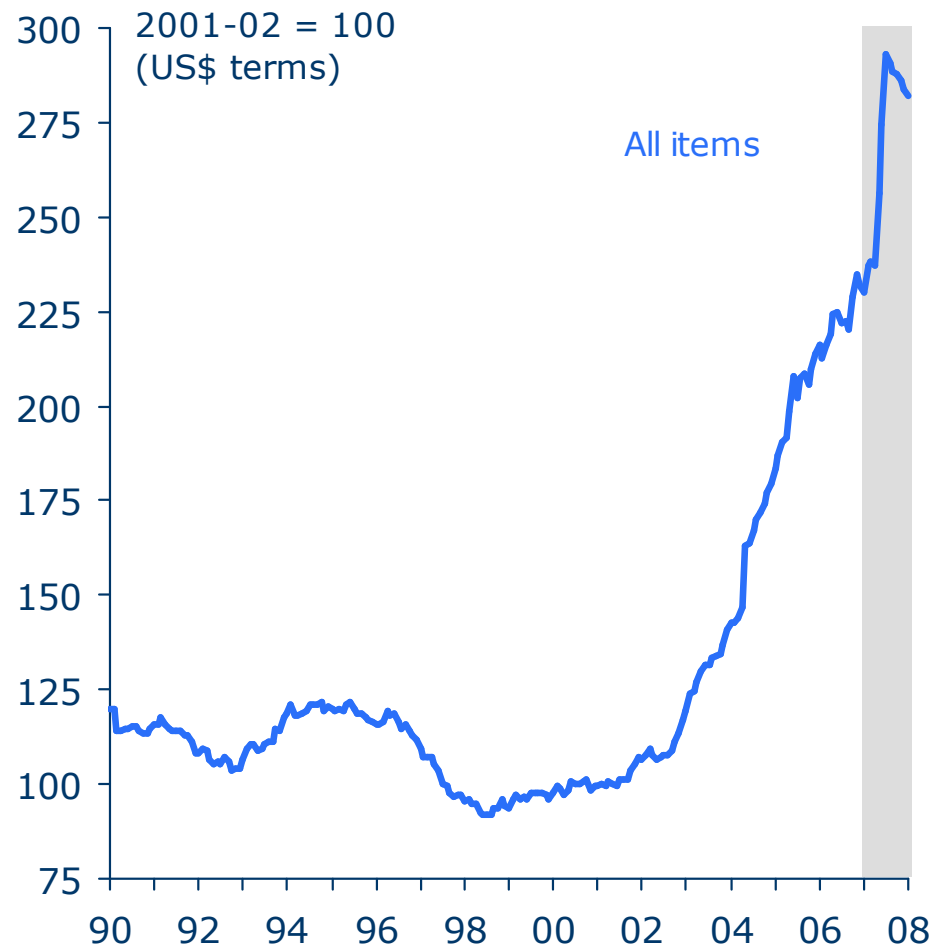


Sources: Australian Bureau of Statistics; US Bureau of Economic Analysis; US Bureau of Labor Statistics; S&P.



Expected rises in coal and iron ore export prices will deliver a final leg upwards in the commodity price cycle this year ...

### Australian export commodity prices



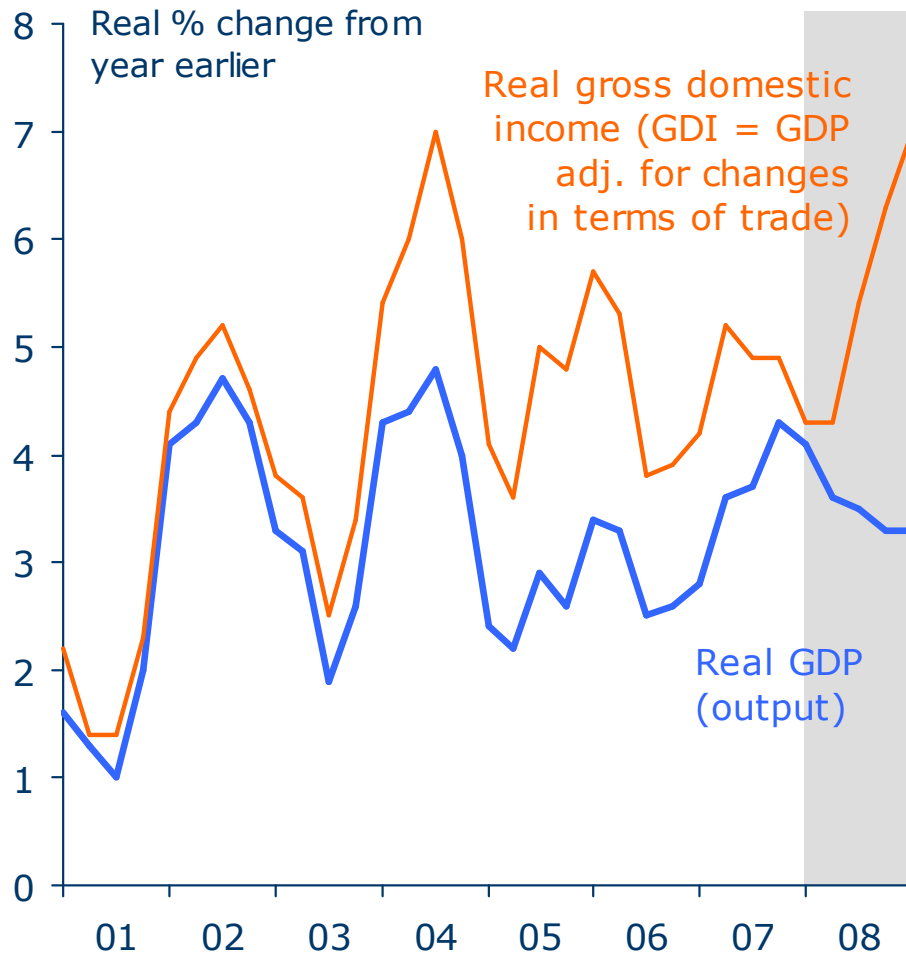
### Australia's "terms of trade"



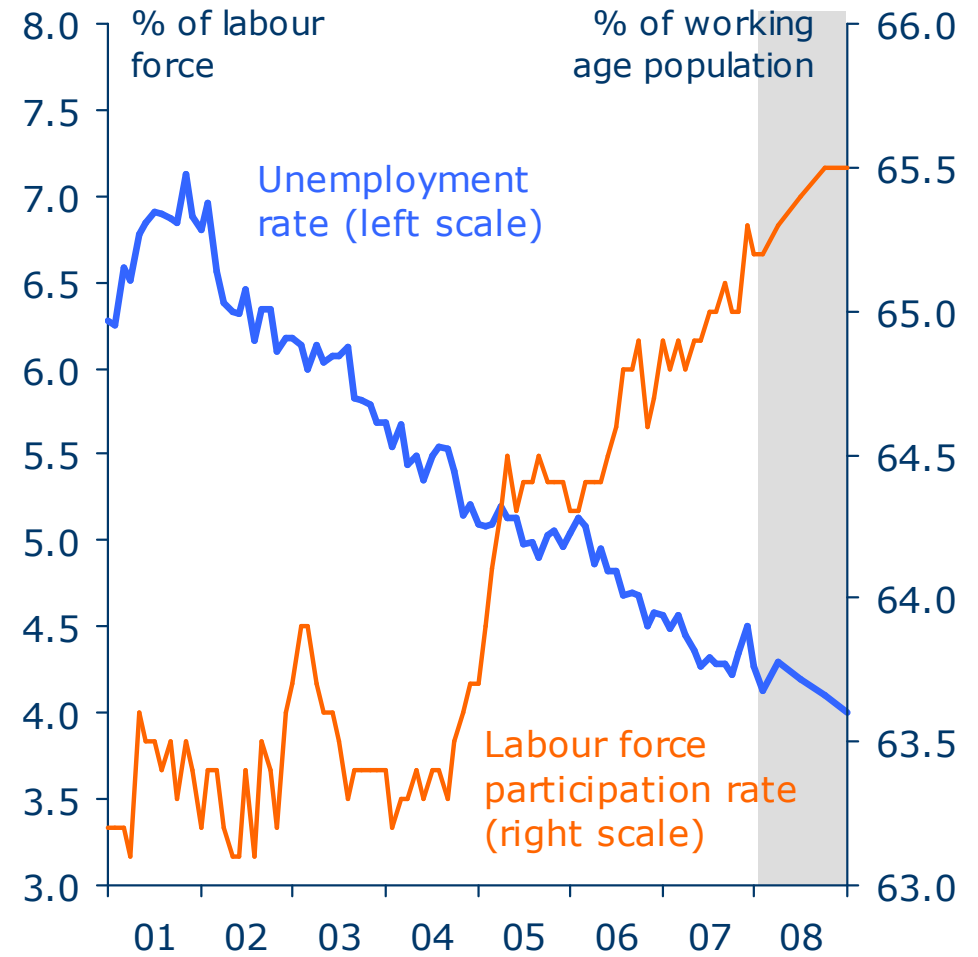
Note: "terms of trade" is the ratio of average export to average import prices.  
Sources: Reserve Bank of Australia; ABS; ANZ.

... giving the economy another boost at a time when the labour market is exceptionally tight

### National income and output



### Labour market

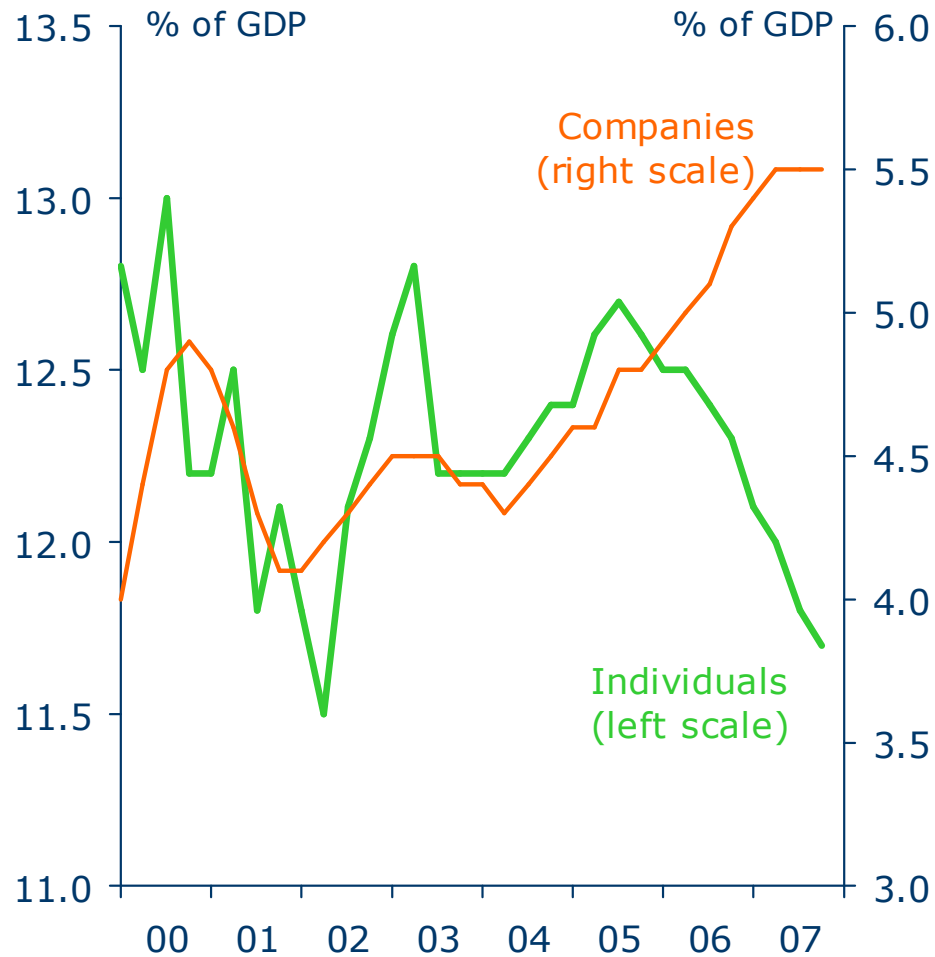


Sources: Australian Bureau of Statistics; ANZ.

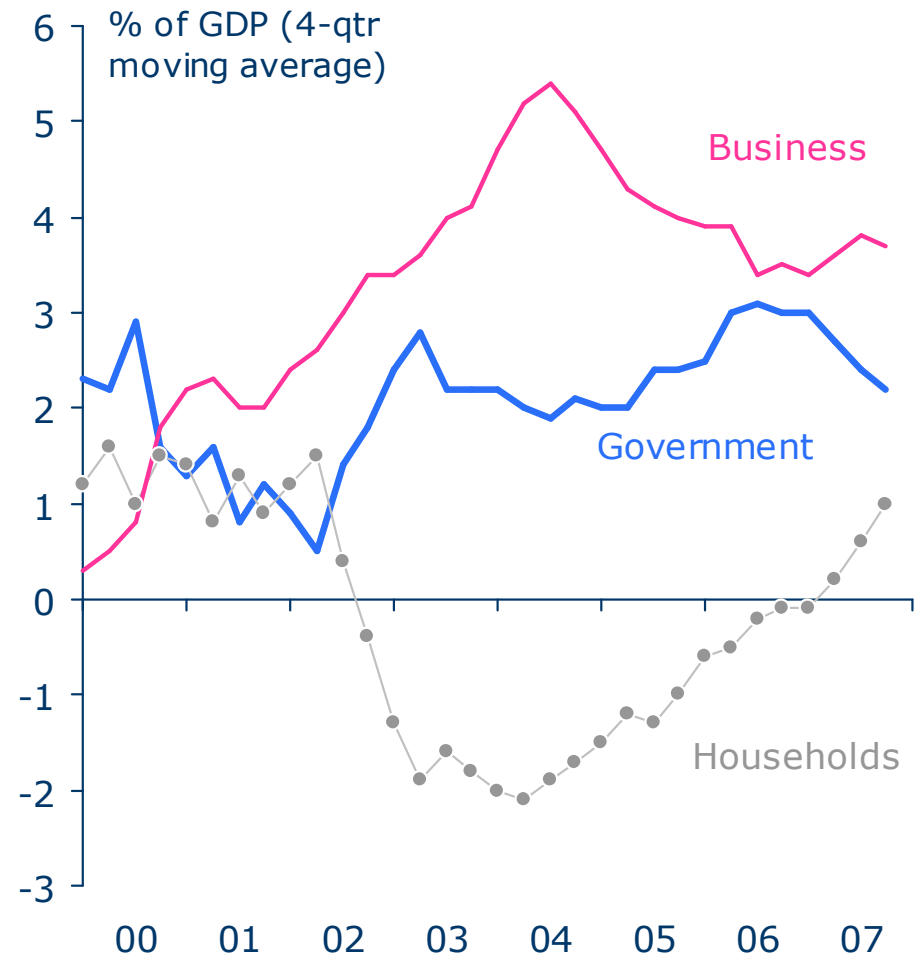


Income will continue to be re-cycled from the business sector to households through the Budget, boosting total spending ...

### Australian income tax collections



### Net saving by sectors of the Australian economy



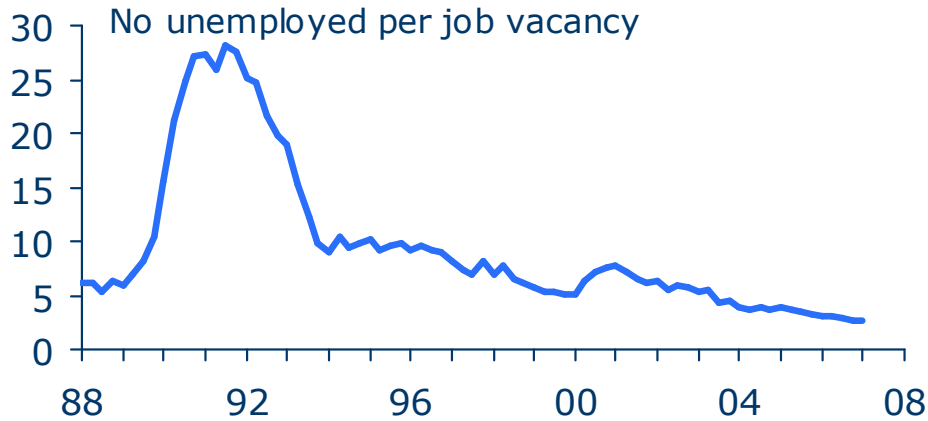
Sources: Australian Bureau of Statistics; ANZ.



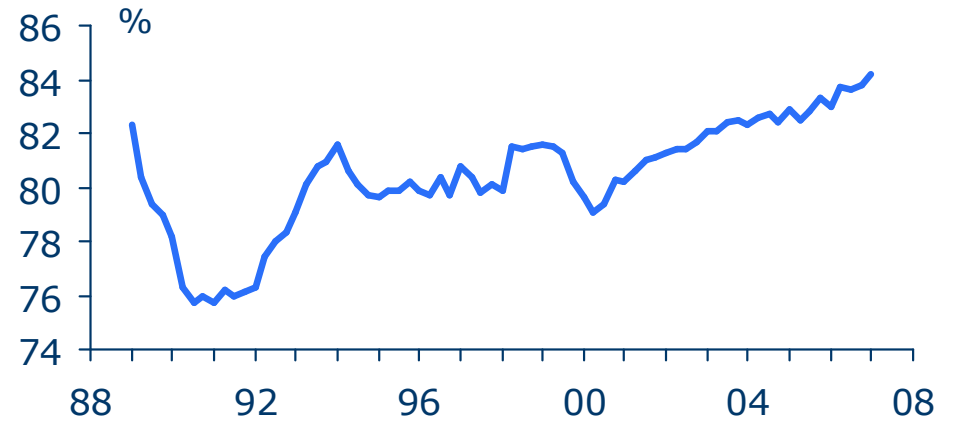
# After more than 16 years of continuous economic growth, Australia's economy has run into serious capacity constraints

## Indicators of 'spare capacity' in the Australian economy

### Unemployed persons per job vacancy



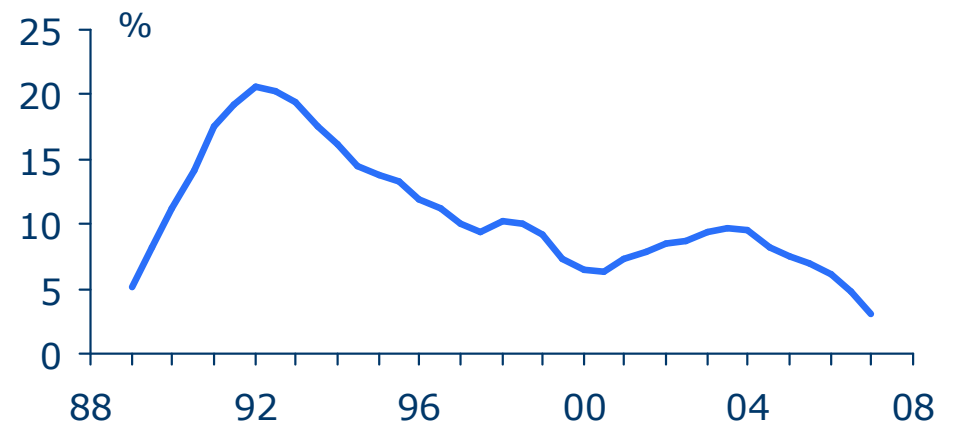
### Capacity utilization rate



### Businesses reporting labour shortages



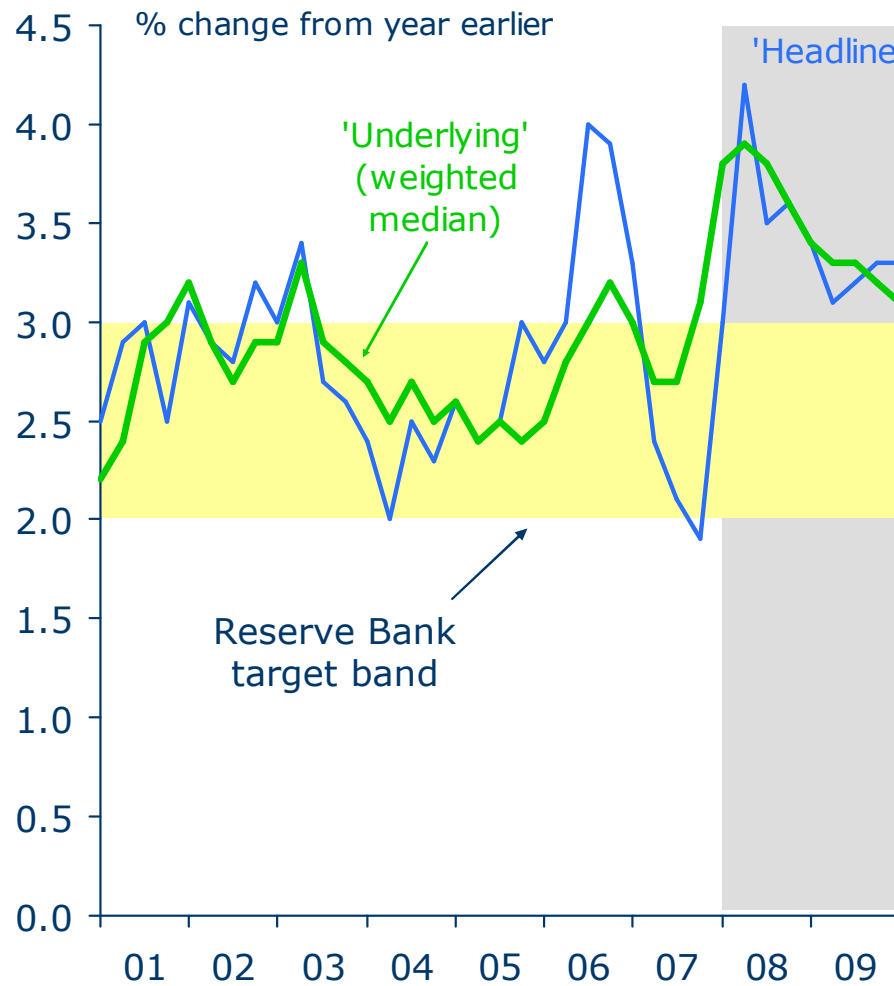
### Office vacancy rates



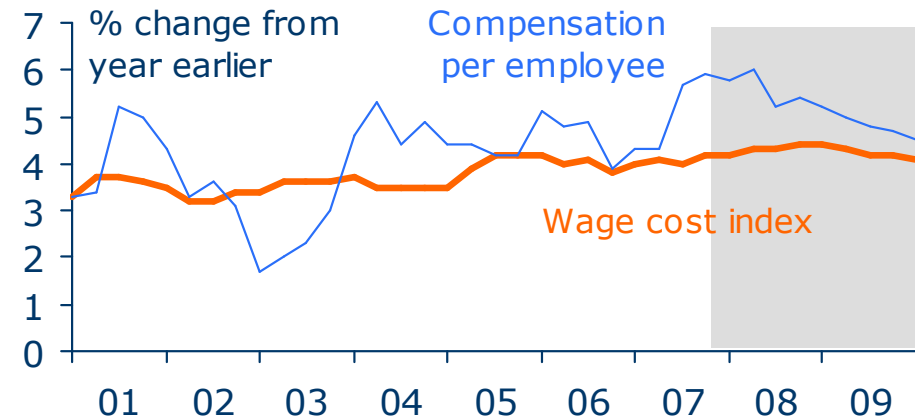


# Rising inflation (reflecting demand growth in excess of supply potential as well as global factors) is a serious policy concern

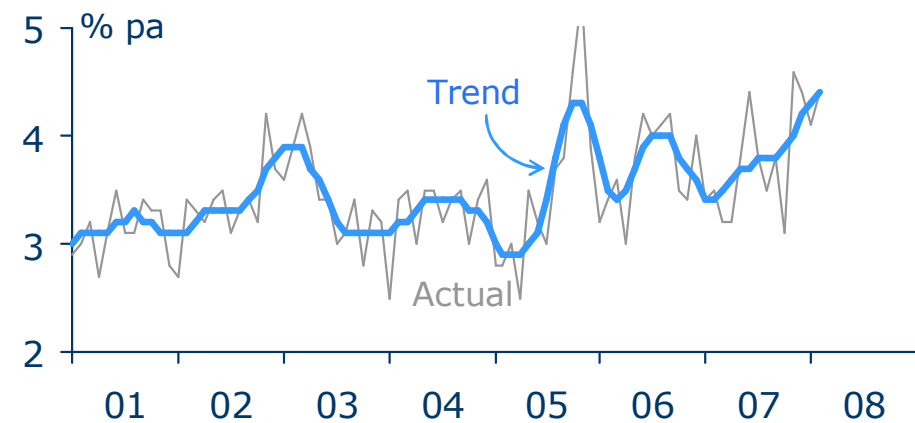
## Consumer prices



## Measures of labour costs

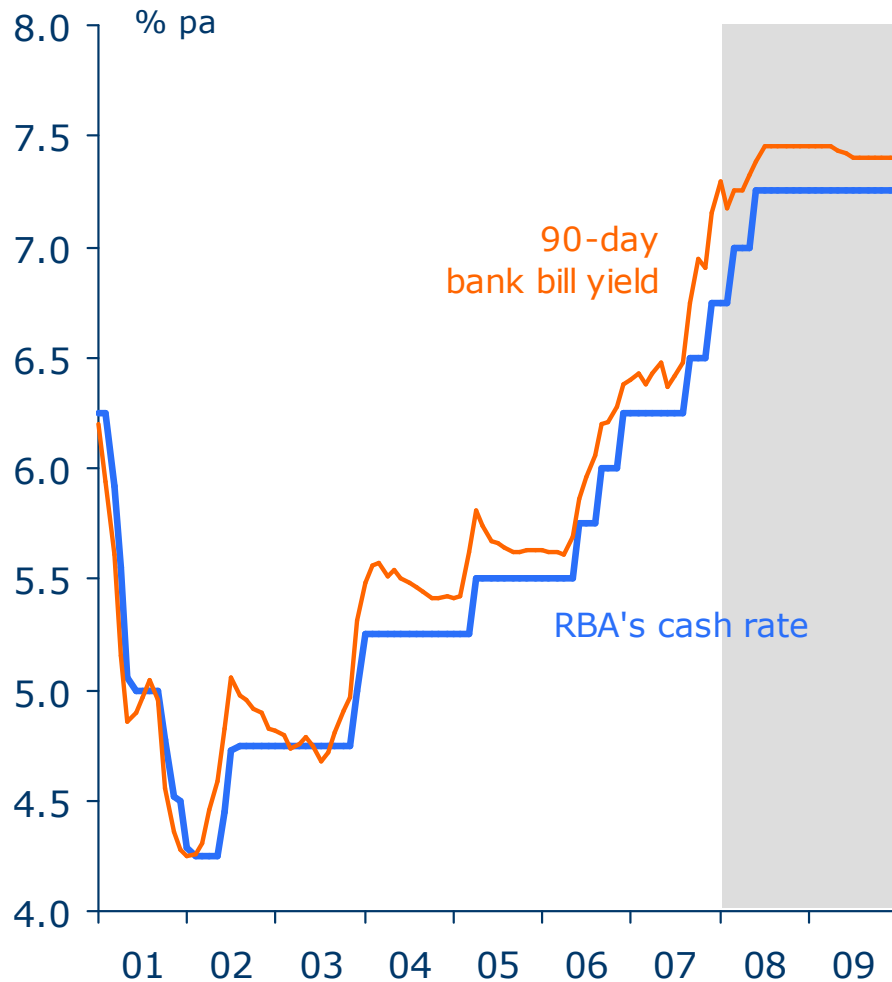


## Household inflation expectations



# Reserve Bank will likely need to tighten monetary policy further in order to ensure inflation returns to the 2-3% band

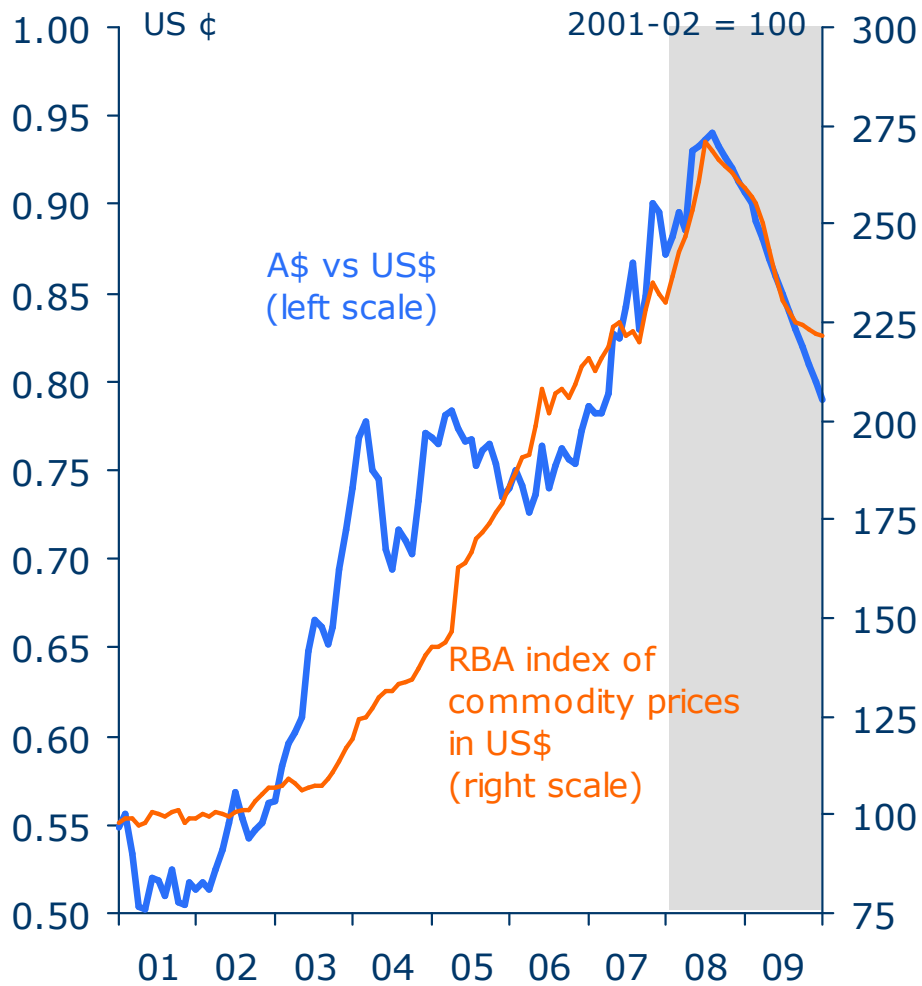
## Short-term interest rates



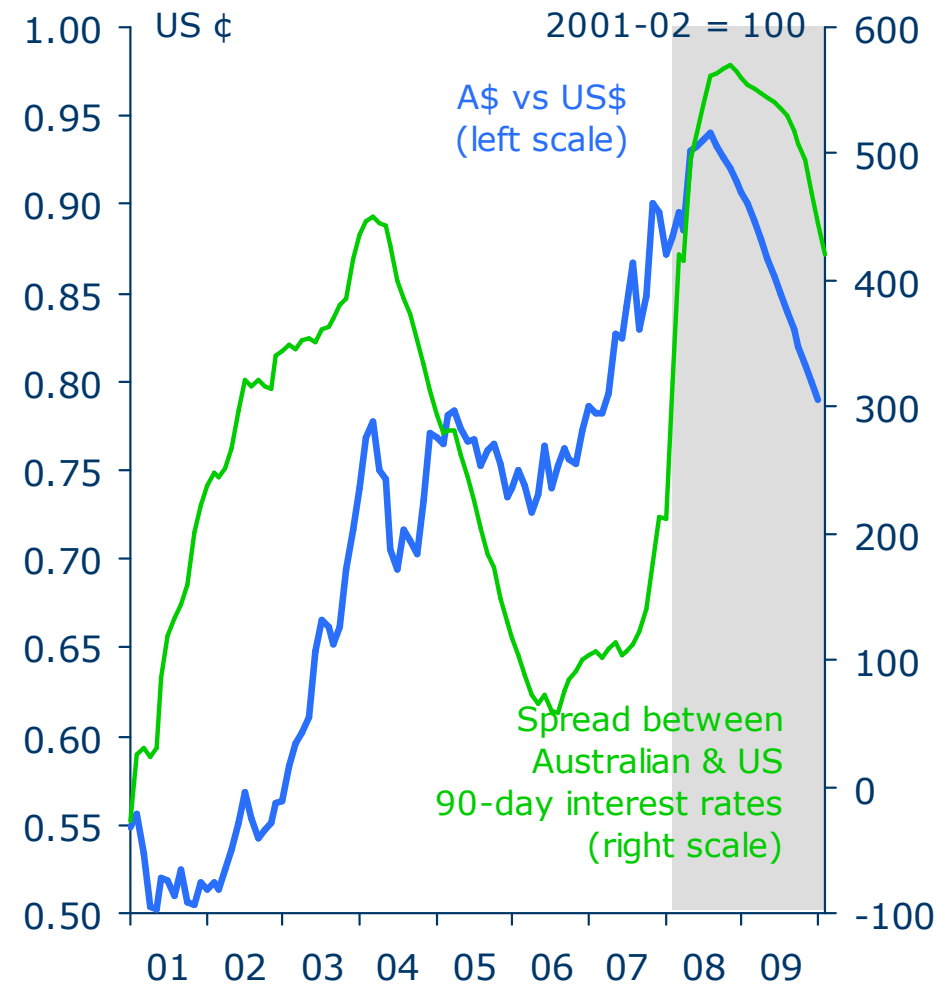
- 10 interest rate increases since mid-2002 have had little lasting impact in restraining growth in domestic demand – largely because they've been offset by commodity-related income gains, repeated rounds of tax cuts etc.
- The RBA now says that 'a significant slowing in domestic demand ... is likely to be necessary to reduce inflation over time' ...
- ... and that it will 'continue to evaluate whether the stance of policy will be sufficiently restrictive' (ie, whether interest rates are high enough) 'to return inflation to the 2-3% target'
- In other words – there will be a 'significant slowing in demand', what is not clear is how high rates will have to go in order to procure it

# Commodity prices and interest rate spreads likely to continue supporting the A\$ into the second half of this year

### A\$ and commodity prices



### A\$ and interest rate spreads



Sources: Thomson Financial; Reserve Bank of Australia; ANZ.



## Australian forecast summary

	Economic forecasts				
	2006	2007e	2008f	2009f	
Real GDP growth (%)	2.8	4	3½	2¾	
Unemployment rate (year-end, %)	4.6	4.4	4	4¼	
'Underlying' inflation (year-end, %)	3.0	3.6	3½	3	
Housing starts ('000)	153	150	145	155	
Current account deficit (\$bn)	55	64	51	50	
	Financial market forecasts				
	Dec 07	Jun 08	Dec 08	Jun 09	Dec 09
RBA cash rate (% pa)	6.75	7.50	7.50	7.50	7.50
90-day bill yield (% pa)	7.25	7.85	7.75	7.70	7.70
10-year bond yield (% pa)	6.33	6.40	5.75	5.00	5.50
A\$-US\$	0.88	0.94	0.91	0.85	0.79
A\$-¥	98	102	95	91	88
A\$-€	0.60	0.63	0.63	0.63	0.62
Gold price (US\$ / oz)	807	920	830	810	780
Oil price (US\$ / barrel, WTI)	92	83	77	79	80