more give, less take

Minerals & Energy Outlook

by NAB Group Economics

December 2015

National Australia Bank

Key Points:

- **Commodity markets remain under pressure, reflecting concerns over emerging market demand (especially from China), at a time when the supply of many commodities is on the incline.** Anticipated policy tightening by the US Fed is also having an impact.
- **Commodity price declines are expected to be a little more moderate in 2016 (with the USD NAB non-rural commodity price index falling 20% in average terms)**. Iron ore will again be the main drag, although falls in gold and coal will subtract. **USD strength is helping to partially offset price declines in AUD terms.** NAB forecasts the AUD to bottom at around 68 US cents by early 2016, but stabilise at around 70 US cents for the remainder of 2016. **Overall, these trends suggest the Australian terms of trade will continue to trend lower, although at a slower pace than in recent years.**
- Prices for bulk commodities have trended down in recent months – as falling output from the global steel industry has tempered demand for iron ore and metallurgical coal, while weaker Chinese imports have slowed thermal coal demand. **Falling steel output in 2016, allied with limited growth prospects in China's electricity sector, means that bulk commodity prices will continue to drift lower in 2016. Iron ore spot prices are expected to stabilise at an average US$42 per tonne in 2016, while hard coking coal contract prices will average US$83.50 a tonne. Our forecast for thermal coal for the 2016 Japanese financial year remains unchanged at US$62 a tonne.**
- **In the last week of November, oil prices fell to their lowest level since the global equity market rout in August, on the back of unfavourable financial developments and weak seasonal demand factors.** To account for the further upside risks to OPEC production in the coming months (despite a further projected fall in US production), we have revised our near-term forecasts marginally lower. Oil prices are now expected to **stay around the high US$40s to low US$50s a barrel for the first half of 2016 and improve slowly to reach US$60 a barrel some time in early 2017.** Higher global LNG supply, combined with subdued oil prices, continue to **weigh on LNG prices**, although most indicators suggest prices have flattened out since March in AUD terms.
- With **base metal** prices continuing to decline, many producers have responded with production cuts, however those announcements only managed to provide temporary support to prices, amid gloomy demand forecasts and the reversal of metals carry trades. As a result, **we forecast continuously depressed base metal price levels in 2016, with average copper spot prices 15% lower in 2016 and aluminium down 10%**.
- Gold price movements in the coming year will likely be determined by the outlook for US Fed policy tightening; NAB expect a Fed hike in December, but tightening will be gradual next year and accelerate in 2017. **As such, gold prices should maintain a moderate downward trend in 2016 to be below US$1000 an ounce by H2 2016.**

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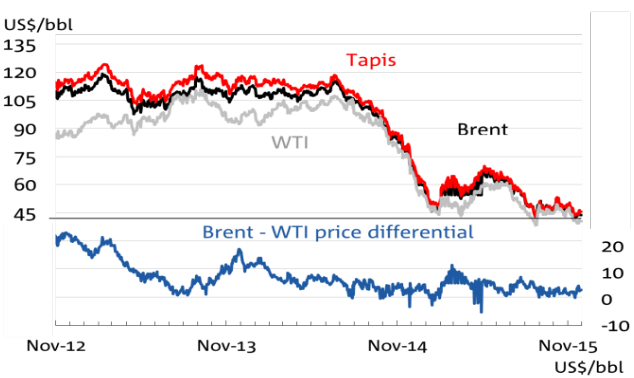
Oil

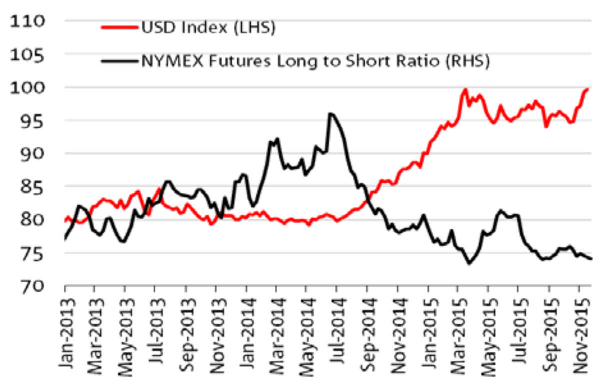
- **Oil prices fell to their lowest level since the global equity market rout in August on the back of unfavourable financial developments and weak seasonal demand factors.** Global market volatility has eased notably since August as Chinese equity market woes ameliorated and recent Chinese economic indicators appeared to stabilise. However, major commodity prices remain deeply mired in bearish sentiment against a backdrop of stubborn oversupplies, while a shift in markets' focus to the imminent US Fed Funds rate lift-off in December served to prop up the USD at the expense of commodity prices denominated in the currency.
- Significantly weaker investor sentiment is evident in the third weekly fall in money managers' net long NYMEX non-commercial crude positions in the week ended 24 November, sending the long-to-short ratio to the lowest in two months, while the USD index rose to its highest level since March. **As a result, oil prices retraced sharply in November, with West Texas Intermediate (WTI) falling by 8.3%, while Brent and Tapis were both 7.8% and 5.9% lower respectively. All indices reached their lowest monthly averages since the start of the oil price crash, with WTI, Brent and Tapis at US$42.4, US$45.1 and US$46.4 respectively.** To account for the further upside risks in OPEC production in the coming months, despite a further projected fall in US production, we have revised our near-term forecasts marginally lower, with oil prices expected to **stay around the high US$40s to low US$50s a barrel for the first half of 2016 and improving slowly to reach US$60 a barrel some time in early 2017.**
- **In terms of fundamentals, global oil production continues to outpace consumption, leading to a build-up of inventories around the world.** The US Energy Information Administration estimated global oil stocks to have grown by 1.8 million barrels a day (mb/d) through the first three quarters of 2015, compared with an average build of 0.5 mb/d over the same period in 2014. While US production has slowed notably this year in response to the weak price signals, its role as the main contributor to global supply growth has been overtaken by OPEC, which expanded its output aggressively to exceed its 30mb/d quota for the 18th month in November. The pick-up in OPEC production can be attributed to a confluence of factors, including heightened competition amongst OPEC members to carve out greater market shares for themselves, while the costly ongoing wars with ISIS in the region make it necessary for a number of governments, especially Iraq, to sell more oil to fund military expenses.
- **Despite the pleas from smaller members of Venezuela and Algeria to restore an "equilibrium price" that covers the cost of new investment in the market, OPEC is not expected to pare back its production quota at its December meeting. On the contrary, there is a probability that the organisation will lift the collective output quota to 31 mb/day to accommodate the output of Indonesia which is rejoining OPEC next month after suspending its membership for 7 years. Indonesia currently pumps around 850,000 barrels of crude oil a day but is overall a net oil importer.** Faced with stiff competition from US and Russian producers, it appears that OPEC is no longer confident that it can exert much price-setting influence by unilaterally cutting production. The highly volatile geopolitical situation in the region currently also makes it very difficult for larger, more well-resourced members, such as Saudi Arabia, to provide the right incentives to its more fragile members to lower production. Timing wise, OPEC would probably like to see a further shrinkage of US production capacity of "semi-permanent" nature from a lack of investment before it deems a production cut would have any lasting price effect. This suggests that a global glut could well persist over 2016 into 2017, constituting further downside risks to prices (discussion of supply-demand factors continues on next page).

Daily oil prices (USD/barrel)



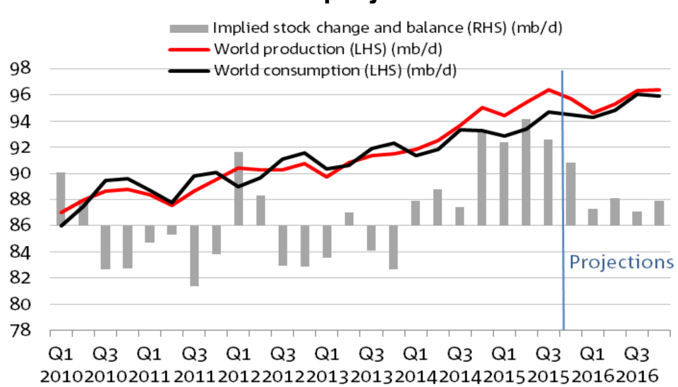
Source: Thomson Datastream

USD index and NYMEX long-to-short ratio



Source: Bloomberg, NAB Group Economics

EIA market balance projections



Source: EIA, NAB Group Economics

Oil – Supply and Demand Factors

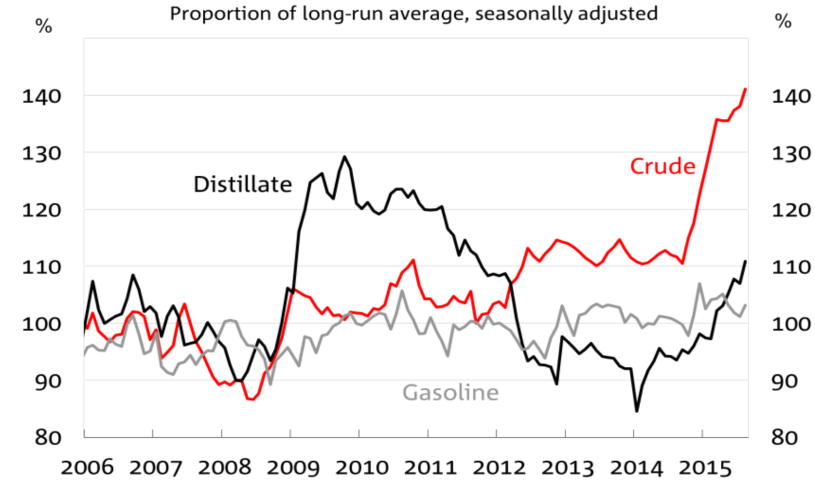
US

- **Based on data from the EIA, US crude production averaged around 9.4mb/d in the eight months to August this year, compared to 8.5mb/d for the same period in 2014.** This is despite a more than 60% fall in the total US oil-directed rig count since October 2014, as rig and well productivity gains contribute disproportionately to overall production. There has, however, been a cumulative slowdown in production of around 0.5m/d which commenced in April this year (although this is still much more gradual than previously expected).
- A temporary rebound in oil prices in Q2 to be above US$60/b appeared to be high enough to support developmental drilling in the most prolific regions of Bakken, Eagle Ford, Niobrara and the Permian Basin, according to the EIA. However, the rig count resumed falling again after August when WTI fell below US$50, which suggests the approximate "equilibrium price" is somewhere between US$50 and US$60.
- High US commercial crude oil stocks (which are at historically elevated level of around 480mb) and rising inventories of refined products of gasoline and distillate (partly due to a seasonally low demand), are likely to weigh on WTI in the short-term, which could revisit the US$30s/b levels in the coming weeks.
- Based on our forecast oil prices of less than $60 throughout 2016, we expect US production to continue to moderate. The slowdown in production will gather pace in the second half of 2016 **as a lack of investment in new capacity more than offsets higher utilisation rates and efficiency gains**. The EIA estimates that US crude production will average 8.77mb/d in 2016, compared to 9.29mb/d this calendar year, lower than their estimates of 8.96mb/d and 9.37mb/d three months ago.

OPEC

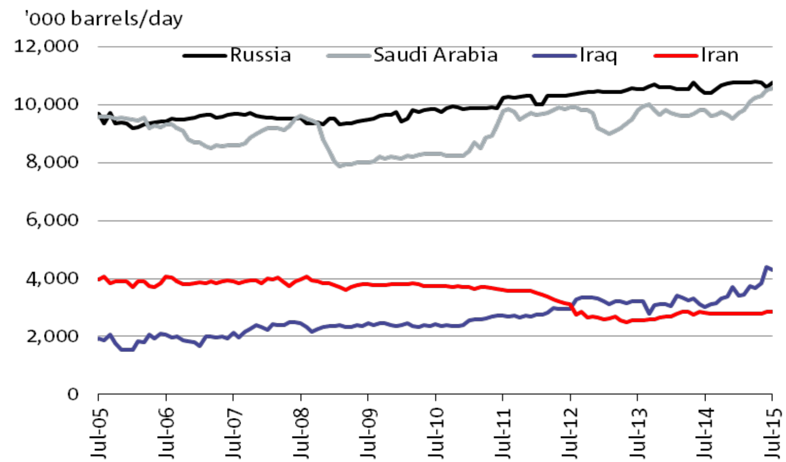
- **In November, OPEC output fell slightly from the previous month but still remains at a historically high level of close to 32mb/d, marking the 18th month that OPEC output has exceeded its 30mb/d target.** The fall in the month was driven by a retracement in Saudi Arabian and Iraqi production which outweighed higher supply from African members, with the former reflecting lower refinery and power generation demand due to seasonal factors. Saudi Arabia and Iraq had been the main contributors to the growth in OPEC output since H2 last year.
- Meanwhile, output from Iran continues to nudge higher, but will remain constrained until the economic sanctions imposed on it are officially lifted in early 2016. The Iranian government is currently seeking out potential investment opportunities in refiners from Asia, Latin America and Europe to ensure that there will be sufficient downstream processing capacity for its crude once it ramps up production in the post-sanctions era. The North Iranian Oil Company estimate that Iranian output can rise by as much as 500,000 b/d in the first six months of 2016, but this is contingent on other OPEC members easing their output levels to make way for a return of a more sizeable Iranian share of the pie.

US Crude, Distillate and Gasoline Inventories



Source: Thomson Datastream

Output by Russia and Selected Major OPEC Producers



Source: Bloomberg, NAB Group Economics

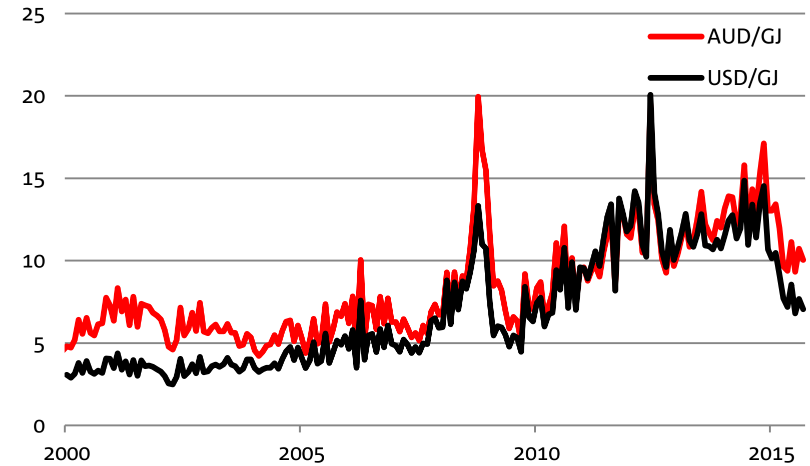
Natural gas

- **Lower global oil prices continue to affect East Asian LNG markets**, in which many contracts are JCC denominated, although the lower AUD has provided some support in local terms. The NAB Australian LNG export price indicator, which is based on the value of Australian export cargoes, fell slightly to AUD10.02/GJ in Q3 2015, down from AUD10.06/GJ in Q2. The prices are derived from Australian LNG export contracts and typically lag spot oil prices by some months. **We forecast that the indicator will find little support well into 2016, largely as a result of lower oil prices, which we forecast will continue to fall into Q1 2016**. We forecast the NAB LNG export price indicator to fall to AUD7.98/GJ in Q4 2015 and AUD7.88/GJ in Q1 2016.

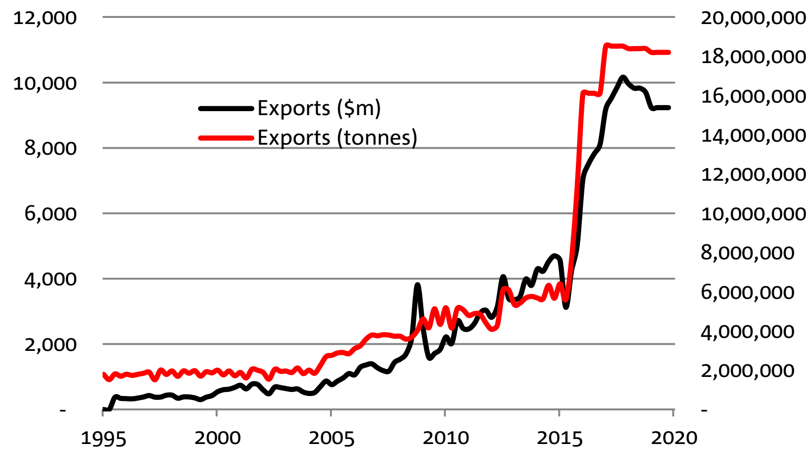
- The **Australian natural gas industry continues to undergo major transformation as significant new LNG export capacity nears completion**. Australian LNG terminal capacity will increase by more than 40 million tonnes per annum to a total terminal capacity of 64.6 million tonnes per annum by the end of the year and 85.4 million tonnes per annum by 2017. Even if prices stay low, the volume increase will see the value of LNG exports increase considerably over coming years.

- The linking of Eastern Australia to export markets for the first time (through the construction of three LNG terminals at Curtis Island in Queensland) will greatly transform Eastern Australia's gas markets. This will manifest itself in two ways: firstly the need to secure additional supply as a contingency against possible future underperformance of coal seam gas fields and secondly through new (and mostly higher) prices to reflect global netback prices, underwritten mostly by long term contracts.

NAB's Australian LNG export price indicator shows lower prices this year



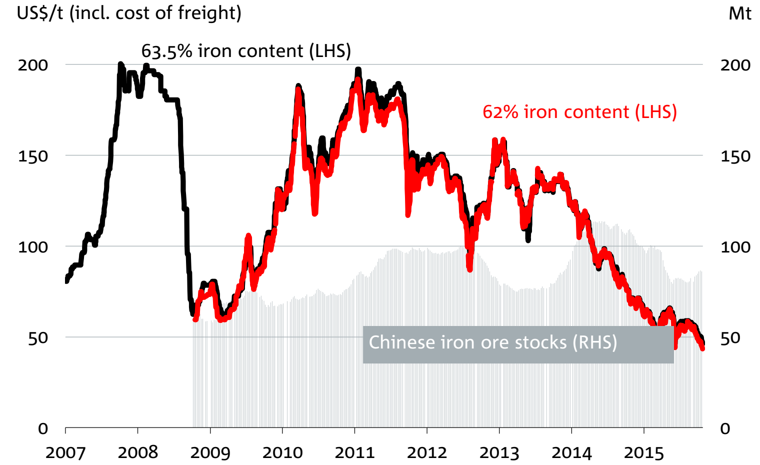
But the value of LNG exports is forecast to grow steadily as new supply comes online (quarterly data shown)



Iron ore

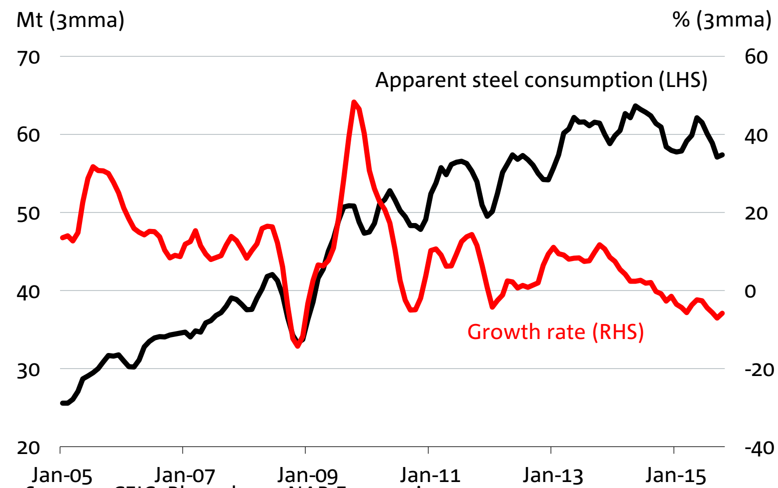
- Following a period of relative stability between early August and mid October, iron ore prices have drifted lower in recent times. Demand from the steel industry remains subdued, while major iron ore miners have continued to keep markets well supplied – rebuilding market share at the expense of profits. Prices dipped below US$ 50 a tonne in late October, and continued to trend lower across November – reaching a new low late in the month (since active spot trading commenced).
- China is the world's largest consumer and importer of iron ore – fuelling the output of the leading global steel producer. That said, **we estimate that China's apparent steel consumption fell by almost 5% year-on-year in the first ten months of 2015**.
- The weakness in China's steel consumption is largely driven by trends in the construction sector – which typically accounts for over half of the country's steel demand. In the first ten months of 2015, residential construction starts fell by almost 14%, while office and other commercial construction fell by 12% and 9.2% respectively.
- For the full year, the World Steel Association forecasts **China's steel consumption to total 686 million tonnes – a decrease of around 3.5%. For 2016, consumption is tipped to fall by another 2.0%.**
- Given China's importance to global consumption, the World Steel Association forecasts global steel production to fall by 1.7% in 2015, before a modest 0.7% increase in 2016. This increase is dependent on growth in non-China Asia – which given NAB's weak economic forecasts for the region may prove unlikely – **meaning that global demand could fall again next year.**
- Global steel production has contracted in 2015 – reflecting the weakness in demand and falling prices. World Steel Association data shows that global output totalled 1.3 billion tonnes in the first ten months of the year, down around 2.5% on the same period last year.

Continued supply into a weakening market has seen iron ore prices drop below US$50 a tonne in November



Source: Bloomberg, Thomson Datastream, NAB Economics

Weakness in Chinese construction activity has contributed to falling apparent steel consumption in 2015

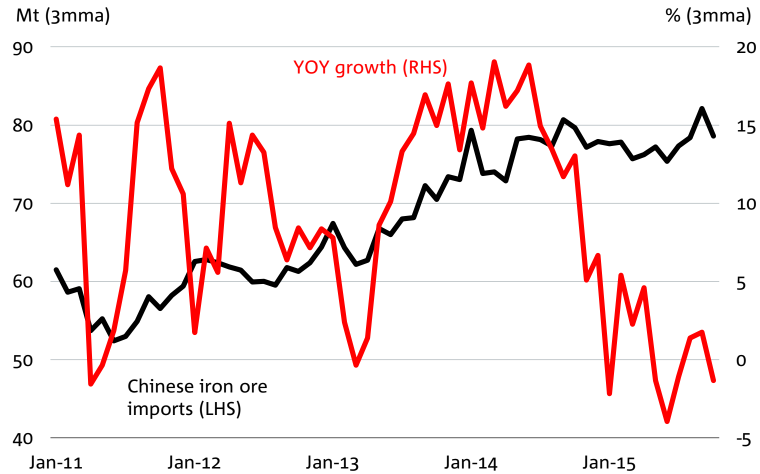


Sources: CEIC, Bloomberg, NAB Economics

Iron ore

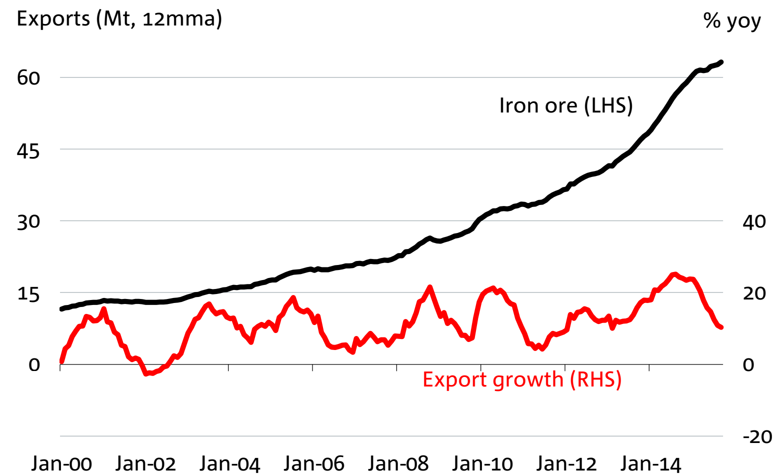
- China continues to account for just over half of global steel output, however China's steel production fell by around 2.2% yoy over the first ten months of the year. **The China Iron & Steel Association expect crude steel output to fall by 2.9% in 2016 to 783 million tonnes – a trend that is broadly consistent with our broader economic outlook and expectations for the property sector.** The organisation anticipates little prospect for improvement – noting a brief rebound in output in 2017, before trending down to 780 million tonnes in 2020.
- Weaker levels of steel production means a contraction in iron ore demand, however the impact has been more noticeable among China's domestic producers. China's iron ore production fell by 8.5% yoy across the first ten months of the year (more sharply than steel output) – reflecting the typical lower grade and higher cost of this ore. In contrast, imports of iron ore were only around 0.5% lower over the same period.
- Outside of China, steel production has also fallen considerably in Japan, the United States and South Korea over the first ten months of 2015 – respectively the second, fourth and sixth largest steel producers. **Weak domestic demand and subdued trade activity is likely to keep production constrained in Asia, while the US economic recovery is likely to be less commodity intensive than growth in emerging markets.**
- **Despite the weakness in global demand, Australian exporters have increased the level of exports – as major producers strengthen their market share.** That said, the rate of growth has slowed in recent months as the market has continued to cool. Over the first ten months of the year, Australian exports of iron ore totalled 635 million tonnes, an increase of 7.4% yoy. **This slowing trend is likely to continue – we anticipate only modest expansion (at best) in 2016.**
- **Other iron ore supply has proven to be surprisingly robust** given the weak price environment, particularly China's domestic output – which is typically lower grade and higher cost. Chinese iron ore production has fallen – down 8.5% over the first ten months of 2015 – however this remains stronger than previously anticipated, contributing to the downward pressure on spot prices and the downward revision to our forecasts.
- **Reflecting a weaker outlook for steel production in 2016, we have revised down our price forecast for iron ore. Spot prices are forecast to average US$42 a tonne in 2016 (down from US$55 this year).**

China's imports of iron ore have contracted marginally in 2015, with domestic producers cutting faster



Source: CEIC, NAB Economics

Australia's iron ore exports continue to grow, but the rate of growth has slowed in recent months

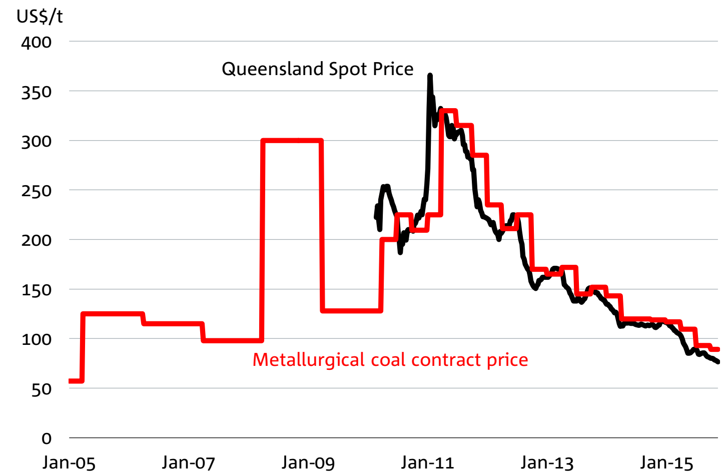


Sources: Bloomberg, NAB Economics

Metallurgical coal

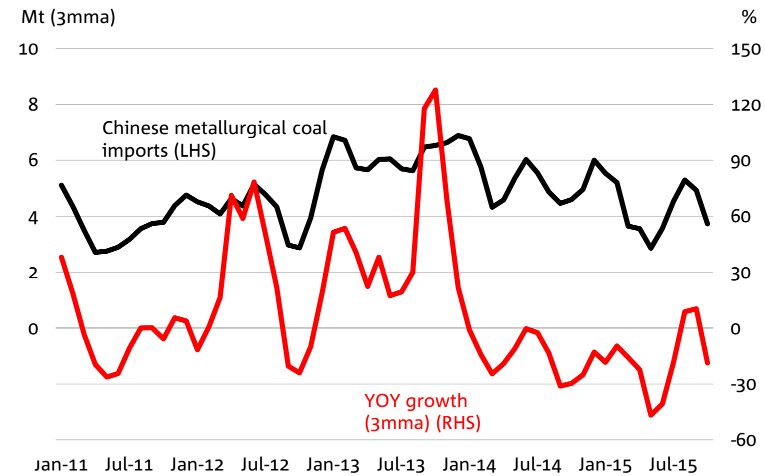
- The spot price for hard coking coal has continued its gradual drift in recent months – trading at around US$75 a tonne (for the active Asia Clear Australian contract) – down from around US$116 a tonne at the start of the year. Quarterly contract prices for Q4 were settled at US$89 a tonne, down from US$93 a tonne for the third quarter.
- Falling steel production in 2015 has driven weaker seaborne demand for metallurgical coal. This has been particularly noticeable in China, where imports totalled 39 million tonnes across the first ten months of the year, a decline of 21% yoy. **The further fall in steel output in 2016 implies little prospect for a recovery in metallurgical coal imports.**
- China's metallurgical coal imports have fallen more rapidly than pig iron production – **meaning that domestic coal is providing an increasing share of China's blast furnace requirements.** Over the first seven months of the year, we estimate that consumption of domestic coal fell by just 1.9% yoy.
- Producers have responded to weaker metallurgical coal prices with production cuts – most notably in the United States and Canada. According to the US Energy Information Administration, total US coal exports (both thermal and metallurgical) fell by almost 22% yoy in the ten months to October. Similarly, Canadian metallurgical coal exports have fallen considerably in 2015, down by around 15% yoy over the first nine months.
- In contrast, Australian exports of metallurgical coal have continued to increase, albeit the rate of growth has slowed across the year. In the ten months to October, Australian producers exported 155 million tonnes, a year-on-year increase of just 1.0%. Given declining steel output next year, there is little prospect for an acceleration in metallurgical coal exports.
- **Weak market fundamentals are expected to keep contract prices subdued in the short term. We forecast hard coking coal contract prices to average US$83.50 a tonne in 2016** (down from US$93 in our previous outlook).

Metallurgical coal prices haven fallen to the lowest level since active spot trading commenced



Source: Bloomberg, NAB Economics

The needs of China's steel industry are increasingly met by domestic producers – driving imports lower

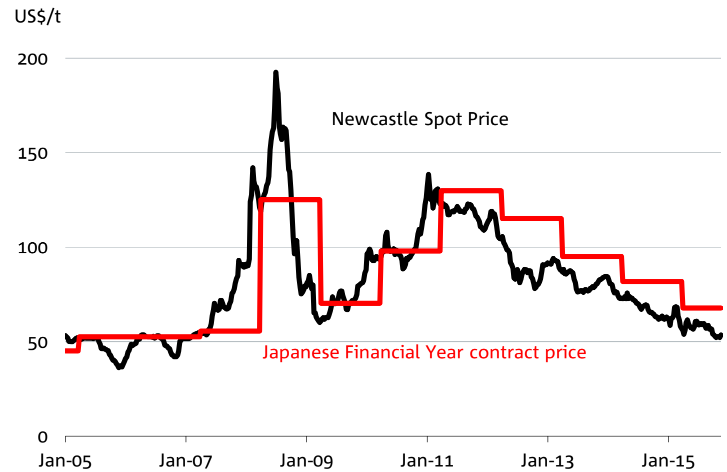


Source: CEIC, NAB Economics

Thermal coal

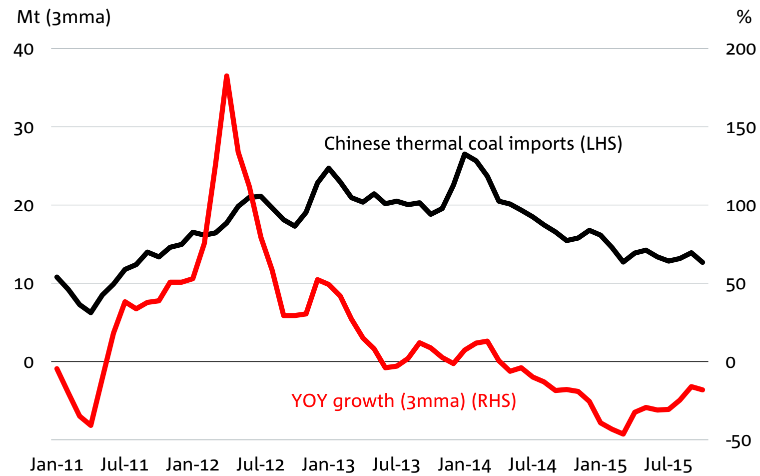
- Thermal coal spot prices have eased in recent months – following around six months of relatively stability – with the active Newcastle contract on the Intercontinental Exchange drifting from the high US$50s in early September to the low $50s in November.
- China's coal production (both thermal and metallurgical) has declined in 2015 – reflecting the weakness in steel production and thermal electricity generation. Over the first ten months, China produced 3.05 billion tonnes of coal, down 3.6% yoy. For the full year, the China National Coal Association forecasts a 5% fall.
- **In the short term, there is little to suggest a major improvement in seaborne demand for thermal coal.** China's imports have fallen in 2015 – down around 32% yoy over the first ten months of the year – and weakness in the industrial sector and efforts to address pollution concerns are unlikely to support significant growth next year. In Japan, the energy sector is adjusting to the restart of nuclear generation (albeit the government's target for nuclear appears unrealistically high). India's imports have declined in recent months as domestic output has increased, in line with the government's goal to end coal imports in the next two to three years. Combined, these three economies accounted for around half of global imports in 2014.
- Lower coal prices since the start of 2013 have driven production cuts – as higher cost producers have been forced from the market. According to the Indonesian Coal Mining Association, the country's exports in 2016 will fall below 300 million tonnes, from 330 to 360 million tonnes this year. Australian exports grew by just 1.7% yoy over the first ten months of 2015 (compared with 6.7% growth in 2014). **Prospects for growth in Australian exports in 2016 are limited at best.**
- **In the short term, spot prices could recover slightly on restocking ahead of the northern winter, however any recovery is likely to be modest. Our forecast for the 2016 Japanese financial year remains unchanged at US$62 a tonne (from US$67.80 this year).**

Spot prices have eased since September, with markets remaining well supplied



Source: Bloomberg, BREE, NAB Economics

China's thermal coal imports are continuing to trend lower, contributing to the softer market

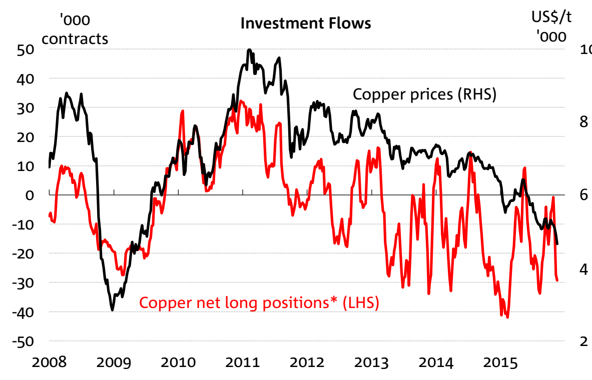


Source: CEIC, NAB Economics

Base metals: Copper

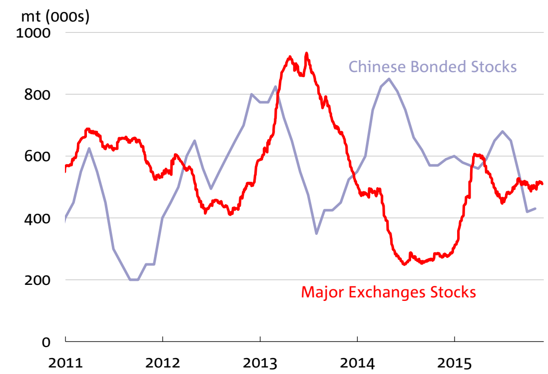
- Copper prices fell sharply over the quarter, after a series of production cuts failing to provide sustained support to prices. Prices are now around 16% lower compared to during the brief rally in September.
- Many copper producers have responded to falling prices with production cuts. Most recently, ten Chinese smelters pledged to reduce production next year. Similar announcements by other major players including Glencore and Freeport have only produced short-term support for prices. Strong increases in copper supply are still scheduled over the next two years, but not guaranteed, especially in light of sharply falling prices. Supply growth is expected to peak in 2016, but uncertainties including mine strikes and company operating decisions could push this back to 2017.
- In the short term, supply remains abundant. While Chinese bonded stocks continue to fall, inventory has increased at major exchanges. Both US and EU premiums remain low while Shanghai premium fell back after a sharp rise in early Q3.
- Global demand for commodities is likely to remain weak in 2016. Although some of the risks hanging over global markets have abated, global economic growth remains lacklustre. Economic growth in China is in a trend slowdown and not expected to see much of an acceleration in the next two years.
- The reversal of copper carry trades is putting further downward pressure on copper prices. With the yuan depreciating and Chinese interest rates lower, the previously favoured carry trades are becoming less profitable. This trend is likely to continue into 2016, adding to copper supply and reducing demand.
- The International Copper Study Group forecasts a balanced market for 2015 and a small deficit in 2016, compared to surplus forecasts for both years in its previous April forecasts. The October figures released have incorporated downward revision to global usage and even bigger downward revision to production.
- Overall, **we forecast continuously depressed price levels in 2016, at around $4700/tonne** as new capacity is added while demand remains weak. Supply disruptions and cutbacks might remain an ongoing theme suggesting downside risks to these forecasts.

Copper Prices & Investment



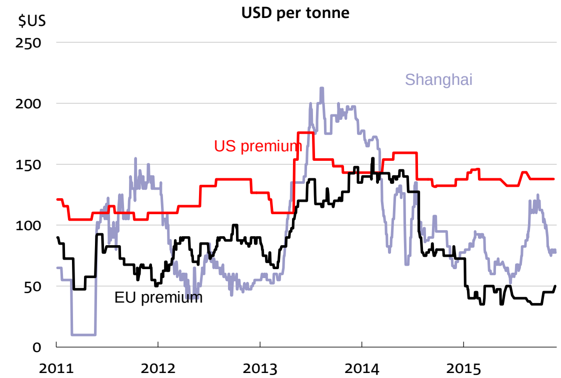
* Combined futures and derivatives net long positions for non-commercial traders
Sources: CFTC; NAB

Copper inventories



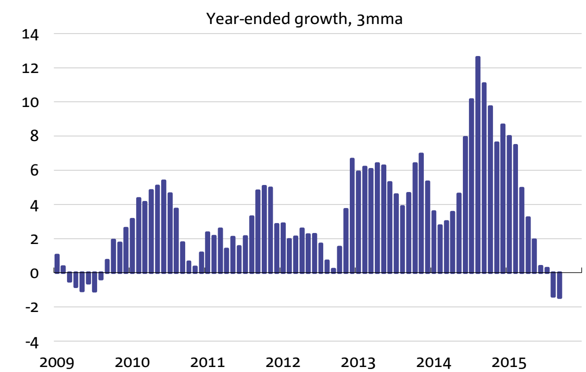
Source: Bloomberg, NAB

Copper Premiums



Sources: Bloomberg

Refined copper production



Sources: Bloomberg

Base Metal Prices*

	Avg Price (US$/tonne) Nov-15	Aug-15 to Nov-15 % change, quarterly	Nov-14 to Nov-15 % change, annual
Aluminium	1468	-5.3	-29
Copper	4800	-6.4	-28
Lead	1618	-5.1	-20
Nickel	9244	-10.8	-42
Zinc	1583	-12.4	-30
Base Metals Index		-7.7	-31

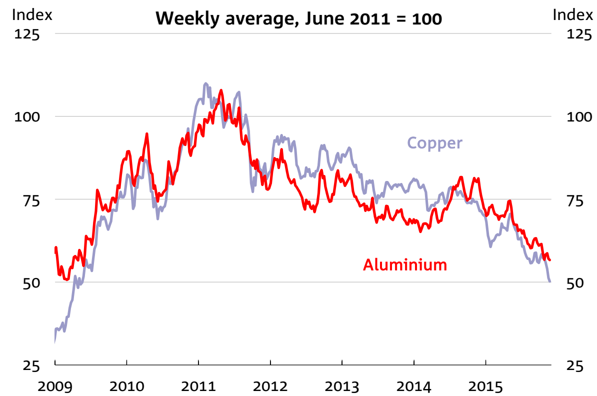
* Prices on an LME cash basis.

Sources: LME; NAB

Base metals: Aluminium

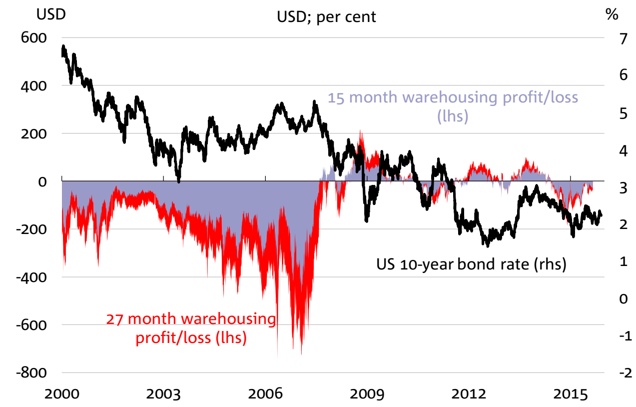
- Aluminium prices fell with the base metals complex, down around 20% through 2015 so far.
- A significant amount of new aluminium capacity is scheduled to be added in 2016, most of which in China. The northwestern regions of Xinjiang and Inner Mongolia will especially enjoy lower production costs, with access to captive coal mines and off-grid power plants with significantly lower electricity costs. The domestic market remains well supplied and as a result China continues to export historically high levels of semi aluminium products, although that level has declined somewhat since the start of 2015.
- Chinese smelters have responded to the ban on Indonesia's bauxite exports by switching to other import sources. Malaysia and Australia are now the top two sources, while Chinese firms are investing in overseas mines including in Africa. Exports from the African mines will likely ramp up in the next couple of years.
- One important future trend in aluminium market is the increasing use of aluminium in car making, as manufacturers push for lighter weight and fuel efficiency. As a result, demand for aluminium sheets will likely increase. In the US, demand is strong as the economy recovers. While in China the growth in car sales has slowed, the country still faces a long-term deficit of aluminium sheets, most of which are being exported by the global manufacturers who set up factories in China. If more processing capacity is to be added in China, we might see exports decline in the form of semi products and increase as aluminium sheets.
- With the added new capacity and a well supplied market, we continue to **forecast depressed premium levels (average $1500/tonne in 2016)** with upside risks coming from increasing demand for aluminium sheets from carmakers.

Copper & Aluminium Price (LME)



Sources: NAB; Thomson Reuters

Aluminium Warehouse Incentives

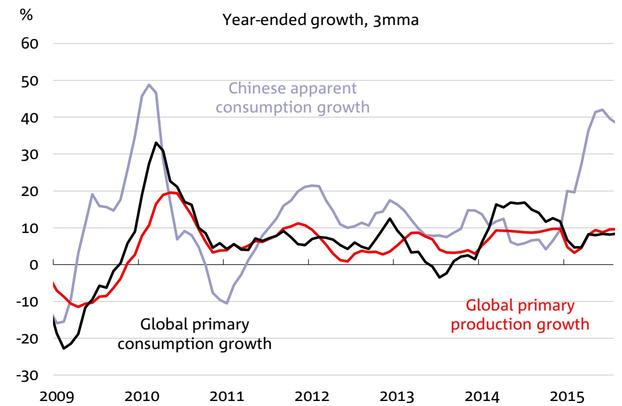


Sources: Bloomberg; NAB

Chinese aluminium exports

Sources: Bloomberg

Aluminium Production & Consumption

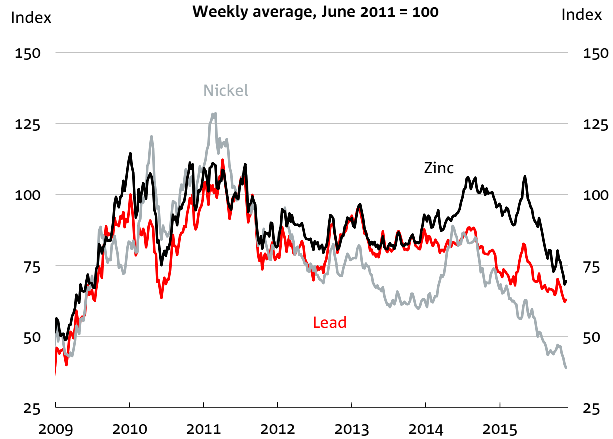


Sources: Bloomberg

Base metals: Nickel, Lead, Zinc

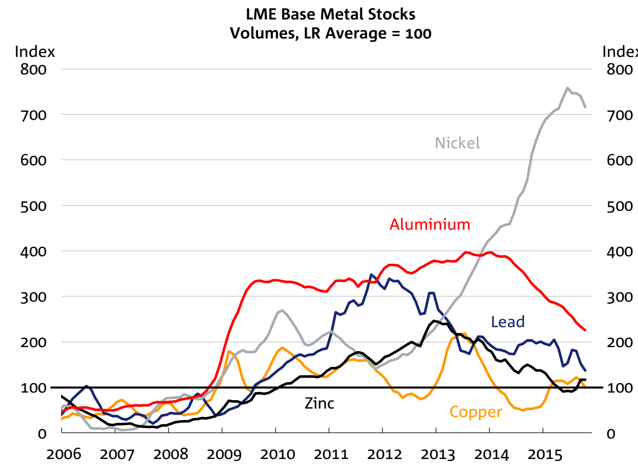
- Nickel prices have suffered the sharpest declines in the base metals complex. Production cuts in response to the lower prices have been announced, similar to other metals, but also failed to produce sustained support for prices. Nickel pig iron (NPI) production in China has been negatively affected by Indonesia's export ban, but increased nickel ore imports from the Philippines have kept production at higher-than-expected levels. Indonesia is planning to add new NPI production capacity with a few new projects but overall progress remains low. The reversal of nickel carry trades has also produced extra supply. The International Nickel Study Group and Bloomberg calculations indicate a surplus market for refined nickel in 2015 while a deficit may appear in 2016. **Overall, we forecast prices stabilising at around $9800/tonne in 2016 before rising moderately into 2017.**
- Zinc prices also fell sharply and more than reversed the price rally in early October following Glencore's announcement of significant production cuts. The cuts combined with the closure of a few big mines will likely put the market into deficit in 2016. While demand has also slowed significantly, it will be a matter of time before prices eventually recover. **Therefore we forecast average prices of around $1530/tonne in 2016.**
- The fall in lead prices has been smaller compared to other base metals, with inventories continue to decline to the lowest level since October 2009. Supply cuts announced by Glencore might help tighten the market further. Lead used in batteries fell 6.9% from a year earlier to the first nine months of the year. While short-term demand prospects remain weak, the long-term fundamentals still point to a lack of new mined supply outside China and tighter environmental controls on the refined lead industry in China. **Overall we forecast prices to recover in 2016, average $1700/tonne.**

Nickel, Lead, Zinc Prices (LME)



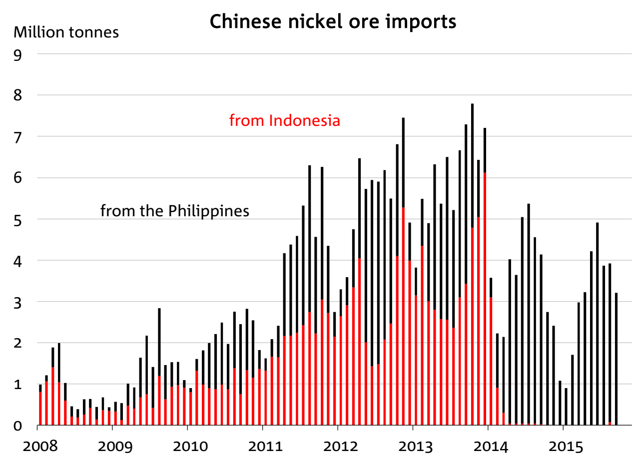
Sources: NAB; Thomson Reuters

LME Base Metal Stocks



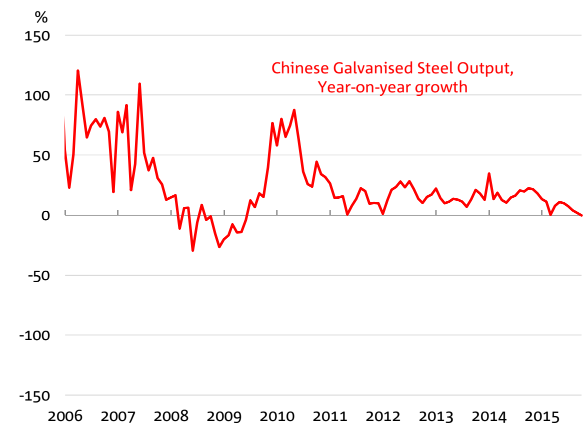
Sources: Datastream; NAB

Chinese Nickel Imports



Source: Bloomberg; NAB Economics

Chinese Galvanised Steel Output, YoY Growth

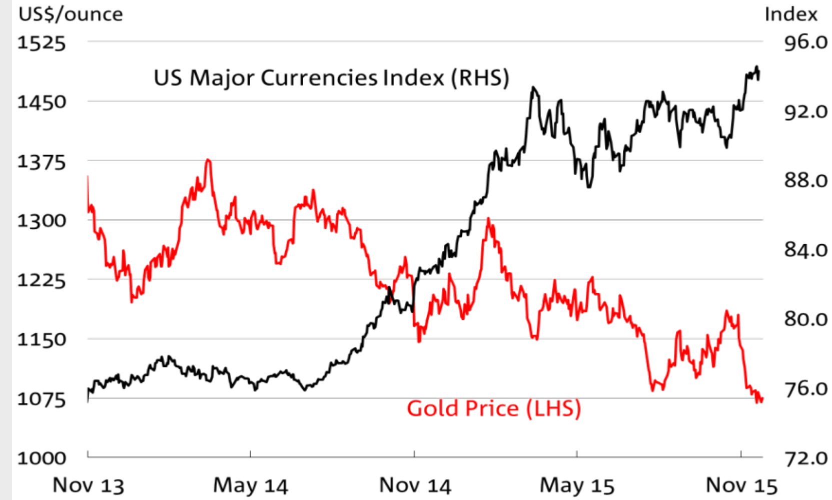


Sources: Bloomberg; NAB Economics

Gold Market

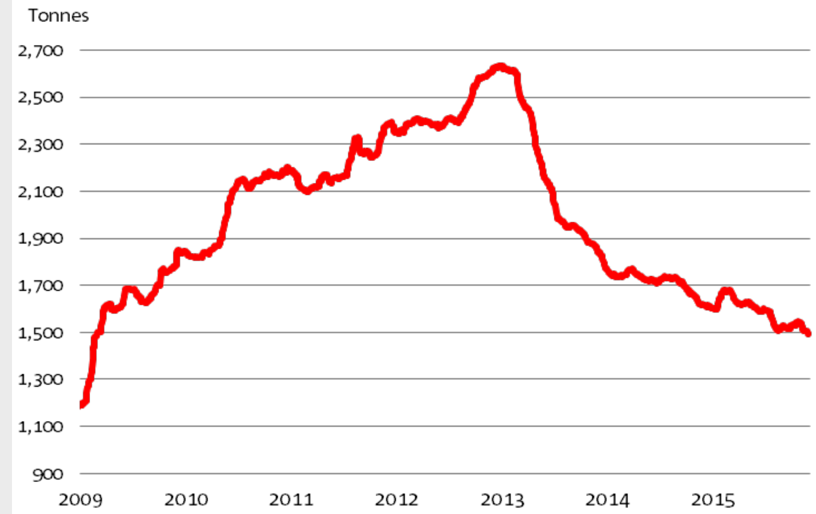
- Gold prices have fallen consistently since around mid-October as they continued to be dictated by the outlook for the US Fed funds rate, which has increasingly tilted towards a December liftoff since the second half of October. The bullion did not manage to live up fully to its reputation as a safe haven asset by failing to sustain the brief gains during the high-profile geopolitical events (the Paris terrorist attacks and the downing of the Russian fighter jet by Turkish forces at the Syrian border).
- As such, gold prices are currently trading at around US$1,055 per ounce, 19% lower than 2015 peak, and paving way for the third annual fall in gold prices by December. Gold prices in the coming year are expected to be highly correlated with the pace of monetary tightening by the US Federal Reserve, which we believe is likely to be gradual next year but accelerate in 2017. **As such we expect gold prices to continue to follow a moderate downward trend in 2016 to be below US$1000 an ounce by H2 2016.**
- Investors' bearish sentiment was clearly demonstrated by the sharp fall in money managers' long positions, which pushed the market into the second biggest net short position on record in late November.
- Between late August and early October, gold regained some of its safe haven allure on the back of the weaker global economic outlook and spillovers from the fallout in the Chinese equity market. But the respite was cut short by a firming US economic outlook which renders a December liftoff a highly probable event. **Holdings backed by gold in Exchange Traded Funds (ETFs) resumed their downward trend in late October after keeping relatively steady in August and September. This signifies a continuous waning in demand for gold as an investment, with rising interest rates enhancing the appeal of alternative fixed income assets.**
- Despite an overall fall in ETF holdings in Q3, physical gold demand picked up strongly in the quarter, driven largely by bar and coin demand, as well as jewellery. Low gold prices, coupled with sharp retreats in global equity markets, have improved the relative attractiveness of physical gold, sparking a renewed broad-based interest from North America, Europe and the traditional Asian and Middle Eastern markets. **Going forward, the expected moderating trend in gold prices will provide some upside for physical gold demand. This is likely to be limited, however, given that gold prices have proven to be much more sensitive to speculative demand in the financial markets in the last few years.**
- Gold holdings by central banks and other institutions rose by 175.0 tonnes in Q3 2015, to be the second highest quarter of net purchases on record. **The rising trend in official gold reserves accumulation is expected to continue in the short and medium term. Central banks will continue to look to gold as a means to diversify their reserve assets against risks stemming from the divergent economic outlook between advanced and emerging economies, as well as greater geopolitical uncertainty from escalated conflicts in the Middle East.**

Gold & USD Index



Source: Thomson Datastream

Gold Holdings in Exchange Traded Funds

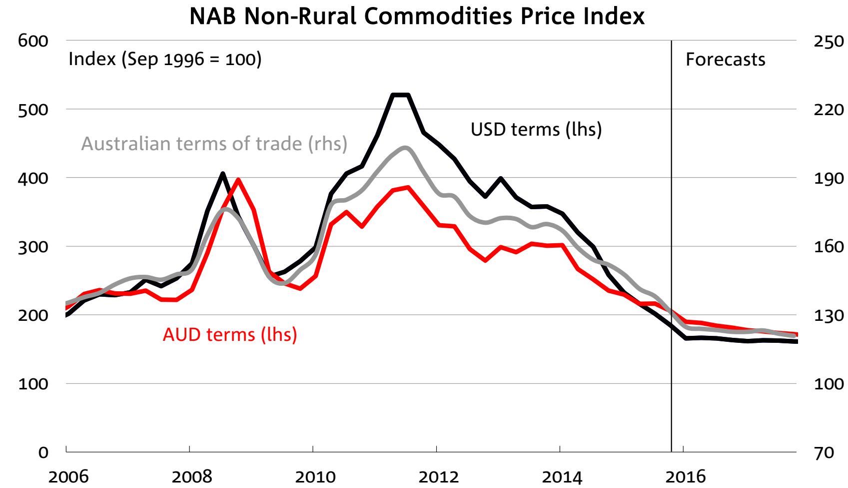


Source: Bloomberg, NAB Group Economics

Outlook

- NAB's non-rural commodity price index is expected to fall a further 8% q/q in December (in US dollar terms) – following an estimated 7% decline in the September quarter. The expected decline in the December quarter has been revised larger, reflecting weakness in commodity markets to date on concerns over emerging market (especially China) demand, at a time when supply of many commodities is on the incline. Anticipated policy tightening by the US Fed has also had some impact, given its implications for the USD. Over the past twelve months, declines in iron ore prices – Australia's largest single commodity export – have been a major driver of the index. A number of other commodities have also experienced significant declines, with falls in oil and copper prices making a notable contribution to the index decline.
- In annual average terms, US dollar denominated non-rural commodity prices are expected to fall more than 30% in 2015, before experiencing a slightly more moderate decline in 2016 (down around 20%). Once again, iron ore is the main drag, although gold and coal are expected to make a meaningful contribution.
- In Australian dollar terms, commodity price declines are slightly less substantial due to USD strength – a trend that is expected to continue in the medium term as the US Fed starts to normalise monetary policy from late in the year. After falling around 10% in 2014 and 18% in 2015 (in average terms), prices should decline a further 14% in 2016.
- In light of these commodity price projections, along with expectations for relatively subdued import price growth (given currency pass-through has been relatively muted to date), NAB is forecasting the Australian terms of trade to stabilise relative to the declines of recent year, but maintain a modest downward trajectory. In annual average terms, the terms of trade are forecast to fall around 11½% in 2015 and a further 11½% in 2016.

Lower bulk commodity prices lead US index down. USD strength supporting AUD prices near term



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

	Unit	Spot 01-12-2015	Actual Sep-15	Forecasts Dec-15	Mar-16	Jun-16	Sep-16	Dec-16	Mar-17	Jun-17	Sep-17
WTI oil	US$/bbl	41	47	43	46	49	52	55	58	61	63
Brent oil	US$/bbl	44.1	51	46	48	52	54	57	60	63	65
Tapis oil	US$/bbl	45	51	47	49	52	55	58	61	64	66
Gold	US$/ounce	1066	1120	1100	1030	1010	980	960	930	900	870
Iron ore (spot)	US$/tonne	42	54	46	42	44	42	41	40	41	41
Hard coking coal*	US$/tonne	n.a.	93	89	82	84	85	83	85	85	85
Semi-soft coal*	US$/tonne	n.a.	74	68	63	66	66	65	66	66	66
Thermal coal*	US$/tonne	53	68	68	68	62	62	62	62	60	60
Aluminium	US$/tonne	1462	1593	1510	1480	1490	1500	1520	1550	1580	1610
Copper	US$/tonne	4643	5267	4950	4670	4690	4700	4720	4770	4820	4860
Lead	US$/tonne	1647	1717	1670	1660	1670	1680	1700	1710	1710	1710
Nickel	US$/tonne	8944	10573	9780	9100	9500	9930	10430	10850	11280	11730
Zinc	US$/tonne	1557	1843	1670	1530	1470	1530	1560	1570	1580	1590
Henry Hub	US$/mmbtu	2.15	2.75	2.50	2.50	3.00	3.50	3.50	3.50	3.50	3.50
Aus LNG**	US$/mmbtu	n.a.	12.59(e)	10.03	10.11	10.56	11.00	11.39	11.23	11.64	12.05

* 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

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