



Minister for Natural Resources, Mines and Energy and Minister for Trade

0 7 FEB 2011

MC7314

Mr Brian Parmenter Chairman Queensland Competition Authority GPO Box 2257 BRISBANE QLD 4001

Dear Mr Parmenter

The Queensland Government welcomes the opportunity to provide comment on the Queensland Competition Authority's (QCA's) Draft Decision on the Benchmark Retail Cost Index (BRCI) for 2011-12 for notified electricity prices.

The Government is very concerned about the rising costs of electricity supply and the pressure this is placing on household budgets. This is particularly important at this time in light of the magnitude of the recent floods in Queensland. A large percentage of Queenslanders have been adversely impacted and are already experiencing significant hardship as a result of this disaster. The Queensland Government is committed to doing all it can to assist those in need and implores the QCA, particularly at this time, to consider the impact of increases in electricity prices on consumers when determining regulated prices, from both a household and industry perspective.

To assist customers in regional areas, the Queensland Government maintains a state-wide regulated maximum uniform price for electricity and subsidises the additional cost of supply to regional and remote customers through a Community Service Obligation. South-east Queensland customers may also be able to negotiate a lower-cost electricity supply with a retailer by entering into a contractual arrangement.

The Queensland Government has reviewed the QCA's Draft BRCI Decision and provides a submission for your consideration.

Consistent with previous submissions, the Government wishes to emphasise that only genuine increases in costs should be passed onto consumers through the application of the BRCI. As such, the Government is largely satisfied with the QCA's approach to estimating the 2011-12 BRCI, particularly in relation to the cost of energy and retail costs.

It is pleasing to note the QCA has accepted the arguments put forward by the Government in its submission in response to the Interim Consultation Notice on the BRCI process for 2011-12. In particular:

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- Cost of energy The Government believes the 2011-12 Draft Decision accurately captures the recent downward trend in wholesale energy prices;
- Gas electricity certificates (GECs) The Government is pleased that the QCA
  has modified its approach to calculating the cost of complying with the Queensland
  Gas Scheme and has assumed a market-based approach, rather than relying on
  the penalty price;
- Mandatory renewable energy target (RET) The Government broadly supports
  the methodology that has been used to determine the costs of complying with the
  RET and is pleased the QCA has adopted a market-based approach to estimate
  the cost of meeting the Small-scale Renewable Energy Scheme (SRES) and
  Large-scale Renewable Energy Target (LRET) obligations in 2011-12.

The Government is however, very concerned by the magnitude of the impact of the costs directly attributable to the changes in the RET, particularly the SRES, which will effectively double the electricity price increase faced by Queenslanders in 2011-12. Accordingly, the Premier has written to the Prime Minister to seek a review of the current formula for calculating the costs of complying with the RET, in light of the significant impact on consumers.

 Retail costs – The Government welcomes the fact that customer acquisition and retention costs have been calculated on fixed cost basis and incorporated within the retail operating cost base. The Government believes this new approach strikes an appropriate balance by allowing retailers to recover the costs they may incur as a result of normal operating activities while also ensuring competitive benefits are passed onto consumers.

I thank you for your consideration of these matters. If you have any questions about my advice to you, Ms Kristen Findlay, Acting Director, Electricity Pricing Policy of the Department of Employment, Economic Development and Innovation, will be pleased to assist you and can be contacted on telephone 3227 8973.

Yours sincerely

STEPHEN ROBERTSON MP



# **Submission to the Queensland Competition Authority**

Response to the Draft Decision on the Benchmark Retail Cost Index for Electricity: 2011-12

Prepared by the Department of Employment, Economic Development and Innovation February 2011



#### INTRODUCTION

The Queensland Government welcomes the opportunity to provide feedback to the Queensland Competition Authority (QCA) on its Draft Decision on the Benchmark Retail Cost Index (BRCI) for 2011-12.

The Queensland Government is firmly of the view that <u>only</u> genuine increases in the cost of supply should be passed onto consumers. This is particularly important at this time in light of the magnitude of the recent natural disasters in Queensland. A large percentage of Queenslanders in many areas throughout the state have been adversely impacted and are already experiencing significant hardship as a result of recent disasters.

The disasters have had an unprecedented impact on Queenslanders and the impact has been felt across all facets of the community including residents, small business, community organisations and larger organisations. Adversely affected Queenslanders are already facing an up-hill battle to restore some balance to their everyday lives and business. The Queensland Government wishes to do all possible to aid in this recovery.

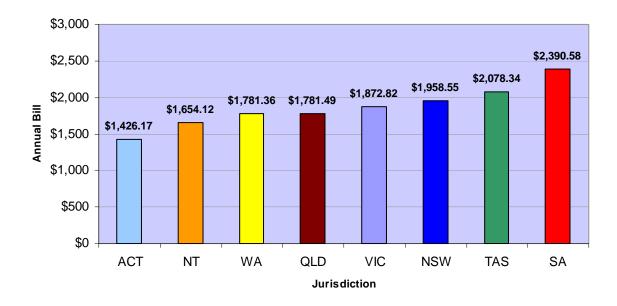
In the Government's submission to the QCA on the 2010-11 Draft BRCI Decision the Government outlined the impact of price rises on both residential and business customers. Again, and particularly at this time, the Government stresses that only genuine increases in electricity supply costs should be considered when determining regulated prices.

Queensland's electricity prices remain competitive when compared to other States, and it is important to maintain this position. The graph on the following page<sup>1</sup> represents Queensland's current standing (as at 1 January 2011) based on an annual consumption of 7,882 kilowatt hours per year. For ongoing economic growth, it is also important that Queensland industry is able to continue accessing competitive prices.

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<sup>&</sup>lt;sup>1</sup> Results in the graph are based on consumption of 7,882 kWh of electricity for a representative domestic tariff for each state. The consumption figure of 7,882 kWh has been independently verified as representative of Queensland annual residential consumption and was used for the Government's Q2 statement. The NSW figure represents an average of prices of the three standard retailers whilst for the deregulated Victorian market, a domestic tariff for a large retailer in Citipower's distribution region was used (metropolitan Melbourne).

# Comparison of Household Electricity Bills 2010-11 (incl. GST)



In line with previous submissions to the QCA, the Government reiterates that regulated electricity tariffs (notified prices) are an important feature of Queensland's electricity market. This 'safety net' policy is especially important for customers in regional and remote locations where the cost of supply is higher than the notified prices, and as a result the Queensland Government subsidises the supply of electricity to these customers.

The Queensland Government remains committed to the Uniform Tariff Policy which ensures that everyone in Queensland, no matter where they live, pays no more than the regulated prices available to consumers in south-east Queensland (SEQ). In 2009-10, the Queensland Government commitment to this policy totalled \$250 million, and this is likely to be higher in 2010-11.

One of the most significant factors driving price rises is the continued increase in peak demand. It is important, however, that regulated prices reflect the ongoing investment in Queensland's network infrastructure necessary to ensure safety and reliability of supply.

Residential demand remains a key component of the strong growth in demand. Growth in peak demand in SEQ, which has a high residential component, remains unchanged from the 2009 forecast at 3.9 per cent, and contributes 1,700MW or around 45 per cent of the 3,900MW overall increase in peak demand across Queensland forecast by 2020<sup>2</sup>. Also, in contrast to the rest of the State, peak demand growth in SEQ is significantly higher than overall consumption growth, reflecting the increasingly 'peaky' nature of demand in this region.

To meet these challenges the distribution companies, ENERGEX and Ergon Energy, have had to spend some \$10 billion since 2005 and expect to spend about \$15.6 billion between 2010 and 2015 on their electricity networks (capital and operating costs). This level of expenditure is needed to cope with the continued growth in both population and peak

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<sup>&</sup>lt;sup>2</sup> Powerlink Annual Planning Report 2010

demand, and has been set by the Australian Energy Regulator, the independent federal body charged with making this determination.

The Government considers that the level of transparency provided by the QCA and ACIL Tasman (ACIL) in the Draft Decision is appropriate and consistent with good regulatory practice. Such an approach facilitates an open and constructive consultation process.

It is also pleasing to see that the 2011-12 draft decision passes through the benefits of the reduction in wholesale energy costs over recent years to customers.

However, it is concerning to note the significant impact that the Federal Government's changes to the Renewable Energy Target (RET) have had on the BRCI. The QCA states in its decision that changes to the RET scheme from 1 January 2011 are expected to more than double the compliance cost for retailers in 2011-12, which will more than offset the estimated reductions in other components of the cost of energy. The Queensland Government remains committed to doing what it can to address the rising costs of electricity supply and the pressure this is placing on household budgets. Accordingly, the Premier has written urgently to the Prime Minister to seek a review of the current formula for calculating the costs of complying with the RET scheme.

The Government's response to the QCA's treatment of each of the BRCI cost components is set out in more detail below.

# **ENERGY COSTS**

In the Draft Decision, energy costs account for around nine per cent of the estimated total increase in the 2011-12 BRCI (or 0.51 percentage points).

The Queensland Government supports the approach taken by the QCA to calculate the cost of energy component of the BRCI in 2011-12. In particular, the Government supports the QCA's estimation of energy purchase costs for 2011-12, and its revised approach to estimating the cost of complying with the Queensland Gas Scheme, both of which reflect observed reductions in price levels.

The Government also supports the QCA's decision to continue to apply an equal weighting to the Long Run Marginal Cost (LRMC) and energy purchase cost estimates within the cost of energy component. This approach to balancing the short-run and long-run marginal costs of energy production is consistent with the legislative framework.

Whilst the Government is satisfied with the QCA's methodology for calculating the cost of complying with the restructured RET scheme, it is concerned by the magnitude of the costs directly attributable to the Federal Government's changes to the scheme, in particular the Small-scale Renewable Energy Scheme (SRES). The QCA noted in its Draft Report that, had it not been for these changes, the estimated increase in the BRCI for 2011-12 would have been 2.92 per cent, which is broadly consistent with the change in the Queensland Consumer Price Index.

In response, the Premier has written to the Prime Minister urging the Federal Government to review the current RET scheme in light of its significant impact on consumers.

# **LRMC**

In estimating the LRMC of energy for 2011-12, the QCA has again had regard to the likely total cost of purchasing energy to supply the whole of the Queensland load and

Queensland's position within the National Electricity Market (NEM). The Queensland Government notes that, in estimating the LRMC of energy in Queensland, the QCA applies a least cost planning model to develop the most efficient mix of new plant to provide incremental supply in Queensland.

The Queensland Government also notes that, in relation to the draft 2011-12 LRMC estimate, input assumptions including coal and gas prices were adjusted to reflect recent price levels and industry developments, and the components of the weighted average cost of capital were reviewed.

In particular, the QCA commented that the significant appreciation of the Australian dollar against the US dollar over the past 12 months raised the question of whether imported capital items for power stations should be adjusted. However, the Queensland Government notes the long-term exchange rate assumption of A\$1 buying US\$0.75 was not adjusted in the LRMC model on the basis that the LRMC is a long term analysis, and the QCA determined there is no reason to assume the exchange rate will not trade within its usual historic range over the longer term. Specifically, ACIL commented that the estimated future average exchange rate is based on the average since the float of the Australian dollar in 1984 (0.73) and since 2000 (0.72), and the observation that the exchange rate has been close to 0.75 for between 20 and 25 per cent of the time during these periods.

However, the Queensland Government notes that there are a range of views that the strength of the Australian dollar will continue over the next 10 years, due to expectations that the supporting fundamentals will be maintained over this period.

In the foreseeable future (probably the next one to three years), Australia is likely to maintain a tight monetary stance, while the US is likely to keep its monetary policy setting easier. Meanwhile, the mining boom means that Australia's economic growth is likely to continue to outpace the US in the coming few years. Therefore, the value of the Australian dollar against the US dollar should remain elevated (close to the current levels) during this timeframe. Further down the track, as long as the world demand for Australian products continues to rise relative to its demand for US products, the level of real A\$ exchange rate against the US\$ is likely to be higher in the longer term. Thus, the long run equilibrium A\$ exchange rate is likely to be higher than the historical average.

Further, the Queensland Government notes that, in its publication "A path to 2020: Westpac's long term forecasts November 2010", Westpac predicts a significantly stronger A\$ over the next 10 years (close to parity with the US\$), relative to the assumption used in the Draft 2011-12 BRCI Decision. The publication by Westpac is attached to this submission.

Although the Queensland Government acknowledges the large degree of uncertainty embedded in any long term forecast, further consideration of the assumed US\$/A\$ exchange rate may be warranted.

# **Energy Purchase Costs**

The Queensland Government supports the QCA's observations in relation to the significant decline in wholesale energy costs across the NEM (as illustrated on the next page) with the passing of the drought, commissioning of new generation, and delay in the Federal Government's Carbon Pollution Reduction Scheme. The Queensland Government notes the resulting decrease of nearly 16 per cent in the QCA's estimate of energy purchase costs in the Draft 2011-12 BRCI Decision.

### **Queensland Average Pool Prices**

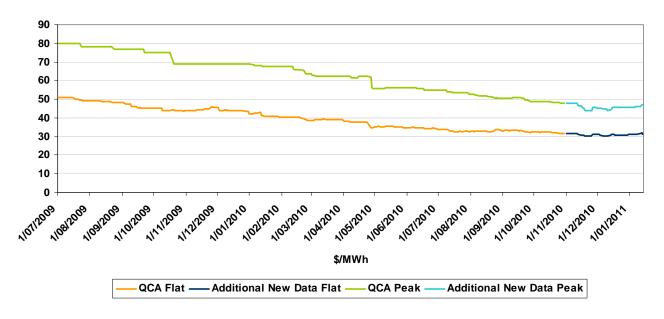


It is noted in addition that the Queensland average pool price for 2010-11 to date is also significantly lower than the average for the same period in 2009-10.

The Government notes the energy purchase cost estimate in the QCA's Final 2011-12 BRCI Decision will be based on updated market data.

Movements in the Sydney Futures Exchange (SFE) futures market (flat and peak) to January 2011 are illustrated below.





The Queensland Government notes that, by using updated SFE futures data (from 1 July 2009 to 13 January 2011), average flat and peak prices for 2011-12 are

approximately \$1.17 per MWh and \$2.36 per MWh, respectively, below the averages used by the QCA for the calculation of the draft 2011-12 energy purchase cost estimate (which was based on SFE futures data to 30 October 2010 only).

Should these trends continue, it is reasonable to expect a further decline in the energy purchase cost estimate in the QCA's Final 2011-12 BRCI Decision.

In this regard, the Queensland Government also notes the forward market's continued assessment that increased energy supply capacity is expected to place downward pressure on wholesale energy prices in 2010-11 and 2011-12, despite strong demand growth forecasts.

# The Queensland Gas Scheme (QGAS)

It is pleasing to see the QCA has accepted the Government's argument and modified its approach to calculating the cost of complying with the QGAS. The QCA has adopted a market based approach to estimating the QGAS costs for 2011-12, rather than relying on the penalty price approach it has adopted in the past.

In its submission to the QCA on the Interim Consultation Notice for the 2011-12 BRCI, the Government strongly disagreed with the use of the penalty price to determine QGAS costs as it did not represent what is currently going on within the GEC market or the contribution of Gas Electricity Certificate (GEC) costs to the cost of supply.

The graph below<sup>3</sup> demonstrates the GEC spot prices from June 2007 to December 2010. Over the last 12 months, the average spot price was \$2.47 and in May 2010, spot prices dropped to below \$1.00.

# 14 12 10 8 8 6

# **GEC SPOT PRICE**

Jun-07 Oct-07 Feb-08 Jun-08 Oct-08 Feb-09 Jun-09 Oct-09 Feb-10 Jun-10 Oct-10

Date

16

4

2

Furthermore, for the 2009 compliance year, only five out of the 37 liable entities were penalised for not surrendering their full GEC liabilities. The number of certificates not

<sup>&</sup>lt;sup>3</sup> Graph based on actual movements in the GEC spot market since June 2007.

surrendered represented only 0.3 per cent of the total liability. Therefore while all retail customers experienced prices based on the inclusion in the BRCI of the equivalent of the penalty price, 99.7 per cent of certificates surrendered were being purchased at market prices. Consequently, a market based approach is more representative of what is occurring in the market and the actual cost of supply.

The Government is therefore satisfied with the QCA's position that annual movements in the cost of complying with the scheme would be better reflected by year-on-year changes in the market price of GECs, rather than by continuing with the penalty price method.

As this change in approach represents a change to the BRCI methodology, the QCA is correct in its decision to re-calculate the QGAS cost for 2010-11 using data that would have been available at the time of the 2010-11 BRCI Final Decision. This has resulted in a significant decline in the cost of the scheme for 2010-11 and as a result, the cost of the QGAS, for the purposes of the 2011-12 BRCI, is estimated to have declined by approximately 53 per cent between 2010-11 and 2011-12.

# Mandatory Renewable Energy Target (RET)

The Queensland Government accepts that the QCA is required by legislation to incorporate the cost of complying with the Federal Government's restructured RET scheme into the energy cost component of the BRCI. The Government broadly supports the methodology that has been used to determine these costs and is pleased the QCA has adopted a market-based approach focussed on spot prices to estimate the cost of meeting the SRES and Large-scale Renewable Energy Target (LRET) obligations in 2011-12.

The Government is however, very concerned by the magnitude of the impact of the costs directly attributable to the changes in the RET, particularly the SRES, which will effectively double the electricity price increase faced by Queenslanders in 2011-12.

#### **SRES**

In determining the cost of the SRES for 2011-12, ACIL has calculated the average cost of the 2011 and 2012 compliance years.

The Government notes that ACIL has estimated the Small Technology Percentage (STP) for 2012 to be 8.87 per cent, which is a reduction from the STP set by the federal Office of the Renewable Energy Regulator (ORER) for 2011 of 14.80 per cent.

The Government supports this reduction in the STP, based on the expectation that there will be a decline in the creation of Small-scale Technology Certificates in 2012 resulting from:

- the Commonwealth Government's reduction in the solar credits multiplier;
- the NSW Government's recent change to its feed-in tariff scheme; and
- the possibility of policy changes to other States' feed-in tariff schemes as these schemes reach their mandated caps.

Moreover, the Government supports the QCA's approach, but is concerned about the impact of the Commonwealth's RET policy on retail prices.

# <u>LRET</u>

Similar to the SRES, ACIL has calculated the cost of the LRET in 2011-12 by averaging the cost of LRET compliance in 2011 and 2012.

The Government believes ACIL's use of weekly market prices for Renewable Energy Certificates (now known as Large Generation Certificates) is appropriate.

The Government notes that ACIL has estimated the Renewable Power Percentage (RPP) for 2011 to be 5.08 per cent. Given that the ORER has now set the 2011 RPP at 5.62 per cent, the Queensland Government acknowledges that the QCA may need to revise its cost of the LRET for 2011.

The Government also notes that ACIL's estimate of the RPP for 2012 has accounted for a section in the revised Act which allows for an increase the LRET target for 2012 and 2013 should there be a surplus of Renewable Energy Certificates at the end of 2010. The Government acknowledges that ACIL may need to slightly revise its estimate, given that the ORER has since confirmed the size of the surplus, and published new annual targets for the LRET.

#### **NETWORK COSTS**

The Government notes that the QCA has calculated the network cost component of the BRCI in accordance with the current legislative framework as prescribed under the *Electricity Act 1994*. According to the Draft Decision, network costs account for 82 per cent of the total estimated increase in the BRCI for 2011-12 (or 4.76 percentage points).

The Government also notes that network costs are increasing due to the significant capital expenditure requirements associated with population growth, rising peak demand and demand per customer, new connections and industrial demand, and increases in the costs of capital, labour and commodity prices.

The Government recognises that the increase attributable to network costs in the Final BRCI Decision for 2011-12 may differ from the Draft as a result of the reviews instigated by ENERGEX and Ergon Energy of the AER's Final Distribution Determination for the regulatory period 2010-11 to 2014-15 and the final determination of Powerlink prices for 2011-12.

# **RETAIL COSTS**

In the Draft Decision, retail costs account for around 10 per cent of the estimated total increase in the 2011-12 BRCI (or 0.57 percentage points).

The Queensland Government notes that, in the past, the QCA has based its estimate of customer acquisition and retention costs (CARC) on the forecast level of market activity that is, the expected number of customers switching retailer or transferring to a market contract with the same retailer. The Queensland Government has previously argued that this activity-based approach is inappropriate, given that increased competition in a maturing market drives the perverse outcome of higher prices as a result of volatility in the retail cost component of the BRCI.

The Government is strongly of the view that a competitive retail electricity market should present customers with benefits, including lower prices, and not subject them to undue costs associated with normal levels of market activity and typical retailer functions. In this context, it has previously argued that notified electricity prices should not be sensitive to the rate of customer churn and, for an efficient electricity retailer with a significant share of the retail market, CARC should be relatively stable.

The Queensland Government therefore supports the QCA's decision that:

- growth in CARC be delinked from the rate of change in customer churn, through the assignment of a fixed CARC per customer; and
- the fixed CARC be incorporated within the retail operating cost base.

The Government believes the new approach to estimating CARC used by the QCA in the Draft 2011-12 BRCI Decision more accurately reflects the manner in which an established retailer would allocate costs across its normal operating activities. Moreover, as competition grows, a fixed per customer charge strikes a balance, allowing retailers to recover additional marketing costs they may incur while ensuring competitive benefits are passed onto customers. It should also provide stability in the calculation of retail cost estimates from year to year, and minimise retail cost-related volatility within the overall BRCI.

While the value of CARC for 2010-11 has been preserved in real terms, it will grow at the same rate as for all other retail operating costs.

Although pleased the QCA has modified its approach to calculating CARC, fundamentally the Queensland Government does not consider these costs to be a justifiable inclusion in the retail cost component of the BRCI. Customers on the regulated tariffs should not have to bear the costs incurred by retailers from activities aimed at attracting and retaining market contract customers. Arguably, the costs associated with marketing, advertising, sales overheads, door-to-door/commission/agent costs and telesales should be incorporated into the market contract rates offered by retailers and recovered from customers who have opted to enter into a market contract, rather than smeared across the notified tariffs.

However, should the QCA continue to include CARC in the retail cost component of the BRCI, the Government would consider the methodology adopted by the QCA in its Draft Decision for 2011-12, whereby the CARC allowance is calculated on a per customer basis, to be the most appropriate approach to calculating these costs.

# Retail Margin

The QCA has continued to adopt a retail margin of five per cent of the total BRCI, as in previous tariff years (2007-08, 2008-09, 2009-10 and 2010-11). The QCA notes in its Draft Decision that retail margins in other jurisdictions ranged from two to eight per cent.

The Queensland Government notes that a number of retailers provided submissions earlier in the consultation process for 2011-12 which indicated that the five per cent allowance was an insufficient margin. The QCA has maintained a view that there was no strong evidence that a reasonable margin sought by retailers for 2011-12 would be materially different from that applicable to the Queensland market in 2010-11.

The Government considers that an increase in the retail margin is not justified.

# CONCLUSION

In summary, the Queensland Government emphasises the importance of ensuring that only genuine changes in the costs of electricity supply are passed onto consumers. It is acknowledged that if prices do not rise in line with the cost of supplying electricity, the secure provision of electricity to Queensland consumers - including households – will be at risk. However, the Government also stresses the QCA has a responsibility to ensure price rises are no greater than necessary to cover cost increases.

In calculating each cost component, the Queensland Government believes that the QCA's approach more closely reflects the cost increases than in previous years.

# **Glossary of Terms**

BRCI Benchmark Retail Cost Index

CARC Customer Acquisition and Retention Costs

GEC Gas Electricity Certificate

LRET Large-scale Renewable Energy Target

LRMC Long Run Marginal Cost

NEM National Electricity Market

QCA Queensland Competition Authority

QGAS Queensland Gas Scheme

REC Renewable Energy Certificate

RET Renewable Energy Target

RPP Renewable Power Percentage

SEQ South-east Queensland

SFE Sydney Futures Exchange

SRES Small-scale Renewable Energy Scheme

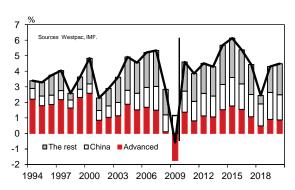
STP Small-scale Technology Percentage



# A path to 2020: Westpac's long term forecasts

- This document marks the introduction of a more detailed and structured framework for Westpac's long term forecasts. These forecasts attempt to trace the broad contours of the economic cycle and the financial markets at home and abroad for the coming decade.
- There are two core tables. The first, on page two, breaks the decade into phases and summarises our expectations for each period in concise form. The second, on page 7, gives detailed year-by-year profiles for the major variables.
- The new format incorporates a path for international variables, which are interesting in their own right and allow us to communicate some of the assumptions that underpin the Australian projections. The Australian portion has been expanded to incorporate detail on the commodity price and credit cycles.
- This is an ambitious project that requires many courageous assumptions. Some of them will not eventuate and the accuracy of individual line items will suffer. Accordingly, it is the major structural themes and their interaction with the cycle that should be the focus. A note on the use of these forecasts is on page 6.
- The major themes we identify are massive capital flows from
  the advanced world to the emerging markets (EM) as the former
  deleverages; attempted fiscal consolidation and ageing in the
  advanced world; on-going gains in global resource intensity driven
  by the urbanisation in the EM; and a low interest rate environment
  in the advanced economies reflecting weak levels of capacity utilisation
- Critically, we do not see 'excess' global liquidity turning up in dramatic consumer price inflation outcomes in the advanced countries. Rather, we see it sponsoring inflation in commodity prices and the emerging markets. Therefore, we do not envisage a global bond market riot that evokes 1994.
- We acknowledge that weak US and European growth and accordingly sluggish labour markets raise the real possibility of a protectionist uprising. However, we feel that global governance (via the G20), accelerated Asian currency appreciation and calm heads will eventually win the day.
- From a cyclical perspective, we see advanced country growth as
  the swing variable. The eventual release of pent-up demand will
  drive a lurch forward around the middle of the decade. The second half will see decelerating growth, as the advanced countries
  exhaust their pent-up demand, more restrictive financial conditions bite and those EM that have used capital inflow "unwisely"
  are found out. Imbalances in the EM space are most likely to
  appear in regions where current account deficits are prevalent and
  the financial system is more reliant on offshore funds.

# Contributions to world growth



- For Australia, we see five distinct phases in the coming decade. The next two years look prosperous but 2013 will see a mid-cycle slowdown driven by a correction in commodity prices. A rebound in the terms of trade will then drive an impressive upswing through the middle of the decade, with the growth/inflation trade-off becoming increasingly difficult to manage. Accordingly we see an above average risk of a severe slowdown when commodity prices eventually turn in the wake of the mid-decade boom. While we acknowledge that Australia is a very flexible economy that is well designed to absorb external shocks, the combination of events we envisage c. 2017 will present an extremely formidable challenge.
- The RBA's policy rate is expected to peak at 6.25% in 2016. That
  relatively low peak is jointly determined by the low interest settings we see in the US and the likely persistence of elevated
  spreads between the policy rate and private sector lending rates.
- We see substantial real exchange rate appreciation for the EM and Australia. The peak in global bond yields will be around 2015 and the trough in the US dollar, and the peak in the oil price, will come a year later. The Australian dollar is expected to trade a range where the old gravity points look to be the floor. The ceiling is some 20-30% above parity.
- These forecasts are silent on a number of material issues relating to future policy decisions (such as carbon and water pricing and financial regulation), but as more clarity emerges globally and domestically, the projections will adapt.

#### **Westpac Economics**

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# The contours of the cycle

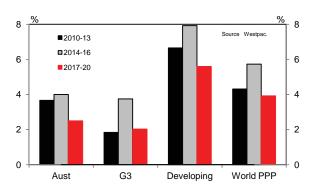
	Advanced country growth	Chinese growth	Indian growth	EM commodity exporters	EM manufacturing exporters	Australian growth
2010 to 2012	subdued	trend	trend	above trend	trend	above trend
2013	subdued	sub trend	sub trend	sub trend	sub trend	sub trend
2014 to 2016	above trend	above trend	boom	boom	boom	boom
2017 to 2019	weak	subdued	subdued	weak	subdued	weak
2020	recovery	trend	recovery	recovery	trend	recovery
	US Fed funds %	RBA cash rate %	USD TWI	AUD TWI	Commodity prices	Commodity supply growth
2010 to 2012	zero	4.5% to 5.75%	up 2%^	down 8%^	up 10%^	ample
2013	zero	5.75% to 4.75%	up 5%	down 10%	down 12%	modest excess
2014 to 2016	zero to 2.5%	4.75% to 6.25%	down 20%	up 25%	up 55%	insufficient
2017 to 2019	2.5% to 1%	6.25% to 3.50%	up 10%	down 15%	down 22%	clear excess
2020	1% to 2%	3.50% to 5.00%	down 5%	up 5%	up 5%	ample
		USD to bu		To buy or	ne AUD	

		USD to	To buy one AUD			
	Chinese yuan	euro	Asian index*	Australian dollar	with Japanese yen	with euro
2010 to 2012	6% more	8% less	8% more	12% less	8% more	4% less
2013	5% more	2% less	6% more	6% less	2% less	3% less
2014 to 2016	15% more	18% more	11% more	42% more	58% more	21% more
2017 to 2019	flat	21% less	flat	17% less	22% less	4% more
2020	5% more	7% more	3% more	6% more	14% more	1% less

<sup>\*</sup> Weighted by US trade shares. Percentage changes are at the end of period (e.g. eop 2010 vs eop 2012). ^ The unusual circumstances portrayed here, with the AUD, commodity prices and the US dollar ignoring historical relationships, are due to the distortionary impact of the unconventional monetary policy of the US authorities and some coincidences of timing.



#### Growth rates in coming cycle phases



# World growth

The developing world's rising share of overall economic activity infers strongly that the potential growth rate of the global economy is higher than it was a decade ago *even assuming some deterioration in advanced countries as a legacy of financial crisis*. In the 2000s, developing economies contributed an average of 2.5ppt of world growth annually. We anticipate that this contribution will step up to 3.4ppt in the next ten years. Consequently, where world growth is concerned, 5% is the new 4%, and true boom years will see rates close to 6%. A rate of 3% or below is consistent with recession: an outcome we anticipate for c. 2018 (2.4%).

The expected trajectory of the global economy is a respectable recovery path around 4% out to 2013, but one that is uneven in composition. A pronounced acceleration is anticipated in the 2014-16 period as growth becomes more synchronised, followed by a downswing with the trough around 2018, with a modest recovery underway as the decade concludes. The key swing factor in this outlook is expected to be the performance of the advanced countries, although the EM will decelerate appreciably in the late decade slowdown. Our views on the various regions are detailed below.

#### The advanced countries

US growth is not expected to revert to trend (around 2¼%) until 2012. This will see the Fed begin to consider its strategy regarding the long road back to more normal policy settings, first by beginning to wind back on the unconventional front and then moving tentatively on interest rates. Our research on the state of US balance sheets (household and financial system) makes us pessimistic about any return to consistent above trend growth until 2014. The export sector will do reasonably well in its areas of advantage, but this will not be enough to carry the entire economy forward. A strong above-trend expansion is not expected until mid decade as pent-up demand is finally released, thereby putting a reasonable dent in the unemployment rate.

The return of above-trend growth is likely to make the Fed a little nervous given the amount of latent liquidity it will have created. The risk of over-tightening given the likely continuation of deleveraging tendencies in the household sector seems very real. That indicates to us that the above-trend period of expansion will be relatively short and non-inflationary in an underlying sense. However, rising energy and food prices will be an additional concern for households.

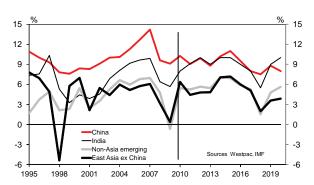
As the decade closes, US growth is expected to be around 2%. Key constraints that have affected the pace of recovery in the early part of the decade will not have dissipated entirely even at its end. The

government's stock of liabilities and the associated servicing costs will restrict fiscal policy. Households will continue to be affected by their financial position and a still weak labour market; business investment will be restricted by limited domestic final demand growth and the US dollar will not assist export prospects the same way it was able to in the decade's first half. The need for baby boomers to save ahead of their retirement will be a further headwind for US growth as we close out the decade.

In Europe, growth will remain restricted by fiscal austerity and weak labour markets. The fiscal, banking and external account imbalances within Europe will take many years to solve, and with such a weak labour market, impetus for growth looks scarce. Loose US monetary policy will drive unwelcome euro strength, at least to the middle of the decade. This loss of competitiveness will mute any thoughts of Europe "exporting its way out", but it will at least partially shield households from rising staple prices. We expect a debt restructure in the periphery at some point in the next two years to create some headroom for growth around mid decade.

For Japan, severely adverse demographics will impact the economy in a number of ways, notably through declining labour input to growth and altered aggregate savings patterns. We foresee a major depreciation of the yen against the EM to assist with the reorientation of their sales focus. In sum, Japan will ride the global cycle and maintain its status as a weak demand centre that serves as the HQ for a cluster of great companies.

# **Emerging market growth**



#### **Emerging markets**

China is expected to grow at an average rate of 9¼% in the 2010-2020 period, roughly 1 percentage point lower than in the decade just concluded. Growth will be slower in the second half of the period, with an average of 8½% expected between 2016 and 2020. It will be the largest economy in the world by the end of 2017. Per capita consumption of energy, protein and metals will remain on a steep upward gradient for the entire period. The major challenge facing the economy in the coming decade is one of redistribution of income (as opposed to a rebalancing of output). Our basic view is that the profit share of income will decline over the period (as factor cost distortions are progressively unwound), with the labour share increasing almost proportionately. The gap will flow to the public sector, who will then redistribute a material portion back to households (directly and indirectly), sponsoring a benign shift in the marginal drivers of aggregate demand.



Policy parameters are expected to shift in a more market oriented direction, building on the reforms of the decade just concluded. The Chinese yuan will be an internationalised currency by 2020, at which time it should be trading around 4½ yuan to the dollar.

India is expected to grow at an average rate of 9% in the 2010-2020 period, roughly 2 percentage points higher than in the decade just concluded. Growth will be similar to that of China, before exceeding it consistently beyond 2020. It will surpass Japan as the third largest economy in the world by the end of 2012. The investment share of GDP is expected to average 36% of GDP, with the incremental capital to output ratio improving to 4.

A key risk for the Indian economy over the coming decade is the management of volatile capital inflows, which are projected to follow a feast or famine pattern for emerging market economies with current account deficits. That point is of great relevance to the relative performances we envisage in the eventual downswing. East Asian balance sheets are significantly stronger than those in India, Russia, Latin America and emerging Europe. Accordingly, India will underperform China in 2017/18 and East Asia will outperform the other major emerging regions at the same time.

We divide the emerging world outside of China and India into commodity exporters and manufacturing exporters. The global terms of trade will favour the former group through the middle years of the decade, with the exception of the mid cycle slowdown of 2013. Fiscal subsidies for food and energy prices will come under significant pressure in this environment. The commodity exporters will be the target of significant capital inflows and will have to adjust to higher real exchange rates. These conditions will give way to diminished income growth and exchange rate depreciation as the late decade global slowdown proceeds. The manufacturing exporters will see their terms of trade move significantly against them mid-decade, but will be compensated by a period of robust demand for durables after the significant post-GFC flat patch. As outlined above, not all EM will productively absorb the entirety of the capital inflows expected to come their way while the advanced countries remain in deleveraging mode. We anticipate considerably diminished growth overall and recessionary conditions in some jurisdictions as capital inflows reverse, along with commodity prices, c. 2017-18.

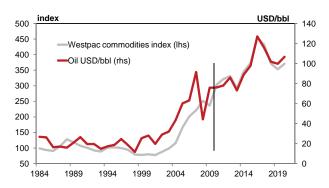
#### The commodity price cycle

Global steel demand – our preferred resource intensity metric – is projected to rise from its current level of around 200kgs per capita to above 300kgs per capita by 2020, indicating that the demand side of the commodity picture is likely to be consistently supportive. The volatility of the price cycle around that demand uptrend will be determined by the interplay of the supply response and the variation in G3 growth (given the major emerging markets are increasing their resource intensity in most years at this stage of their development).

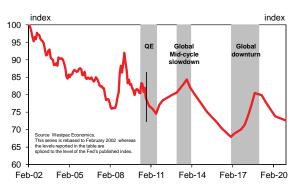
We expect the supply response in the coming decade to greatly exceed that of the prior decade, following the prolonged upswing in global mining investment. This is a very significant point as it raises the prospect that the next major downturn in global demand for commodities, c. 2017-18, will coincide with more than ample supply, in contrast with 2008. While capacity utilisation rates in the more oligopolistic sectors will partially mitigate the impact, the inference is that any downturn in prices could be longer lasting.

A tremendous degree of buy-in to the long run EM demand story will underpin major investment decisions and encourage resource companies to "look through" the 2013 slowdown. Furthermore, our research suggests that any globally relevant rise in the supply of the key commodities in Australia's export basket from new sources in the developing world is a story for beyond 2016. The period of synchronised world growth, c. 2014-2016, is expected to place

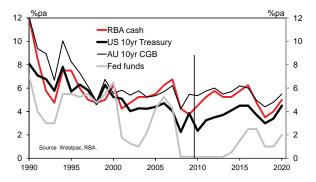
#### **Commodity prices**



# **Broad nominal USD trade weighted index**



# Interest rates



considerable upward pressure on global commodity prices despite healthy supply. That will create a lofty perch from which prices must descend. That combination of events sets the stage for a hefty reversal when weak demand meets strong supply in the global slowdown of c. 2017-18.

#### **Exchange rates**

The major currencies are expected to remain in a nominal "race to the bottom" for the next few years, while emerging markets and the commodity bloc will, in the main, see substantial real and nomi-



nal appreciation. The key parameters feeding into our view of the FX complex are the US monetary policy cycle and the commodity price cycle. The former will determine the status of the US dollar among its 'peers' while the latter will determine the weight of capital accorded to the various blocs within the EM space. Within these aggregate shifts the Australian dollar is expected to appreciate substantially above its post float trading range through the first half of the decade, with one notable retracement c. 2013. The second half of the decade will see substantial volatility within a downward trend, as the commodity price cycle turns.

#### International monetary policy

The suppressed nature of the recovery of growth and labour markets in the advanced nations predicts that inflation will be subdued in the first half of the decade. This will keep global interest rates low for a considerable period. Our forecasts incorporate what history would indicate is a timid normalisation process that gathers pace c. 2015-16. However, we assess that this response is actually aggressive relative to the fundamentals and thus it will eventually undermine the growth rebound. We feel that the US Fed will be rather nervous that the liquidity they have generated in the first half of the decade may manifest itself in inflation once the economy begins to expand. Our view on the unemployment rate argues that this fear will be unfounded. However, we feel it is prudent to have the Fed "overshooting" versus a policy rule in 2016, at which point the US will have had a few consecutive years of decent growth. The experience of the 1970s proved that the combination of a wide output gap, elevated commodity prices, a weak US dollar and a large budget deficit can drive inflation expectations higher. The Fed will fear this combination and over-insure against it, undermining above trend expansion in the process.

Monetary authorities in the EM, with unimpaired financial systems, moderate corporate leverage and low household leverage, will be more active than the advanced countries early on. Furthermore, as the anticipated beneficiary of huge capital inflows while the US and Europe deleverage, EM monetary policy will face an ongoing trade off between raising interest rates and encouraging excess speculative interest. While capital controls and liquidity management tools can serve as a temporary expediency, they are not a long term solution. The longstanding EM aversion to currency appreciation will eventually be reversed in the face of these irresistible themes. The threat of goods market protection, which will become more genuine as advanced country unemployment rates remain high through mid decade, will assist Asia to find the 'correct' path.

#### International fiscal policy

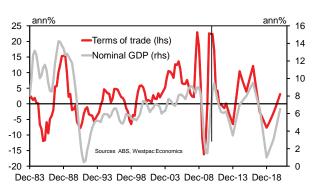
The forecasts for the advanced countries assume that fiscal policy is allowed to tighten passively over the decade. In our view the appropriate policy (for the US in particular) is to stimulate via fiscal policy given the sluggish labour market performance we envisage and the relative impotency of monetary policy in the face of a deleveraging private sector. However, we feel that the combination of domestic and international politics, plus the increasingly relevant and immensely onerous long term fiscal picture, will constrain decisive activity on this front. The ugly corollary of this view is that protectionist arguments may gain bipartisan support in the absence of other policy options to appease a disgruntled populace. Our forecasts are predicated on the fact that the high likelihood of retaliation for such activity, in concert with the US' need to rely more heavily on external markets, alongside a more flexible approach to exchange rates in Asia, will be cumulatively sufficient to avoid this self defeating policy being instituted.

#### Australia

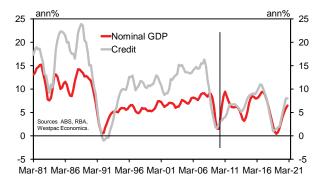
The Australian economy embarks on the decade with its growth and policy cycles out of synch with that of the advanced countries and with limited spare capacity. This creates difficulties for inflation, wages, monetary policy and, possibly, social equity.

We see the economy passing through a number of distinct phases in the coming decade. The next two years look prosperous, with a major investment upswing envisaged. The second phase will be a mid-cycle slowdown c. 2013 driven mainly by external factors highlighted by a correction in commodity prices, but also related to tight domestic policy settings.

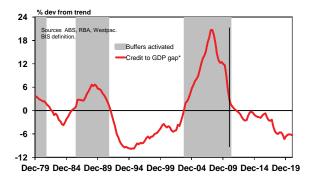
#### Terms of trade & nominal GDP: post-float



# **Credit growth & nominal GDP**



# Australian credit to GDP gap





Our forecasts indicate that the terms of trade will be stimulatory for the period 2014 to 2016. Spare capacity in the labour market is expected to dwindle but aggregate productive capacity will still expand significantly on the back on an investment boom. This style of expansion does not promise a broad distribution of gains across all sectors and regions, particularly as we expect that fiscal policy will partially quarantine rather than fully redistribute any cyclical revenue bonus. The unequal nature of the anticipated gains is reinforced by the elevated level of our Australian dollar projections.

We suspect that the growth/inflation trade-off will become increasingly difficult to manage at various points of the decade. We see two periods when interest rates are likely to be actively restraining domestic demand: 2012 and 2017. These moments are very much 'late-cycle' from a terms of trade perspective and will be undertaken against a backdrop of fiscal consolidation. The combination of restrictive policy and a commodity price reversal predicts that these periods will be followed by downturns. The first will be of the shallow, mid cycle variety. The second is likely to be considerably more severe (more below).

Credit growth is expected to be roughly in line with nominal income growth over the period. However, as the jumping off point for the forecasts implies that credit will undershoot nominal GDP for a time, that implies that Australia's credit to GDP gap (under the new BIS definition that will be used to trigger "counter cyclical capital buffers") will be benign for the duration of the decade.

We take the view that the nature of growth envisaged in the coming decade and where we have come from are both consistent with an improved net national savings performance, on average, despite accelerated investment spending. Circumspect consumers, prudent government and a sober corporate sector should combine to save a decent portion of any commodity price largesse - which will flow through to a significantly narrower current account deficit and consistent merchandise trade surpluses. This approach will temper some of the negative impact of the material reversal in the terms of trade we see coming through in the second half of the decade. But given that the amplitude of the investment upswing is expected to be large, and the downswing accordingly substantial, a contraction in aggregate activity and a significant rise in unemployment under those circumstances is still more likely than not.

The "mid-cycle slowdown" is premised on restrictive monetary and fiscal policy, G3 growth continuing to surprise on the low side, and a correction in global commodity prices associated with a temporary excess of supply. This situation would most likely, *inter alia*, push the unemployment rate back over 5% and provide the RBA with room to

ease rates back towards a neutral setting in 2013.

The period of synchronised world growth, c. 2014-2016, is expected to trigger a sizeable upward leg in Australia's terms of trade and deliver above trend economic growth. Mixing that sort of growth with limited spare capacity will heighten domestic price pressures, potentially to the point that inflation is no longer consistent with the RBA's target. That would no doubt trigger an aggressive policy response akin to that seen in 2007/08. This phase will have starting points for inflation and unemployment reminiscent of 2010, compounded by 'forthcoming' global growth rates expanding at a minimum premium of 1ppt over those seen in the current recovery.

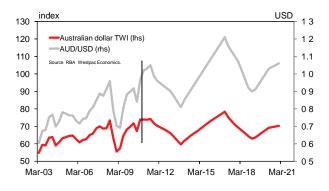
The prospect of a major downturn following such boom conditions is very real. The combination of events is particularly adverse: aggressive monetary tightening by the RBA to combat inflation, a significant slowing of world growth, and a sharp – and sustained – fall in global commodity prices. While the economy is extremely adept at absorbing external shocks and counter-cyclical policy has been highly successful at reinvigorating growth when a downturn has threatened, a sustained terms of trade decline would be an extremely difficult challenge for Australia to surmount.

The experience of 2009 was that the downturn in global commodity prices was short lived. So while national income took a hit and nominal GDP contracted by 1.0% over the year to September 2009, the snap back in commodity prices saw annual nominal GDP growth accelerate to 10% within three quarters. If, however, the next major global downturn is associated with a strong uplift in commodity supply – which we view as likely – a downturn in commodity prices would be more severe and sustained for longer.

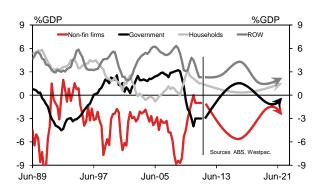
A note on the use of these forecasts. As stressed at the outset, this is an ambitious project that requires many courageous assumptions to be made. Some of them will not eventuate and the accuracy of individual line items will suffer.

The degree of uncertainty embedded in this exercise is large, both in terms of the magnitudes and, very importantly, the timing. Accordingly, the reader needs to interpret the forecasts at each point in time as a guide, rather than a falsely precise vision of the future. It is the major structural themes and their interaction with the cycle that should be the focus. Long term forecasts complement detailed scenario analysis and stress testing endeavours based on individual circumstances. They do not remove the need for them. Their most productive use is to help frame the debate about where the business environment may be heading and thereby encourage a prudent approach to risk over extended time horizons.

#### AUD trade weighted index & AUD/USD



#### Sectoral net savings: Australia



Past performance is not a reliable indicator of future performance. The forecasts given above are predictive in character. Whilst every effort has been taken to ensure that the assumptions on which the forecasts are based are reasonable, the forecasts may be affected by incorrect assumptions or by known or unknown risks and uncertainties. The results ultimately achieved may differ substantially from these forecasts.



USD TWI<sup>3</sup> CNY per AUD TWI<sup>4</sup>

USD

(eop)

(eop)

# Long term forecasts

China real Develop- US jobless Commodity

GDP % ing1 cont. rate % price index USD/bbl

US real

GDP %

Internationa	l
World real	

GDP %

Calendar

years

	GDF 76	GDF 76	GDF 76	to World ppt	(eop)	%	(eop)	(eop)	(eop)	(eop)	(еор)	(eop)	(еор)
Historical													
1990s	3.0	3.2	10.0	1.3	5.8	96	20	5.1	5.4	6.4	92	7.2	55.3
2000s	3.6	1.8	10.3	2.5	5.5	151	51	2.9	3.2	4.2	113	7.8	60.2
2010e	4.6	2.5	10.3	3.2	9.7	303	76	0.1	0.5	2.4	99.7	6.6	75.2
Forecast													
2011	3.8	1.0	9.1	3.0	10.2	322	78	0.1	0.3	3.3	101.9	6.4	71.6
2012	4.5	2.4	9.9	3.3	10.2	331	86	0.1	0.2	3.5	101.5	6.2	70.9
2013	4.3	2.2	8.8	3.2	10.3	292	73	0.1	0.2	3.7	106.6	5.9	62.8
2014	5.7	3.0	10.2	4.1	10.0	345	89	0.5	0.6	4.1	99.3	5.6	68.7
2015	6.1	4.3	11.0	4.3	9.3	373	98	1.5	1.6	4.5	93.5	5.3	74.6
average	4.9	2.6	9.8	3.6	10.0	333	85	0.5	0.6	3.8	100.6	5.9	69.7
2016	5.4	4.0	9.5	3.8	8.7	455	127	2.5	2.6	4.6	88.3	5.0	79.8
2017	4.4	2.6	8.0	3.4	8.6	432	116	2.5	2.6	3.8	92.7	4.8	70.6
2018	2.4	1.0	7.5	2.0	9.0	371	102	1.0	1.1	3.4	102.0	5.3	67.3
2019	4.3	2.5	8.8	3.4	9.0	353	100	1.0	1.1	3.8	96.1	5.0	72.1
2020	4.5	2.0	8.0	3.6	9.0	371	107	2.0	2.1	4.5	93.5	4.8	74.1
average	4.2	2.4	8.4	3.2	8.9	396	110	1.8	1.9	4.0	94.5	5.0	72.8
	Australia												
Calendar years	Real GDP %	Nominal GDP %	Current	Terms of trade	Jobless rate %	Consumer price index	Wage price	Credit growth <sup>6</sup>	RBA cash (eop)	90d BBSW	3 yr swap (eop)	10 yr bond (eop)	AUD
•		GDI 70	%GDP	index (eop)	(eop)	%	index <sup>5</sup> %	%tty		(eop)	(**17	(55)	(eop)
Historical		<b>GD</b> F 70			(eop)	%	index <sup>5</sup> %	%tty		(eop)		(	(eop)
Historical			%GDP	index (eop)				-	7.2				
		5.5			(eop) 8.6 5.5	2.5	4.0 3.7	7.9 11.7	7.2 5.3	7.2 5.5	8.1 5.9	8.0 5.5	0.71 0.72
Historical 1990s	3.3	5.5	<b>%GDP</b> -3.9	index (eop)	8.6	2.5	4.0	7.9		7.2	8.1	8.0	0.71
Historical 1990s 2000s	3.3 3.1	5.5 7.2	-3.9 -4.7	62 83	8.6 5.5	2.5	4.0	7.9 11.7	5.3	7.2 5.5	8.1 5.9	8.0 5.5	0.71 0.72
Historical 1990s 2000s 2010e	3.3 3.1	5.5 7.2	-3.9 -4.7	62 83	8.6 5.5	2.5	4.0	7.9 11.7	5.3	7.2 5.5	8.1 5.9	8.0 5.5	0.71 0.72
Historical 1990s 2000s 2010e Forecast	3.3 3.1 3.5	5.5 7.2 8.5	-3.9 -4.7 -2.7	62 83 120	8.6 5.5 4.9	2.5 3.2 2.9	4.0 3.7 3.4	7.9 11.7 3.3	5.3 4.5	7.2 5.5 5.0	8.1 5.9 5.4	8.0 5.5 5.4	0.71 0.72 1.02
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Historical 1990s 2000s 2010e Forecast 2011 2012 2013	3.3 3.1 3.5 4.0 3.5 2.0	5.5 7.2 8.5 6.8 6.2 3.5	-3.9 -4.7 -2.7 -2.4 -2.3 -2.2	62 83 120 123 121 113	8.6 5.5 4.9 4.9 5.3 5.9	2.5 3.2 2.9 3.2 2.6 2.2	4.0 3.7 3.4 4.0 4.0 3.4	7.9 11.7 3.3 5.0 7.0 5.0	5.3 4.5 5.25 5.75 4.75	7.2 5.5 5.0 5.5 5.9 5.4	8.1 5.9 5.4 5.7 6.0 5.4	8.0 5.5 5.4 5.8 6.0 5.5	0.71 0.72 1.02 0.96 0.90 0.85
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014	3.3 3.1 3.5 4.0 3.5 2.0 3.5	5.5 7.2 8.5 6.8 6.2 3.5 7.0	-3.9 -4.7 -2.7 -2.4 -2.3 -2.2 -2.5	123 121 113 124	8.6 5.5 4.9 4.9 5.3 5.9 5.6	2.5 3.2 2.9 3.2 2.6 2.2 2.5	4.0 3.7 3.4 4.0 4.0 3.4 3.6	7.9 11.7 3.3 5.0 7.0 5.0 8.0	5.3 4.5 5.25 5.75 4.75 4.75	7.2 5.5 5.0 5.5 5.9 5.4 5.4	8.1 5.9 5.4 5.7 6.0 5.4 5.4	8.0 5.5 5.4 5.8 6.0 5.5 5.6	0.71 0.72 1.02 0.96 0.90 0.85 0.97
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014 2015	3.3 3.1 3.5 4.0 3.5 2.0 3.5 4.0	5.5 7.2 8.5 6.8 6.2 3.5 7.0 8.0	-3.9 -4.7 -2.7  -2.4 -2.3 -2.2 -2.5 -3.5	123 121 113 124 130	8.6 5.5 4.9 4.9 5.3 5.9 5.6 4.9	2.5 3.2 2.9 3.2 2.6 2.2 2.5 2.8	4.0 3.7 3.4 4.0 4.0 3.4 3.6 4.0	7.9 11.7 3.3 5.0 7.0 5.0 8.0 9.0	5.3 4.5 5.25 5.75 4.75 4.75 5.75	7.2 5.5 5.0 5.5 5.9 5.4 5.4 5.9	8.1 5.9 5.4 5.7 6.0 5.4 5.4 6.4	8.0 5.5 5.4 5.8 6.0 5.5 5.6 6.2	0.71 0.72 1.02 0.96 0.90 0.85 0.97 1.09
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014 2015 average	3.3 3.1 3.5 4.0 3.5 2.0 3.5 4.0 3.4	5.5 7.2 8.5 6.8 6.2 3.5 7.0 8.0 <b>6.3</b>	-3.9 -4.7 -2.7  -2.4 -2.3 -2.2 -2.5 -3.5 -2.6	123 121 113 124 130 122	8.6 5.5 4.9 4.9 5.3 5.9 5.6 4.9	2.5 3.2 2.9 3.2 2.6 2.2 2.5 2.8 <b>2.7</b>	4.0 3.7 3.4 4.0 4.0 3.4 3.6 4.0 3.8	7.9 11.7 3.3 5.0 7.0 5.0 8.0 9.0 <b>6.8</b>	5.3 4.5 5.25 5.75 4.75 4.75 5.75 <b>5.75</b>	7.2 5.5 5.0 5.5 5.9 5.4 5.4 5.9 <b>5.6</b>	8.1 5.9 5.4 5.7 6.0 5.4 5.4 6.4 <b>5.8</b>	8.0 5.5 5.4 5.8 6.0 5.5 5.6 6.2 5.8	0.71 0.72 1.02 0.96 0.90 0.85 0.97 1.09
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014 2015 average	3.3 3.1 3.5 4.0 3.5 2.0 3.5 4.0 3.4	5.5 7.2 8.5 6.8 6.2 3.5 7.0 8.0 <b>6.3</b>	-3.9 -4.7 -2.7  -2.4 -2.3 -2.2 -2.5 -3.5 -2.6	123 121 113 124 130 122 145	8.6 5.5 4.9 4.9 5.3 5.9 5.6 4.9 <b>5.3</b>	2.5 3.2 2.9 3.2 2.6 2.2 2.5 2.8 2.7	4.0 3.7 3.4 4.0 4.0 3.4 3.6 4.0 3.8	7.9 11.7 3.3 5.0 7.0 5.0 8.0 9.0 <b>6.8</b>	5.3 4.5 5.25 5.75 4.75 4.75 5.75 <b>5.75</b> <b>5.3</b>	7.2 5.5 5.0 5.5 5.9 5.4 5.4 5.9 <b>5.6</b>	8.1 5.9 5.4 5.7 6.0 5.4 5.4 6.4 <b>5.8</b>	8.0 5.5 5.4 5.8 6.0 5.5 5.6 6.2 <b>5.8</b>	0.71 0.72 1.02 0.96 0.90 0.85 0.97 1.09 <b>0.95</b>
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014 2015 average 2016 2017	3.3 3.1 3.5 4.0 3.5 2.0 3.5 4.0 3.4 4.5 3.0	5.5 7.2 8.5 6.8 6.2 3.5 7.0 8.0 <b>6.3</b> 9.5 6.5	-3.9 -4.7 -2.7  -2.4 -2.3 -2.2 -2.5 -3.5 -4.0 -2.5	123 121 113 124 130 122 145 141	8.6 5.5 4.9 4.9 5.3 5.9 5.6 4.9 <b>5.3</b> 4.0	2.5 3.2 2.9 3.2 2.6 2.2 2.5 2.8 2.7 4.0 2.9	4.0 3.7 3.4 4.0 4.0 3.4 3.6 4.0 3.8 4.5 4.3	7.9 11.7 3.3 5.0 7.0 5.0 8.0 9.0 <b>6.8</b> 11.0	5.3 4.5 5.25 5.75 4.75 4.75 5.75 <b>5.3</b> 6.25 5.25	7.2 5.5 5.0 5.5 5.9 5.4 5.4 5.9 <b>5.6</b>	8.1 5.9 5.4 5.7 6.0 5.4 5.4 6.4 <b>5.8</b> 6.6 4.8	8.0 5.5 5.4 5.8 6.0 5.5 5.6 6.2 5.8 6.3 5.0	0.71 0.72 1.02 0.96 0.90 0.85 0.97 1.09 <b>0.95</b>
Historical 1990s 2000s 2010e Forecast 2011 2012 2013 2014 2015 average 2016 2017 2018	3.3 3.1 3.5 4.0 3.5 2.0 3.5 4.0 3.4 4.5 3.0 0.5	5.5 7.2 8.5 6.8 6.2 3.5 7.0 8.0 6.3 9.5 6.5 1.0	-3.9 -4.7 -2.7  -2.4 -2.3 -2.2 -2.5 -3.5 -2.6  -4.0 -2.5 -1.6	123 121 113 124 130 122 145 141 130	8.6 5.5 4.9 4.9 5.3 5.9 5.6 4.9 <b>5.3</b> 4.0 4.5 7.0	2.5 3.2 2.9 3.2 2.6 2.2 2.5 2.8 2.7 4.0 2.9 2.1	4.0 3.7 3.4 4.0 4.0 3.4 3.6 4.0 3.8 4.5 4.3	7.9 11.7 3.3 5.0 7.0 5.0 8.0 9.0 <b>6.8</b> 11.0 8.0	5.3 4.5 5.25 5.75 4.75 4.75 5.75 <b>5.3</b> 6.25 5.25 3.50	7.2 5.5 5.0 5.5 5.9 5.4 5.4 5.9 <b>5.6</b> 6.4 4.9	8.1 5.9 5.4 5.7 6.0 5.4 5.4 6.4 <b>5.8</b> 6.6 4.8 3.6	8.0 5.5 5.4 5.8 6.0 5.5 5.6 6.2 5.8 6.3 5.0 4.1	0.71 0.72 1.02 0.96 0.90 0.85 0.97 1.09 <b>0.95</b>

Oil

**US Fed** 

funds %

US 90d

Libor %

US 10 yr

bond %

Notes: Percentage changes are annual averages. The abbreviation "eop" signifies end of period. The abbreviation "tty" signifies through the year. All growth aggregates are assembled using purchasing power parity weights from the IMF. 1. Developing contribution is derived by excluding the OECD and the NIEs. 2. Westpac's all commodities index weighted by Australian export shares. 3&4. Nominal trade weighted indices cast forward based on weights from the respective central banks. 5. 1990s average is non-farm average compensation per employee 6. September bank year basis.

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