MINERALS & ENERGY OUTLOOK

SEPTEMBER 2016

National Australia Bank

Key Points:

- A relatively stable USD over much of the past quarter has meant that currency pressures have taken a back seat to supply-demand fundamentals in most commodity markets. Uncertainty has lingered following the Brexit decision earlier in the year, but market volatility appears to have settled and economic indicators out of the UK and Euro have generally held up better than expected. While there are signs of stabilisation in areas of the world where economic activity has been weak, timely indicators of activity shown no clear evidence of a pick up in global growth momentum, while Chinese construction activity also appears to be slowing. Supply disruptions (actual and anticipated) in some markets have been offsetting these headwinds, but most appear to be temporary in nature, suggesting recent price rallies will be short-lived. **The NAB USD non-rural commodity price index is expected to fall by around 5½% in 2016, and a further 10% in 2017**. The decline in 2016 is less than previously forecast, largely due to the unexpected rally in bulk commodity prices in the year to date. **Given the anticipated USD appreciation, price declines will be marginally lower in AUD terms**. NAB forecasts the AUD to bottom at around 68 US cents by mid 2018. **Overall, the Australian terms of trade is expected to resume its gradual descent following a short-lived rise in the near term.**
- On the 28th of September, OPEC producers, led by Saudi Arabia, surprised financial markets by coming to an agreement to limit oil production to a range of 32.5 to 33 million barrels a day (mb/d) at their meeting in Algiers. An OPEC production cap around 33mb/day, an expected further moderation in US production and annual global demand growth of 1.4mb/day are expected to contribute to an easing supply glut and should see the global market coming into balance in 2017. **With the recent OPEC outcome likely to put a floor on oil prices, we now expect oil prices to fluctuate between high US$40s and low US$50s a barrel in Q4 of 2016, before reaching mid to high US$50s/bbl by end-17 and around US$60/bbl by end-18.**
- The ramp-up in Australian **LNG** production is progressing slower than expected, particularly in Queensland where two out of three terminals have been running well below capacity for much of the year. **Prices remain very subdued, although our forecasts suggest they have reached bottom and should slowly increase over the coming year**.
- Bulk commodities recorded stronger than expected prices in recent months – particularly metallurgical coal, where cuts to Chinese coal production saw spot prices spike above US$200 a tonne. Steel demand should soften in coming months, as China's construction boom fades, while Chinese authorities increase domestic coal supply to balance the market. **We have revised our forecasts to reflect the stronger starting point for prices in Q4 2016 – iron ore is forecast to average US$44 a tonne and hard coking coal to average US$96 a tonne in 2017. Higher thermal coal spot prices are expected to flow into stronger contract prices for the next Japanese financial year (from April 2017) to US$65 a tonne.**
- Among the **base metals** complex, the **outlook on zinc remains the most positive** due to supply shortages, while copper, aluminium and lead markets are well supplied, hence no significant price growth expected. The impact of Philippines' audit of mines on nickel prices will be closely watched.
- Gold prices have been relatively range-bound in the past couple of months, fluctuating between $1320/oz and $1350/oz since the start of August, following around a 30% increase between mid-December 2015. A more than 50% chance of a rise in the US fed funds rate in December as expected by the markets has dampened the appeal of gold as an investment asset somewhat in recent months. **We continue to expect a gradual downward trend in gold prices over the next couple of years as the US Fed resumes monetary tightening, with prices slowing to US$1290/oz on average in December quarter this year, before easing further to US$1184/oz by end-17 and US$1105/oz by end-18.**

CONTENTS

CONTACT

Riki Polygenis, Head of Australian Economics and Commodities Research

James Glenn, Senior Economist

Gerard Burg, Senior Economist - Asia

Vyanne Lai, Economist

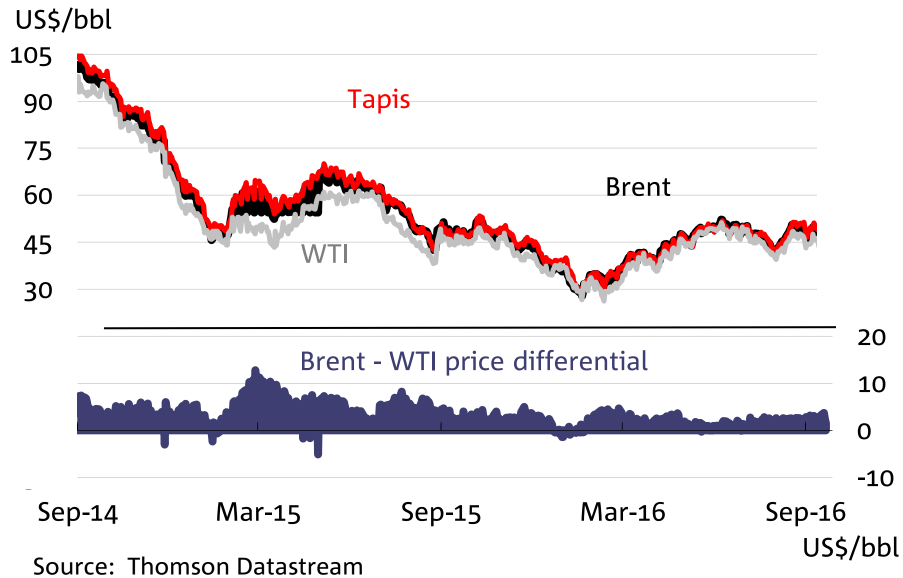
Amy Li, Economist

Phin Ziebell, Economist

Oil

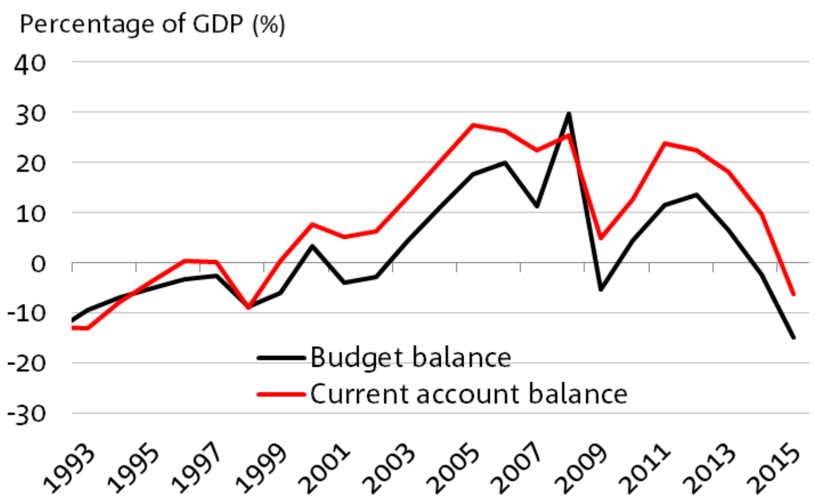
Oil price boosted by OPEC's decision to curb output

Daily oil prices (USD/barrel)



Source: Thomson Datastream

Saudi Arabia's Current Account and Budget Deficits as a Share of GDP



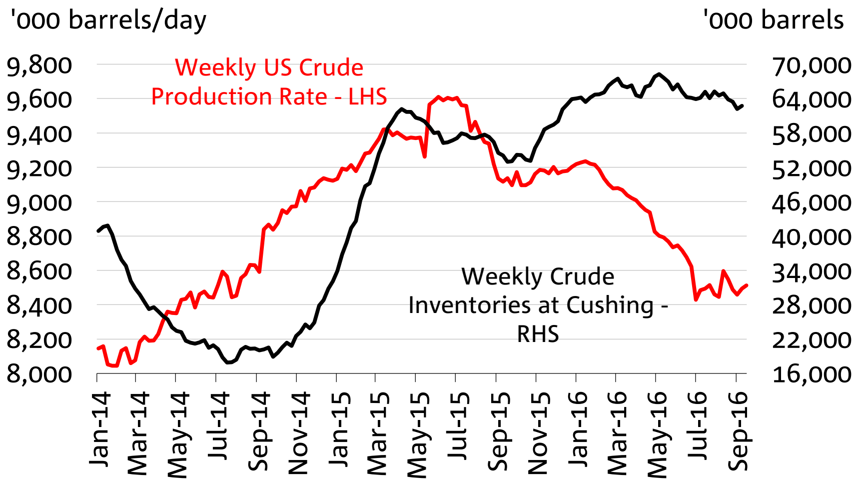
Source: Bloomberg, NAB Group Economics

- Prior to the oil deal reached among OPEC members at the informal talks at Algiers on the 28th of September, oil prices have generally trended downwards since late August, marking the end of the peak summer demand period in the northern hemisphere. Over the last month or so, a series of generally more hawkish messages by a number of senior US Fed officials indicating the possibility of a US interest rate hike in the near future have also weighed on crude futures.
- On the 28th of September, OPEC producers, led by Saudi Arabia, surprised financial markets by coming to an agreement to limit oil production to a range of 32.5 to 33 million barrels a day (mb/d) at their meeting in Algiers. A notable concession from Saudi Arabia came in the form of allowing Iran (as well as Nigeria and Libya) to be exempted from the production cap, but details about which countries would bear the burden of the cutback remain unclear. We believe that most of the burden of the cuts would fall on Saudi Arabia and Iraq, which had seen the largest increases in their output since late 2014. It is expected that the OPEC would outline the details of the proposed cuts in the upcoming official meeting in November.
- Some of the possible factors contributing to the softening of stance by Saudi Arabia, after the high-profile fallout between the country and Iran in the negotiation round in Doha in April, include the continuous deterioration in Saudi Arabia's government finances and rapid depletion of spare capacity of major producers. IMF estimates Saudi Arabia's budget deficit to be around 13% of GDP this year, after the 15% recorded last year (see bottom chart).
- Despite the general downward trend for most of September, major crude futures performed better in the month on average compared to the previous month. Brent, Tapis and WTI rose by 0.7%, 2.1% and 1.0% respectively in the month to average around USD47, USD49 and USD45 per barrel.
- An OPEC production cap at around 33mb/day, an expected further moderation in US production and annual global demand growth of 1.4mb/day are expected to contribute to an easing supply glut and should see the global market coming into balance in the H2 of 2017.
- With the recent OPEC outcome likely to put a floor on oil prices, we are comfortable with our forecasts of prices rising moderately over the medium - term as the market comes into balance (barring a rebound in US production). We now expect oil prices to fluctuate between high US$40s and low US$50s a barrel in Q4 of 2016, before reaching the high US$ 50s by and low US$60s by end-18.

OIL (CON'T)

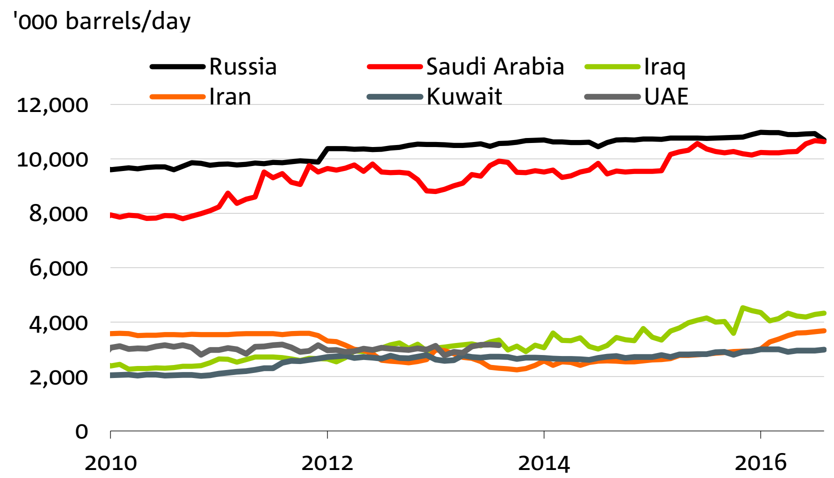
The decline in US crude production has slowed in recent months, rig count rising

US Crude Production and Inventories at Cushing



Source: EIA, NAB Group Economics

Crude output by major OPEC producers and Russia



Source: EIA, NAB Group Economics

US

- After a steady decline in the first half of the year, US crude production has stabilised somewhat in recent months as producers responded positively to the rapid oil price recovery over the period. Oil prices are currently around 30% higher than the troughs in January this year. Based on the weekly production data, US crude production averaged around 8.5mb/day in September, from the peak of 9.6mb/day in June last year.
- A lift in producers' optimism is also evident in the rising trend in the rotary rig count in North America since early June. The Baker Hughes rotary rig count has increased by 109 by the end of September since its lowest level of 316 in the last week of May.
- While we continue to expect a gradual decline in US production in the coming months due to the lag between the construction of rigs and eventual production from the oil wells, the continuous rise in the rig count suggests that US production may not ease very much more from their current levels unless there is a negative price shock.
- The US Energy Information Administration currently forecasts US production to average around 8.51mb/day in 2017, from 8.77mb/d in 2016.

OPEC

- Leading up to the informal talks between OPEC and non-OPEC members on the 28th of September, OPEC crude production was proceeding at a record pace, reaching an all-time monthly high of 33.69mb/day in August, according to Bloomberg data. Compared to 2014, the average OPEC oil output in the year to-date is around 3.25mb/d higher, largely driven by Iraq, Saudi Arabia and Iran (see LHS chart). Meanwhile, output by Nigeria and Libya is comparatively lower due to supply disruptions.
- The timing of the rebalancing of the global oil market will be contingent on the magnitude and implementation timeline of the OPEC production cut. It appears that the concrete details of the agreement would only be finalised in the upcoming official OPEC meeting in November, which means the actual implementation of the cuts would only take place in early 2017. Based on the current Bloomberg production figures, the OPEC will have to commit to a cut of at least around 690kb/day to make it to the 33mb/day upper-bound of the agreed target range of 32.5mb/day to 33mb/day. OPEC production of around 33mb/day should be sufficient in helping the global oil market to come into balance next year.

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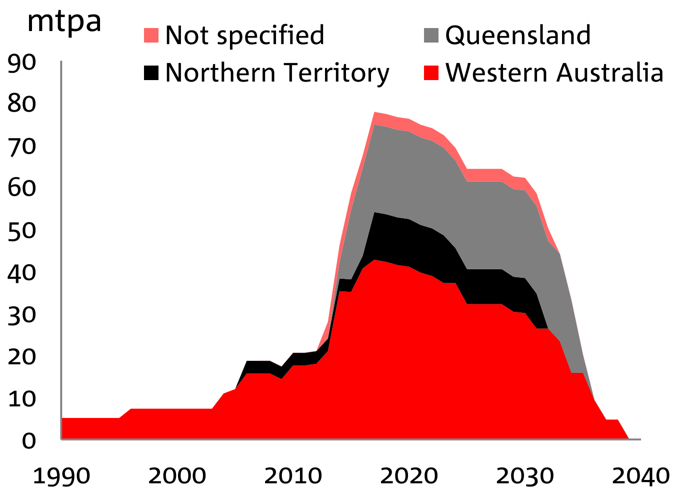
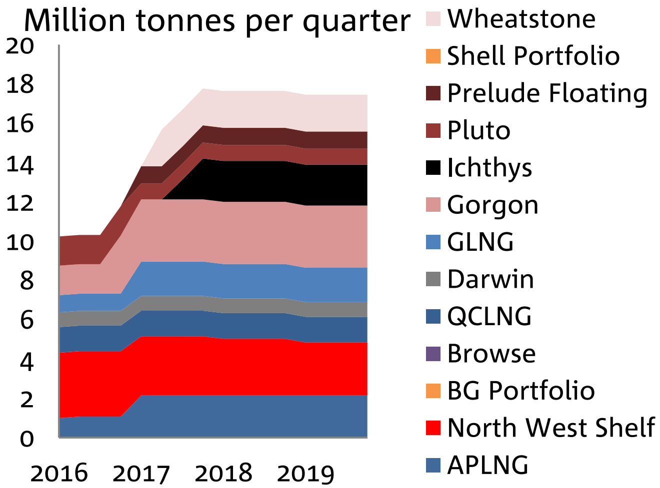
LNG EXPORT VOLUMES

Slower ramp-up amid a challenging global market

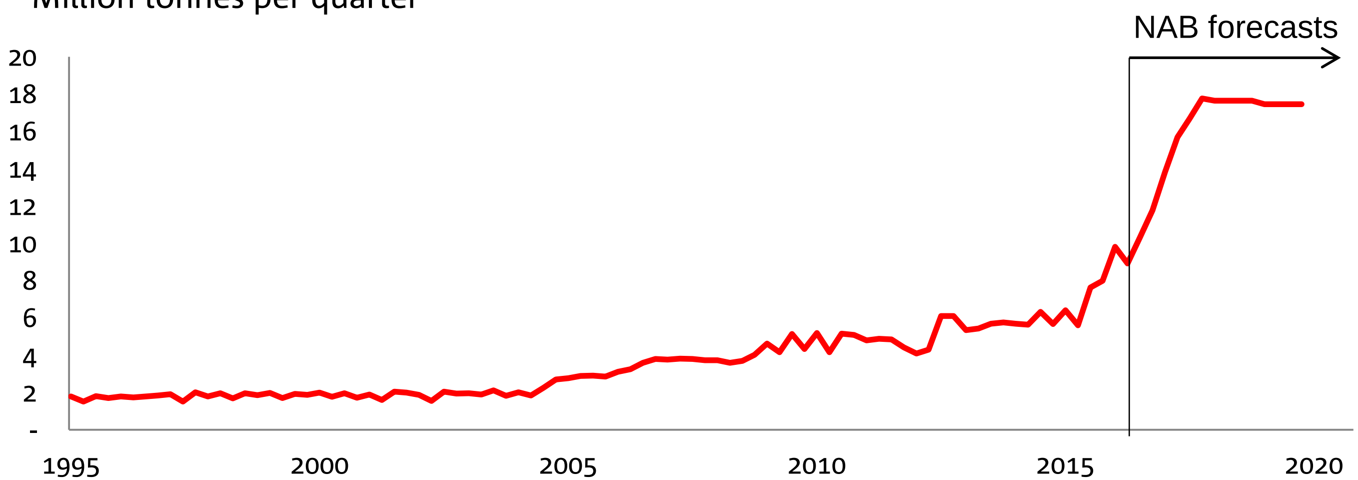
CONTRACTED LNG SUPPLY



FORECAST OUTPUT PER TERMINAL



AUSTRALIAN LNG EXPORT VOLUME



Source: Bloomberg, Poten & Partners, APPEA, Department of Industry, Australian Bureau of Statistics Oxford Institute for Energy Studies and NAB Group Economics

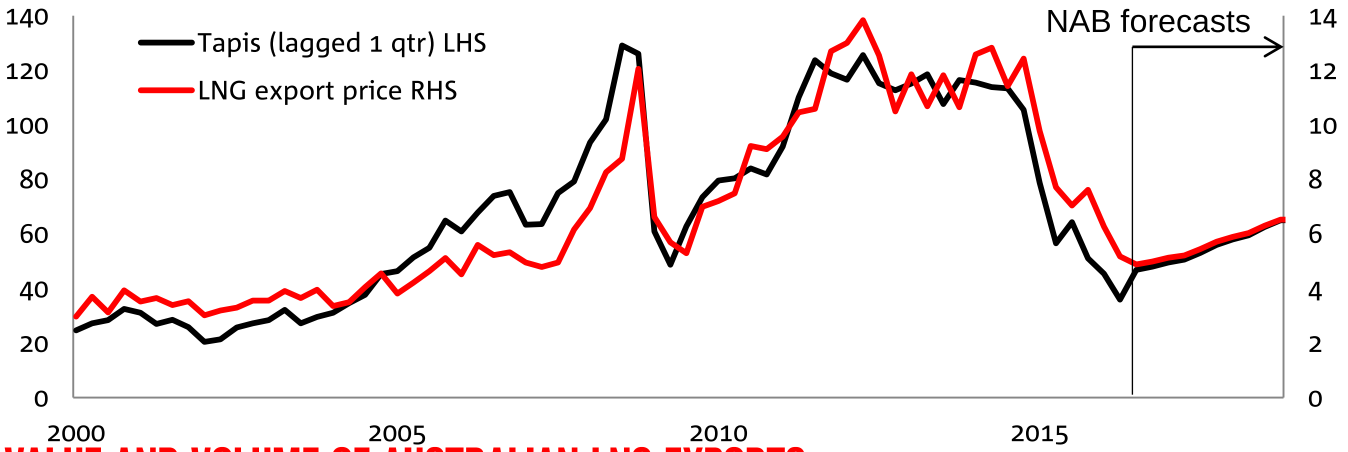
- Our forecasts for LNG export volumes consider both the nameplate capacity of Australian LNG terminals, contracted sales volumes and the prospect that some customers may take less than contracted volumes suggest.
- Australia is significantly ramping up LNG production capacity, with new terminals in Western Australia, Queensland and the Northern territory opening over the coming two years. This will give Australia the world's largest LNG nameplate production capacity – in the order of 85 million tonnes per annum (mtpa) when all terminals are completed, around 20% of global capacity.
- Contracted volumes are likely to lower, reflecting most production tied up in long contract but lower than expected demand for spot cargoes in the face of international competition and expanding global supply.
- Australia exported 27.6 million tonnes of LNG in 2015. We forecast that exports will total 40.8 million tonnes in 2016, 64.0 million tonnes in 2017 and 70.6 million tonnes in 2018.

LNG EXPORT PRICES

The worst looks to be over, but recovery likely to be slow

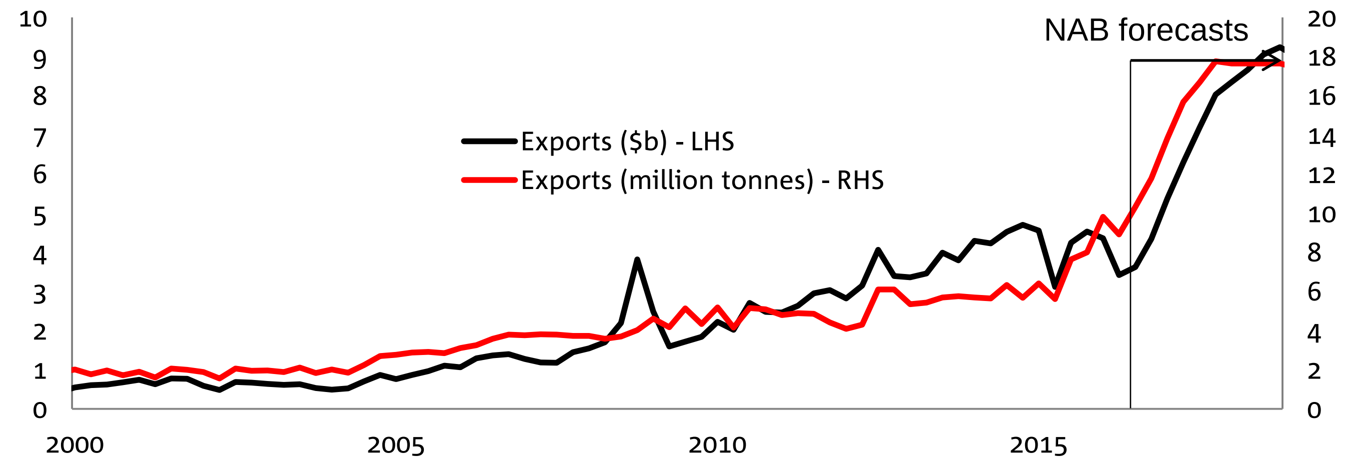
NAB LNG EXPORT PRICE INDICATOR AND LAGGED OIL PRICES

USD/bbl (LHS), USD/GJ (RHS)



VALUE AND VOLUME OF AUSTRALIAN LNG EXPORTS

AUD billion per quarter (LHS), million tonnes per quarter (RHS)



Source: Bloomberg, Poten & Partners, APPEA, Department of Industry, Australian Bureau of Statistics and NAB Group Economics

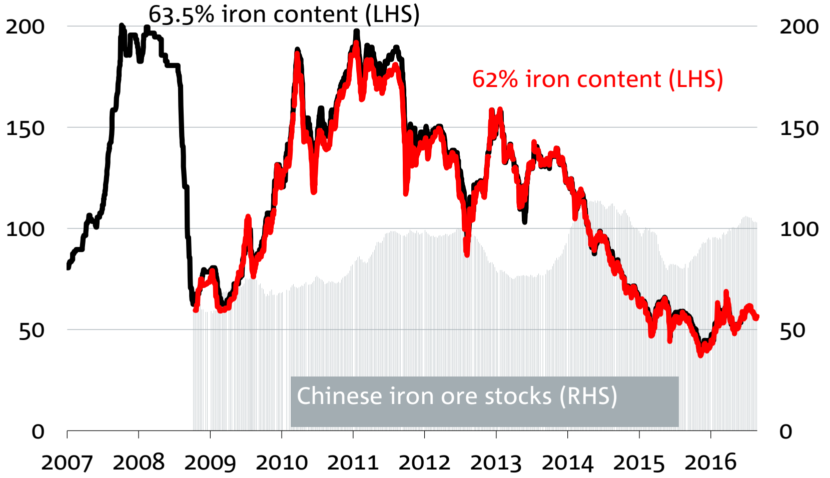
- We have developed an Australian LNG export price indicator based on Australian Bureau of Statistics international trade data and LNG cargoes. A history of this series from 2000 is shown to the left.
- East Asian LNG prices have fallen significantly since mid-2014 on the back of lower oil prices, to which many LNG contracts are tied. For example, most Japanese LNG contracts are based on the Japan Crude Cocktail (JCC) – the import price of crude oil into Japan.
- We expect crude oil prices to remain low in USD terms for at least the next two years. A subdued AUD will provide some limited support to local prices. We forecast the AUD will reach 0.70 USD by the end of 2017.
- We expect the NAB LNG export price indicator will recover gradually, in line with our forecasts for a slow recovery in oil prices. We place the Australian LNG export prices at AUD6.65/GJ (USD4.88/GJ) by the end of 2016, recovering to AUD8.16/GJ by the end of 2017. In export value terms, the price collapse will offset the increased supply. We see the value of Australian LNG exports at just over AUD15.7 billion in 2016, a slight decrease on 2015. However, the value of exports should climb steadily in 2017.

IRON ORE

China's steel demand to slow on weaker construction trends

IRON ORE RETREATING FROM SECOND 2016 RALLY

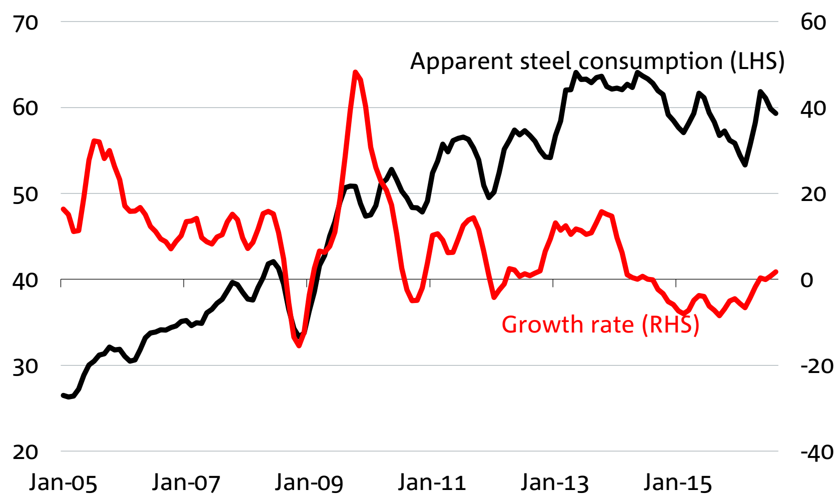
Prices settling back in the mid-US$50 range



Source: Bloomberg, Thomson Datastream, NAB Economics

CONSTRUCTION DRIVING CHINA'S STEEL USE

Set to fall as construction slows further



Sources: CEIC, Bloomberg, NAB Economics

- Iron ore markets commenced a second rally for the year in late June – with prices (for 62% ore landed in China) pushing up from US$50 a tonne to around US$60 a tonne by mid-August (a more modest peak than the previous one recorded in late April). This rally occurred despite rising Chinese ore stocks – which have exceeded 100 million tonnes since the start of this rally (up almost 29% from the same time last year). Since the mid-August peak, spot prices have eased – falling back into the mid-US$50 range.
- On the demand side, China remains the key market for steel consumption – in 2015, it accounted for almost 45% of global consumption. That said, consumption trends have softened since 2013. For the first eight months of 2016, China's apparent consumption fell by 1.2% yoy, having fallen strongly across the first quarter before subsequently recovering to neutral levels.
- A weakening trend in China's construction sector is likely to soften steel consumption in coming months. New construction starts surged between March and June – fuelled by credit growth – but have since slowed. In August, new construction starts rose by just 3.3% yoy, down from 27% yoy growth in March. We anticipate this weakening trend to continue, as we have previously argued that the construction boom was unsustainable.
- Global steel production fell in the first eight months of 2016 – down 0.7% yoy to 1.07 billion tonnes. The declines have been larger outside of China – with non-Chinese production falling by 1.6% yoy over this period. Sizable production cuts in the United Kingdom, Brazil and France were partially offset by increases in India, Ukraine and Turkey.
- China accounted for just over half of global production in the first eight months of 2016 – at around 536 million tonnes. World Steel data suggests that this represents a marginal increase in output (up 0.2% yoy), while Chinese official data reports a modest fall (down 1.2% yoy).
- The profitability of Chinese steel mills has improved since late 2015 – when domestic steel prices hit record lows (stretching back to 1997) – with steel prices trading between RMB 2500 and RMB 3000 since mid-May. That said, with iron ore and (particularly) coal prices trending higher since this time, profitability has only recovered to the lower bounds of the trend between 2009 and 2014 – suggesting continued challenges for Chinese producers.

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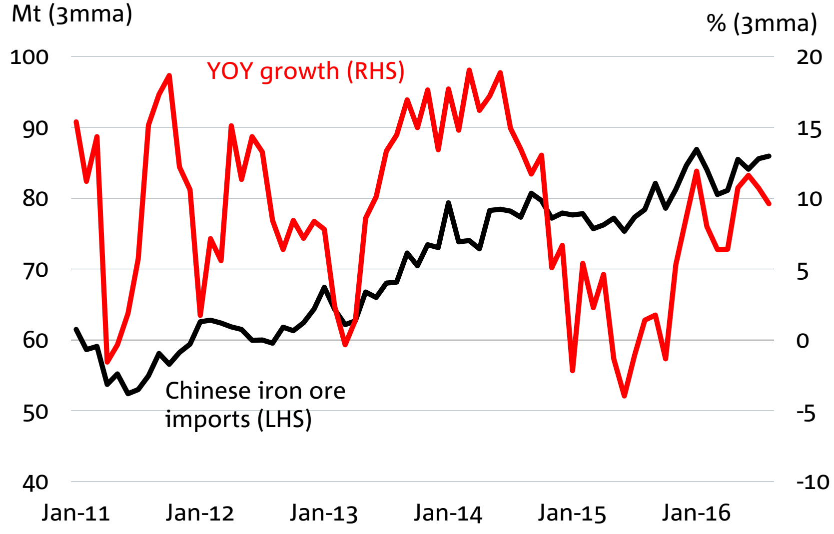
IRON ORE cont.

Reform in China urgent, given weak domestic outlook and trade tensions

CHINA IRON ORE IMPORTS

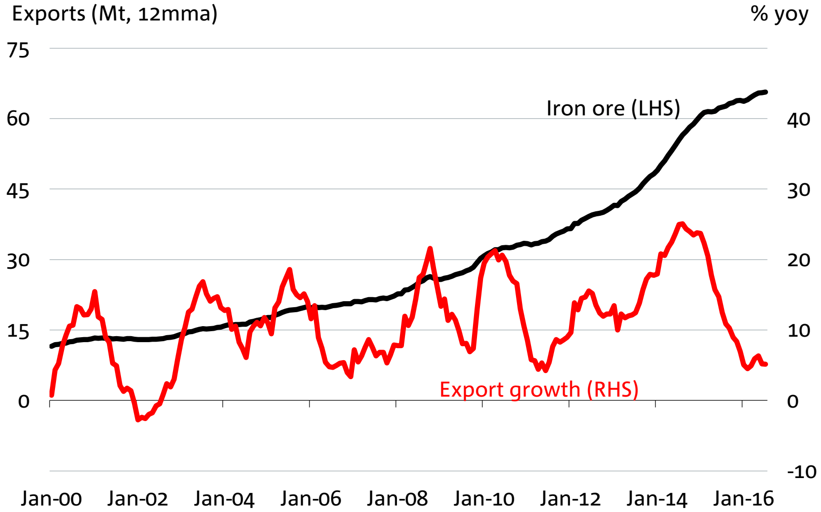
Chinese steel increasingly reliant on imported ore



Source: CEIC, NAB Economics

AUSTRALIAN IRON ORE EXPORTS

Export growth set to trend lower as market weakens



Sources: Bloomberg, NAB Economics

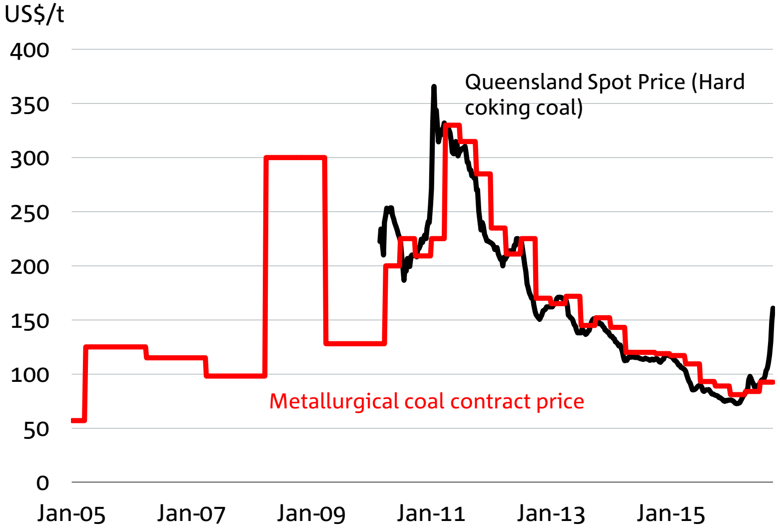
- Imported iron ore has been supplying an increasing share of China's steel requirements in 2016. In the first eight months of 2016, China's domestic iron ore production contracted by 6.7% yoy, while imports rose by 9.2% yoy over the same period. As a general rule, China's domestic ore is typically both higher cost and lower quality than internationally traded material.
- China's steel exports have continued to climb in 2016 – rising by 7.5% yoy in the first eight months of the year to almost 68 million tonnes. The scale of China's steel exports – only moderately behind the second-largest global producer Japan's total output in 2015 – continues to generate trade tensions. In response to fresh tariffs on Chinese steel imposed in the United States in May and European Union in July, China imposed retaliatory tariffs on US, EU and Japanese steel imports in July. Such an environment is likely to constrain further growth in China's steel exports.
- As China's domestic steel demand and export opportunities start to ease, focus should return to the critical long term challenges around restructuring the sector – given the scale of excess capacity. In February, China's State Council announced plans to cut crude steel capacity by between 100 and 150 million tonnes over the next five years – with around 45 million tonnes of cutbacks in 2016. According to the National Development and Reform Commission, around 21 million tonnes of annual capacity was cut in the first seven months of 2016. Restructuring plans include massive corporate mergers – such as the Baosteel and Wuhan Iron and Steel union – to create 10 groups controlling 60%-70% of total output by 2025.
- Given the weaker outlook for the Chinese and global steel sector, we expect conditions to weaken for Australian iron ore exports. Growth in exports is slowing, at 4.9% yoy in the first seven months of 2016 – compared with double digit growth in the same period last year. Almost 82% of Australian iron ore was exported to China over this period, with exports to other markets slightly weaker year-on-year (down 0.5%).
- Weaker steel output should place downward pressure on iron ore prices in coming quarters. We expect spot prices to average US$54 a tonne in Q4 2016, and average US$44 a tonne in 2017.

METALLURGICAL COAL

Short term price surge on supply side issues

METALLURGICAL COAL PRICES SURGE

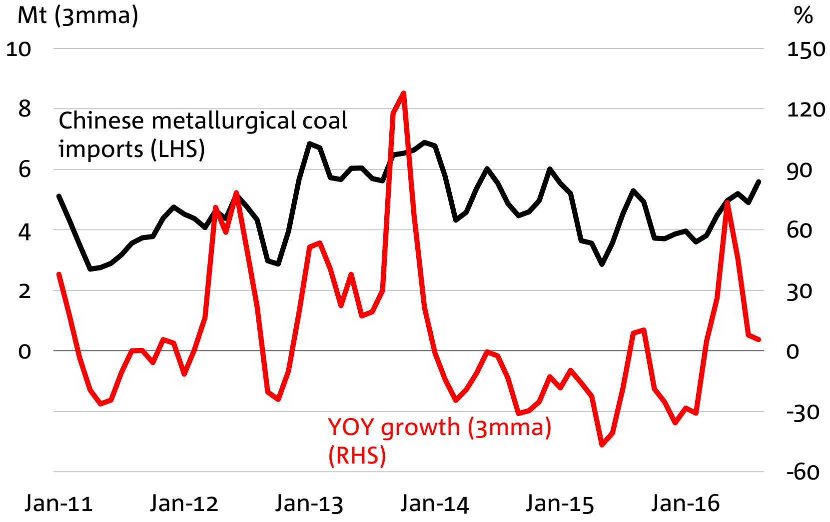
Supply restrictions drive prices higher



Source: Bloomberg, Datastream, NAB Economics

CHINA'S METALLURGICAL COAL IMPORTS

Weaker domestic supply sends consumers to market



Source: CEIC, NAB Economics

- Spot prices for hard coking coal have surged in recent months, as supply restrictions and stable demand have impacted markets. In mid-September, the Steel Index's East Australia Premium Hard Coking Coal price exceeded US$200 a tonne FOB, having been in the mid-US$70s at the start of the year.
- So far the impact of these price increases has been muted – with only around one-third of global metallurgical trade occurring in spot markets. However, these increases will impact the Q4 contract price – which is expected to increase to US$130 a tonne (from our previous forecast of US$85 a tonne).
- Changes to policy within China's coal industry has had a major impact on global markets. In an effort to improve profitability of domestic producers, as well as address pollution concerns, authorities have cut the permitted number of mining days to 276 a year (from 330 previously). Comparative weakness in domestic supply has been exacerbated by heavy rain across coal fields in the country's north during August, and short term disruptions in Australia. An easing of these pressures is likely in coming months, adding downward pressure to prices – however the longer term status of the current mining restrictions provides some uncertainty to the outlook for global markets – with China's National Development and Reform Commission requesting a short-term increase in domestic coal production to curb price growth.
- Restrictions on China's domestic supply has contributed to an increase in metallurgical coal imports in recent months. Over the first eight months of 2016, China's imports totalled 38 million tonnes, an increase of 17% yoy. This was counter to steep declines in imports across 2014 and 2015. Imports have been providing a slightly larger share of China's metallurgical coal requirements – at around 10.7% of demand in the first eight months of 2016, compared with 8.8% in the same period last year.
- Growth in exports of Australian metallurgical coal has been comparatively modest this year – increasing by just 0.5% yoy in the seven months to July – to total 107.5 million tonnes. Over this period, volumes to China increased by 2.3% yoy, while exports to other markets – which account for almost 79% of the trade – where virtually unchanged.
- Increasing Chinese coal production and weaker steel output should put downward pressure on coal prices, albeit this will occur more slowly than we previously anticipated. We expect hard coking coal contract prices to average US$96 a tonne 2017 (compared with our previous forecast of US$84.25 a tonne).

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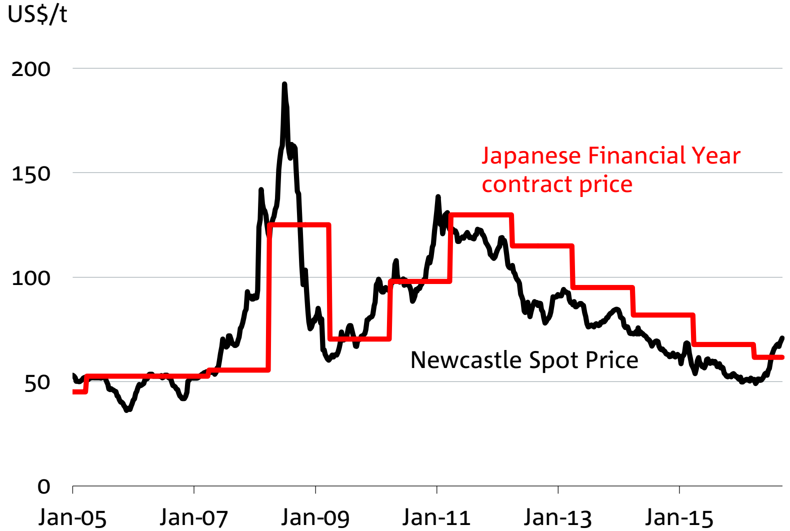
THERMAL COAL

China's return to the market has pushed prices higher

THERMAL COAL PRICES RAMPING UP

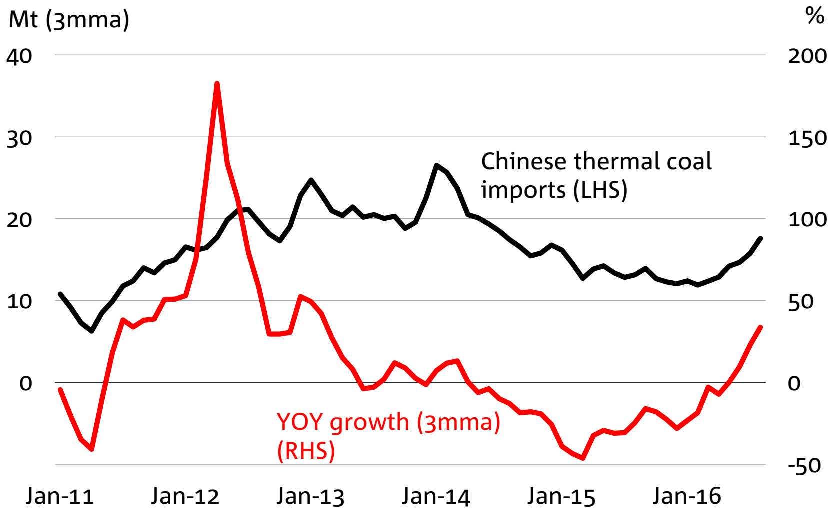
China has returned to seaborne markets



Source: Bloomberg, BREE, NAB Economics

CHINA'S THERMAL COAL IMPORTS ACCELERATING

Imports filling the gap of domestic shortfalls



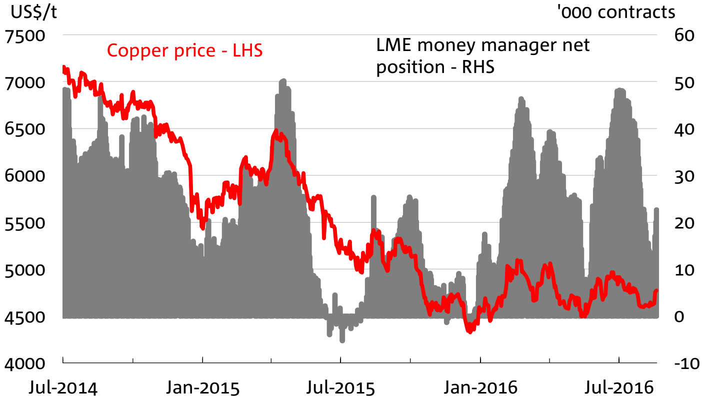
Source: CEIC, NAB Economics

- Spot prices for thermal coal have accelerated in recent months, pushing up above US$70 a tonne in mid-September (from just under US$50 a tonne in mid-April) – albeit a less dramatic increase than the one recorded in metallurgical coal markets.
- Over the first eight months of 2016, China produced 2.2 billion tonnes of coal (both thermal and metallurgical) – a decline of 10.2% yoy. In part this reflects the reduction in the permitted number of mining days, as well as production capacity cuts – with 150 million tonnes of annual capacity closed in the first eight months of the year (against a full year target of 250 million tonnes). These measures were largely intended to improve the profitability of domestic producers.
- Restrictions on China's domestic coal mines has forced major coal consumers to return to seaborne markets in recent times. In the first eight months of 2016, China imported 118 million tonnes of thermal coal – an increase of 11% yoy. However, we argue that this trend is likely to be a short term one – given China's domestic demand for thermal coal has fallen since 2013, along with the recent request from the National Development and Reform Commission to lift domestic coal supply in the short term.
- In contrast, other major coal consumers have recorded weaker demand. India imported 200 million tonnes in the 2015-16 financial year (ending in March) – a decline of 8% – and plans lower imports – at around 160 million tonnes in the current financial year, as domestic coal output continues to ramp up. Between April and August, imports have already fallen by 15% yoy, and should diminish further over the short to medium term.
- Indonesia's coal exports have weakened in recent years – as higher domestic production and production cutbacks limiting seaborne supply. In the first five months of the year, coal exports (including thermal coal, metallurgical coal, coke and briquettes) totalled 144 million tonnes, a year-on-year decline of 9.6%. Indonesia's Energy and Mineral Resources Ministry are forecasting production declines in both 2016 and 2017.
- Australian thermal coal exports have been comparatively soft this year – down around 1.1% yoy in the first seven months of the year. Higher prices in the short term – underpinned by stronger Chinese seaborne demand – may support a recovery in exports in coming months.
- The impact of China's domestic coal policy adds considerable uncertainty to thermal coal price forecasts. Given the goal of supporting domestic producer profitability, we anticipate higher contract prices for thermal coal in the next Japanese financial year (commencing April 2017) – at US$65 a tonne (from our previous forecast of US$58 a tonne) – up from US$61.60 a tonne in 2016.

COPPER

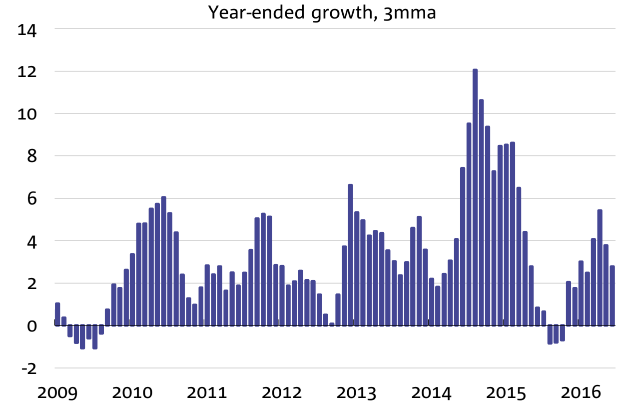
Chinese stimulus wanes, while supply disruptions an ongoing theme

Copper Prices & Positioning



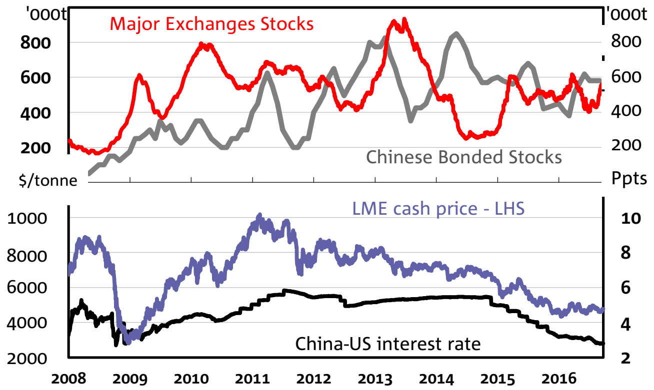
Sources: Bloomberg, NAB

Global Refined Copper Production



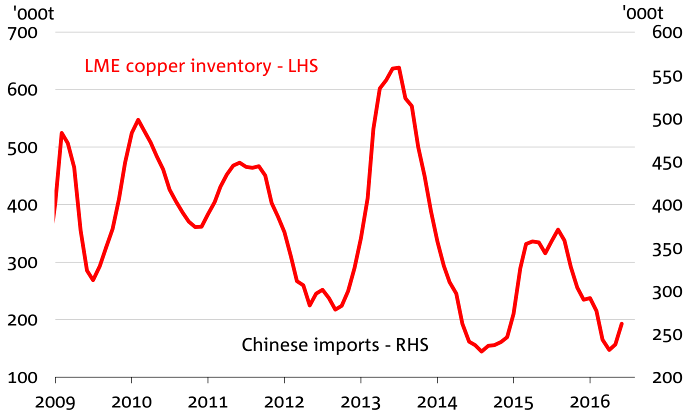
Sources: Bloomberg

Copper Financing Incentives



Source: Bloomberg, NAB

LME Inventory & Chinese Imports



Sources: NAB; Thomson Reuters

Base Metal Prices*

	Avg Price (US$/tonne) Sep-16	Jun-16 to Sep-16 % change, quarterly	Sep-15 to Sep-16 % change, annual
Aluminium	1592	-0.1	0
Copper	4722	1.7	-9
Lead	1948	13.7	16
Nickel	10192	14.2	3
Zinc	2292	13.1	33
Base Metals Index		7.1	3

* Prices on an LME cash basis.
Sources: LME; NAB

- **Copper prices fluctuated around $4800/t over the past quarter. Looking ahead, prices are expected to continue trading range bound** as the support from Chinese stimulus wanes, while mined supply is also likely to be lower than previously expected.
- Chinse imports of copper surged earlier this year but have since fallen back. As the effects of the earlier stimulus starting to wane, the economy slowed down from the second half of the year, largely driven by weaker activity in the construction sector. Overall our forecasts for Chinese growth has remained unchanged, at 6.6% and 6.5% in 2016 and 2017.
- Investor positioning has turned more upbeat on copper, supporting prices in the short time. Meanwhile, the US Fed rate hike has not eventuated yet, meaning the stabilisation of China-US interest rate differential are sustaining the profitability of the large copper carry trades, for now.
- On the supply side, global mine production continues to increase, despite ongoing supply disruptions. The International Copper Study Group estimates world mine production to have increased by 4.5% in 1H 2016 compared to 1H 2015. The increase was mainly driven by a 50% rise in Peruvian output as new and expanded capacity has been added. This was partly offset by temporary production cuts in Chile and DRC. Guidance from companies indicates mined supply for 2016 is likely to be lower than expected, due to factors including ore processing challenges and weather-related disruptions. Mine accidents also saw production suspended at two major mines in Chile and Poland.
- **Overall, we forecast a largely balanced market for 2016 and 2017, with prices averaging $4800/t.**

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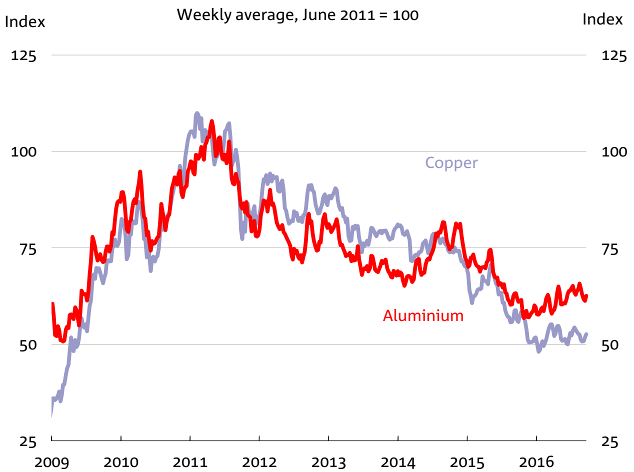
ALUMINIUM

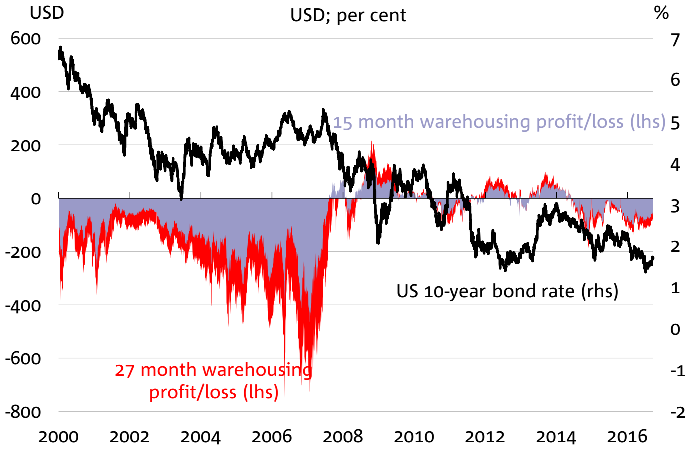
Over supply by China remains an issue

Copper & Aluminium Prices (LME)



Sources: NAB; Thomson Reuters

Aluminium Warehouse Incentives

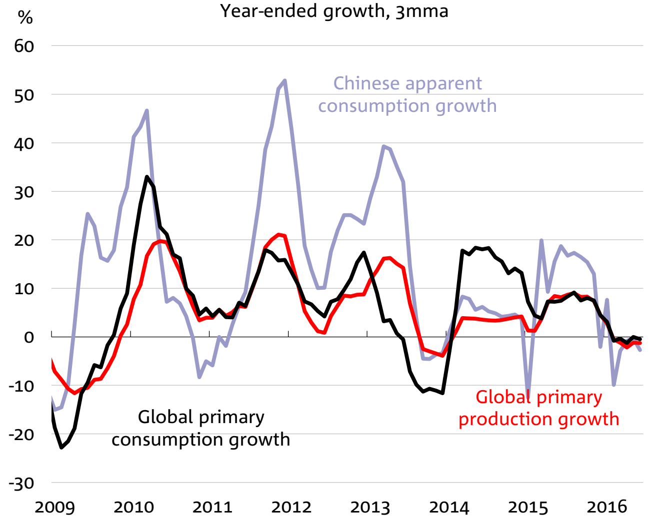


Sources: Bloomberg Industries; NAB

Chinese Semi Aluminium Exports

Sources: Bloomberg

Aluminium Production & Consumption



Sources: Bloomberg

- **Aluminium market is likely to remain well supplied, despite a pledge to curb global overproduction and improving long term demand prospects.**

  A recent statement between China and the US following the G20 meeting in Hangzhou has recognised the issue of excess capacity in the aluminium industry and has committed to work together to address this issue. If all current expansion and restart plans by Chinese smelters carry through, over three million tonnes of capacity will be added in 2017, more than the rest of the world combined. While China faces deteriorating domestic ore qualities and export bans by Malaysia and Indonesia, it has managed to source bauxite from countries including Australia and Guinea and rapidly expand productions in downstream fabrication and value-added products. Exports in the form of semi aluminium products remained high, although having shown signs of slowing. Internally, demand slowdowns, potential cutbacks of government subsidies, tighter environmental controls and industry consolidation could see their expansion efforts curbed, while externally China faces the pressure from countries including the US and India on anti-dumping grounds. However, restarts and expansions are still continuing and any cutbacks are likely to be gradual given recent experience.

- Demand by the construction sector in China will continue to slow, as earlier stimulus ended. Electricity output and motor vehicle productions have increased strongly in recent months and in the short term could provide support to prices while the use of lighter weight aluminium sheets in car making is a positive for long term demand.

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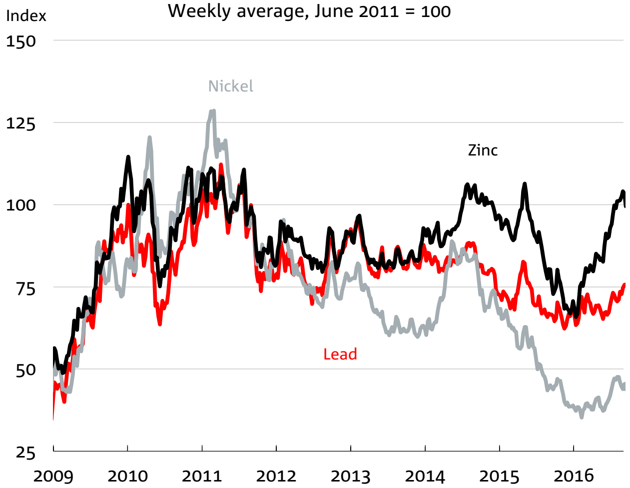
NICKEL, LEAD & ZINC

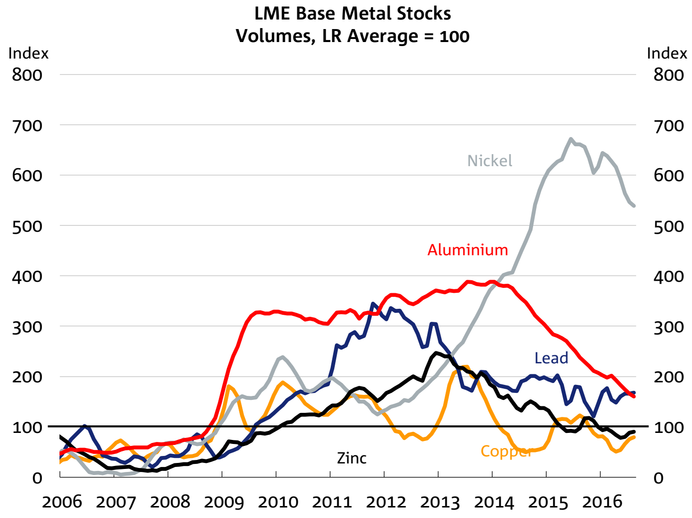
Zinc the best performer

Nickel, Lead & Zinc Prices (LME)



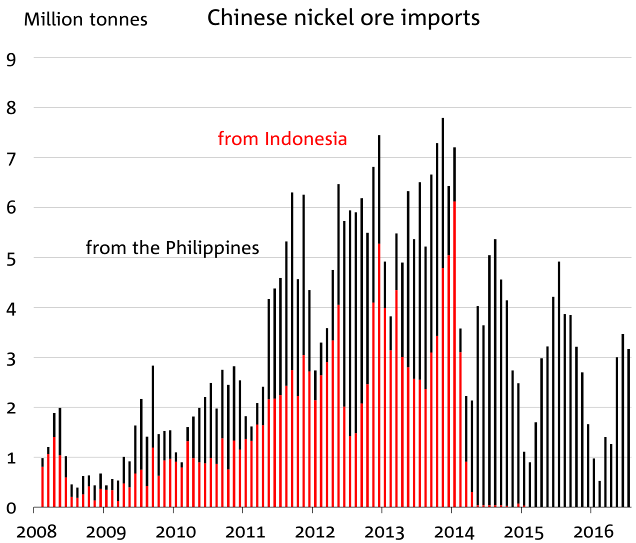
Sources: NAB; Thomson Reuters

LME Stocks



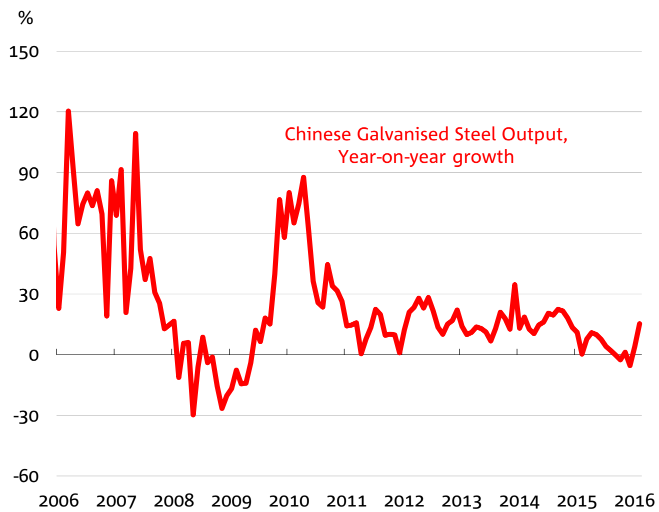
Sources: Datastream; NAB

Chinese Nickel Imports



Source: Bloomberg; NAB Economics

Chinese Galvanised Steel Output



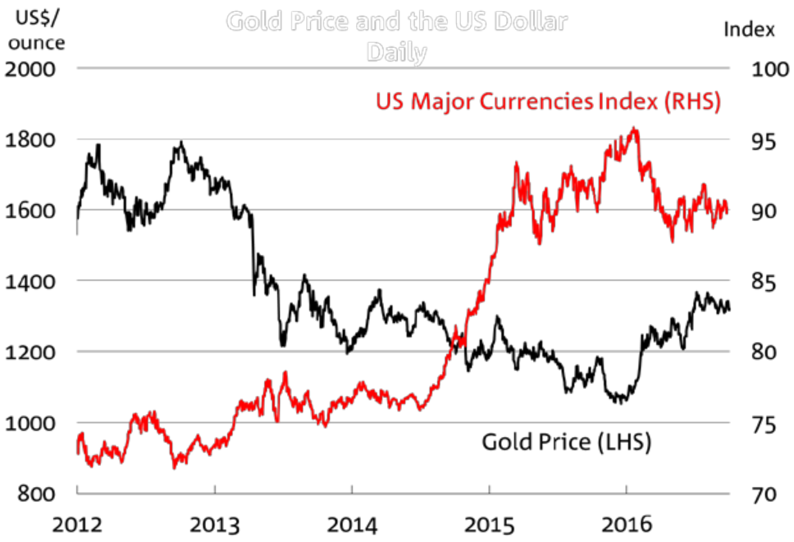
Sources: Bloomberg; NAB Economics

- Nickel prices were up around 20% since June, mainly driven by an environmental audit of mines in the Philippines, the largest nickel ore producer who accounts for a quarter of global supply, most of which is shipped to China's stainless steel industry. The already closed mines and those under scrutiny account for over half of the country's production capacity, however the recommended suspension may not eventuate. Also, production could increase at other mines that were cleared by the audit. Given the uncertainties, stocks have been declining rapidly at both the LME and SHFE warehouses. Despite falling imports from the Philippines, ore stocks at Chinese ports have increased, partly reflecting the weaker demand. Ferronickel imports from Indonesia have also increased, as the country builds up its production capacity. Overall, a small deficit is forecast for 2016 with prices stablising.
- Zinc market remains in deficit with stocks at the LME and SHFE below long run average. Concentrate supply continued to tighten in China, despite rising domestic production. Import volumes were down, however demand remained strong, as indicated by the low treatment charges. Global new mine supply is unlikely to offset the significant reduction in production by a few major mines. Overall, **both concentrate and refined markets are likely to remain in deficit in 2016 and 2017, with prices averaging $2040/t and $2350/t**.
- The lead market is likely to remain in surplus. Low prices have resulted in mine closures, mostly in Australia but also in China on stricter environmental controls. However, the biggest risk lies in the battery market, where 80% of the metal is used. As new technologies are rapidly developed, including lithium and graphene, lead demand could face more downward pressure.

GOLD

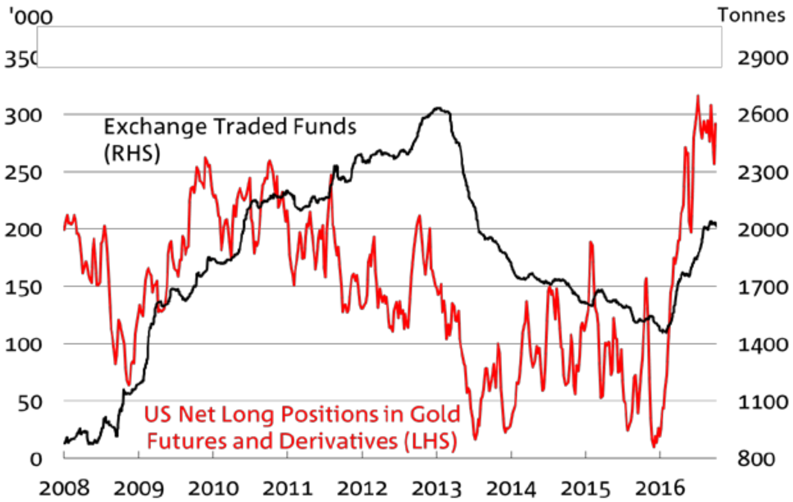
Gold prices expected to moderate slightly in coming months on US Fed tightening

Gold & USD Index



Source: Thomson Datastream, NAB

Net Long Positions in Gold Futures and Gold Holdings in Exchange Traded Funds



Sources: Thomson Datastream, NAB

- Gold prices have been relatively range-bound in the past couple of months, fluctuating between $1320/oz and $1350/oz since the start of August, and have risen by around 30% between the most recent trough in mid-December and its peak in early August this year. This coincides with a period of relative stability in the USD against major currencies and low volatility in financial markets, which in turn reflects recent US economic data which are "not too hot, not too cold", actions by the US Fed (which largely conform to markets' expectations of a gradual monetary tightening approach), as well as better economic data stemming from China and Europe. Meanwhile the Brexit vote has had limited impact on the functioning of global financial markets, although financial volatility could rise notably once the UK officially undertakes the proceedings to depart from EU by triggering Article 50, which the Prime Minister, Teresa May, announced that she would do by March next year.
- Net flows into gold exchange traded funds (ETFs), which had been the main driver of higher gold prices from December last year to August this year, have slowed noticeably since July after registering the strongest H1 on record in terms of absolute growth. At their current levels, however, ETFs are still the highest since mid-2013. Similarly, net long positions by money managers in gold futures and derivatives continue to track at elevated levels, offering some underlying support to gold prices.
- A more than 50% chance of a rise in the US fed funds rate in December, as expected by the markets, has dampened the appeal of gold as an investment asset somewhat in recent months (given that gold does not offer any dividend or interest payments). However, the tightening cycle by the US Fed is still expected to be gradual over the coming years. Hence the accumulation in the levels of ETFs could still have further to go, although is unlikely to proceed at the same rate witnessed earlier this year. At the same time, the lack of inflationary pressures globally at present is also unlikely to provide much impetus for the demand for gold as an inflation hedge.
- **We continue to expect a gradual downward trend in gold prices over the next couple of years as the US Fed resumes monetary tightening, with prices slowing to US$1290/oz on average in December quarter this year, before easing further to US$1184/oz by end-17 and US$1105/oz by end-18.** In the near term, some upside risks to our price forecasts include Donald Trump winning the presidential election in the US in November (speculation of which has already led to some volatility in the gold market), and financial volatility and negative possible spill-over effects if the difficulties facing Deutsche Bank intensify.

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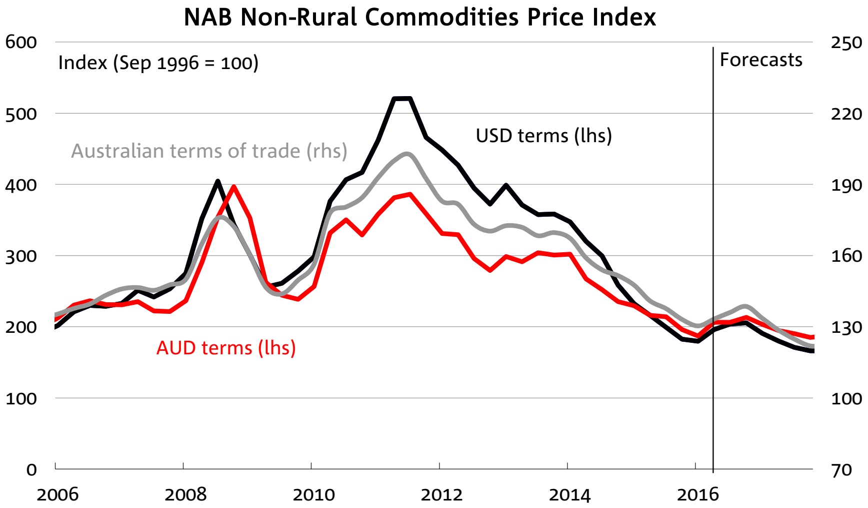
OUTLOOK

Near-term strength in most commodity markets supporting the terms-of-trade, but will be short lived

Index, September 1996 = 100



source: ABARES, ABS, Bloomberg, Thomson Datastream, NAB

- NAB's non-rural commodity price index is expected to rise a further 4% q/q in September (in US dollar terms), which follows a 9% jump in the previous quarter – which was the first quarterly rise in the index since late 2013, and the largest increase since 2011. The rise in Q3 reflects increases essentially across the board, although hard coking coal is making a particularly large contribution.
- A relatively stable USD over much of the past quarter has meant that currency pressures have taken a back seat to supply-demand fundamentals in most commodity markets. The subdued global economy remains a factor, but developments on the supply side have largely determined price swings of late.
- Uncertainty has lingered following the Brexit decision earlier in the year, but market volatility appears to have settled and economic indicators out of the UK and Euro have generally held up better than expected. While there are signs of stabilisation in areas of the world where economic activity has been weak, timely indicators of activity shown no clear evidence of a pick up in global growth momentum, while Chinese construction activity also appears to be slowing. Supply disruptions (actual and anticipated) in some markets have been offsetting these headwinds, but most appear to be temporary in nature, suggesting recent price rallies will be short lived.
- In annual average terms, the US dollar denominated NAB non-rural commodity price index is expected to fall by around 5½% in 2016, followed by a larger decline in 2017 as temporary supply disruptions wash out (down around 8%). Once again, iron ore is the main drag, although energy prices are making a meaningful contribution to the decline this year (albeit less that previously expected).
- In Australian dollar terms, commodity price declines in 2016 are slightly smaller due to USD appreciation as the US Fed resumed gradual normalisation of monetary policy. The expected trough for the AUD is still expected to be around the high USD 0.60s, but is likely to delayed (until mid- 2018). After falling nearly 20% in 2015 (in average terms), prices are forecast to decline a further 5% in 2016 and 2017.
- In light of these commodity price projections, NAB is forecasting the Australian terms of trade to rise again in Q3 and Q4, but will resume its gradual decline thereafter – at a slower pace than recent years. In annual average terms, the terms of trade are forecast to fall around 3.7% in 2016 and a further 5.4% in 2017.

NAB COMMODITY PRICE FORECASTS

	Unit	Spot 05-10-2016	Actual Sep-16	Forecasts Dec-16	Mar-17	Jun-17	Sep-17	Dec-17	Mar-18	Jun-18	Sep-18
WTI oil	US$/bbl	50	45	49	51	52	53	55	56	57	58
Brent oil	US$/bbl	52	47	50	52	53	54	56	57	58	59
Tapis oil	US$/bbl	52	48	51	53	54	55	57	58	59	60
Gold	US$/ounce	1270	1340	1290	1260	1240	1210	1180	1160	1140	1120
Iron ore (spot CFR)	US$/tonne	55	58	54	49	45	42	41	39	40	39
Hard coking coal*	US$/tonne	n.a.	93	130	106	97	93	88	85	85	85
Semi-soft coal*	US$/tonne	n.a.	72	101	83	76	72	69	66	66	66
Thermal coal*	US$/tonne	71	62	62	62	65	65	65	65	60	60
Aluminium	US$/tonne	1668	1620	1630	1640	1640	1650	1690	1720	1750	1790
Copper	US$/tonne	4778	4777	4830	4830	4800	4800	4800	4830	4840	4840
Lead	US$/tonne	2036	1873	1880	1890	1900	1910	1920	1920	1920	1920
Nickel	US$/tonne	10031	10255	10260	10150	10050	10050	10050	10050	10050	10050
Zinc	US$/tonne	2333	2252	2300	2320	2340	2360	2370	2380	2390	2400
Henry Hub	US$/mmbtu	2.86	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Aus LNG**	AUD/GJ	n.a.	6.33	6.65	7.02	7.24	7.77	8.16	8.54	8.86	9.26

* Data reflect NAB estimates of US$/ tonne FOB quarterly contract prices (thermal coal is JFY contract). Actual data represent most recent final quarterly contract price. ** Implied Australian LNG export prices

National Australia Bank

Group Economics

Alan Oster
Group Chief Economist
+61 3 8634 2927

Jacqui Brand
Personal Assistant
+61 3 8634 2181

Australian Economics and Commodities

Riki Polygenis
Head of Australian Economics
+(61 3) 8697 9534

James Glenn
Senior Economist – Australia
+(61 4)55 052 519

Vyanne Lai
Economist – Australia
+(61 3) 8634 0198

Amy Li
Economist – Australia
+(61 3) 8634 1563

Phin Ziebell
Economist – Agribusiness
+(61 4) 75 940 662

Behavioural & Industry Economics

Dean Pearson
Head of Behavioural & Industry Economics
+(61 3) 8634 2331

Robert De Iure
Senior Economist – Behavioural & Industry Economics
+(61 3) 8634 4611

Brien McDonald
Senior Economist – Behavioural & Industry Economics
+(61 3) 8634 3837

Steven Wu
Economist – Behavioural & Industry Economics
+(613) 9208 2929

International Economics

Tom Taylor
Head of Economics, International
+61 3 8634 1883

Tony Kelly
Senior Economist – International
+(61 3) 9208 5049

Gerard Burg
Senior Economist – Asia
+(61 3) 8634 2788

John Sharma
Economist – Sovereign Risk
+(61 3) 8634 4514

Global Markets Research

Peter Jolly
Global Head of Research
+61 2 9237 1406

Australia

Economics

Ivan Colhoun
Chief Economist, Markets
+61 2 9237 1836

David de Garis
Senior Economist
+61 3 8641 3045

Tapas Strickland
Economist
+61 2 9237 1980

FX Strategy

Ray Attrill
Global Co-Head of FX Strategy
+61 2 9237 1848

Rodrigo Catril
Currency Strategist
+61 2 9293 7109

Interest Rate Strategy

Skye Masters
Head of Interest Rate Strategy
+61 2 9295 1196

Alex Stanley
Senior Interest Rate Strategist
+61 2 9237 8154

Credit Research

Michael Bush
Head of Credit Research
+61 3 8641 0575

Simon Fletcher
Senior Credit Analyst – FI
+61 29237 1076

Andrew Jones
Credit Analyst
+61 3 8641 0978

Distribution

Barbara Leong
Research Production Manager
+61 2 9237 8151

New Zealand

Stephen Toplis
Head of Research, NZ
+64 4 474 6905

Craig Ebert
Senior Economist
+64 4 474 6799

Doug Steel
Markets Economist
+64 4 474 6923

Kymberly Martin
Senior Market Strategist
+64 4 924 7654

Jason Wong
Currency Strategist
+64 4 924 7652

Yvonne Liew
Publications & Web Administrator
+64 4 474 9771

Asia

Christy Tan
Head of Markets Strategy/Research, Asia,
+ 852 2822 5350

Julian Wee
Senior Markets Strategist, Asia
+65 6632 8055

UK/Europe

Nick Parsons
Head of Research, UK/Europe,
and Global Co-Head of FX Strategy
+ 44207710 2993

Gavin Friend
Senior Markets Strategist
+44 207 710 2155

Derek Allassani
Research Production Manager
+44 207 710 1532