Gold

Resources and Energy Quarterly December 2018

- **303 tonnes** of gold produced by Australia in 2017–18

- **9%** of world mine gold supplied by Australia in 2017–18

- **World record find**: Australia holds the record for the world’s largest gold nugget weighing 72 kg, found in Victoria in 1869

**Key jewellery consumer markets (tonnes)**

- Hong Kong: 602
- Iran: 46
- Saudi Arabia: 45
- United States: 124
- India: 648
- China: 44

**Global uses of gold (tonnes)**

- 53%: Jewellery
- 25%: Gold coins and bars
- 9%: Central Bank Reserves
- 7%: Electronics and Industrial
- 5%: Global Backed Exchange Traded Funds
- 1%: Dental and medical

**Major Australian gold deposits (tonnes)**

- <20
- 21–70
- 71–185
- 186–473
- 474–1,027
- >1,028

*Map of Australia with deposit and operating mine indicators.*
10.1 Market summary

- Gold prices have rebounded despite a further rise in the US dollar.
- The US and China trade tensions, and a softer US dollar are likely to support gold prices in 2019 and 2020.
- Australia’s export earnings for gold are forecast to increase by 0.4 and 3.9 per cent in 2018–19 and 2019–20, to $19 billion and $20 billion, respectively. This is expected to be driven by higher gold prices and a lift in export volumes from 348 to 359 tonnes over the outlook period.

10.2 Prices

Gold prices recovered in October 2018

The gold price increased by 1.4 per cent month-on-month in October 2018, to average US$1,215 an ounce, on the back of equity market volatility and the US mid-term elections. In addition, the escalation of trade tensions between the US and China, and geopolitical factors in the Middle East — renewed US sanctions on Iran and the killing of Saudi journalist, Jamal Khashoggi — boosted demand for gold as a safe-haven asset (Figure 10.1).

The gold price is expected to remain stable for the remainder of 2018, averaging US$1,232 an ounce in the December quarter, supported by global economic slowdown, and weakness in world equity markets.

Gold prices to increase in 2019 and 2020

Gold is likely to benefit from a levelling out in the US dollar in 2019 and 2020, as US economic growth peaks, and the US interest rate cycle tops out. The US economy has been stoked by tax cuts and a flood of repatriated capital in 2018. With US monetary conditions tightening modestly over the next fifteen months, a correction in US equity markets remains a significant risk over the forecast period. Such a correction would likely result in fund flows into gold.

The political environment in the United States has become more uncertain following the mid-term elections in November 2018, with the Democratic Party taking control of the House of Representatives, but Republicans retaining the Senate.

Gold prices are forecast to increase by 0.4 and 2.7 per cent in 2019 and 2020, to average US$1,275 and US$1,310 an ounce, respectively.

10.3 Consumption

World gold consumption increased slightly in the September quarter 2018

World gold demand rose by a modest 0.6 per cent year-on-year in the September quarter 2018, reaching 964 tonnes. Rising bar and coin investment (up 28 per cent year-on-year), central banks’ purchase (up 22 per cent year-on-year), and increased jewellery consumption (up 6 per cent year-on-year) offset exchange traded fund (ETF) outflows. Indian jewellery demand grew by 10 per cent year-on-year, as lower gold prices attracted bargain hunters. Gold consumption in China also grew by 10 per cent year-on-year, driven by the Qixi Festival.
Despite these rises, world gold demand was largely reduced by a massive outflow from gold-backed ETFs, particularly in North America. A total of 116 tonnes of gold flowed out of the ETFs, as higher US interest rates and a stronger US dollar led global investors to seek higher returns elsewhere. The demand for gold is estimated to decrease by just 0.8 per cent in 2018, to 4,117 tonnes, as rising central banks’ buying is likely to offset further ETF outflows, and an expected fall in demand from India during the 2018 wedding season (Figure 10.2).

World gold consumption forecast to increase in 2019 and 2020
World gold demand is forecast to increase by 4.0 per cent (to 4,284 tonnes) in 2019, and by a further 1.8 per cent (to 4,360 tonnes) in 2020. Demand is expected to be boosted by escalating trade tensions, rising inflation rates in some advanced economies (particularly the US), equity market volatility, and geopolitical tensions in the Middle East and east Asia. A heavy sell-off in stock and bond markets could trigger a jump in gold demand by both institutional and retail investors.

Figure 10.2: World gold consumption

Lower economic growth in China is expected to have a negative impact on demand for gold, however, fears of further Chinese currency weakness are expected to be a strong catalyst for increased gold consumption in China. Economic growth in India is forecast to remain strong (with an annual GDP growth rate of close to 8 per cent), leading to higher income and wages, which should also support gold demand.

Jewellery demand for 2019 and 2020 is forecast to remain robust, supported by an expected increase in demand for premium 999, K-gold and 9999 purity gold from India and China. In India, jewellery consumption in rural areas is forecast to grow strongly, reflecting ongoing urbanisation, rising farm incomes, and a general strengthening of rural economies. At present, rural jewellery consumption accounts for 60 per cent of India’s gold demand, and this share is expected to be higher in the coming years.

Central banks across the world are expected to increase their purchases of gold as some countries seek to diversify away from the US dollar. Russia has already sold the majority of its US Treasuries and added more gold to its reserves, with the Bank of Russia (the central bank of the Russian Federation) having purchased around 20 tonnes of gold on average every month since the start of 2018. Poland, Hungary, Kazakhstan, Mongolia, and a number of other emerging market countries are all expected to increase gold purchases and reserves over the next few years.

10.4 Production

World gold supply decreased in the September quarter 2018
Lower recycled output led to world gold supply decreasing by 2.0 per cent to 1,162 tonnes, year-on-year, in the September quarter 2018. Over this period, mine supply grew by 1.9 per cent year-on-year to 875 tonnes, as increased output at several mines pushed gold mine production to a new quarterly high. Output increased from the Brucejack, Rainy River and Moose River mines in Canada, and the Carlin, Fort Knox and Cripple Creek in the United States.

However, production in the September quarter 2018 in China — the world’s largest gold producer — continued to decline, falling 6.0 per cent year-on-year. Environmental reforms introduced in 2017 have impacted the country’s gold production. Newcrest’s Lihir gold mine in Papua New Guinea decreased output by 40 per cent, to 182,068 ounces of gold, impacted by lower mill throughput due to a series of planned maintenance shutdowns. Its Gosowong gold mine in Indonesia also recorded a fall in production, down by 9.3 per cent to 47,270 ounces, due to reduced mill availability following an unplanned power outage. Gold mine production in South Africa fell by 10 per cent year-on-year in the September quarter, as the closure of the Evander, Tau Tona and Cooke gold mines, and a reduction in the South Deep gold mine output occurred.

Gold recycling decreased by 3.8 per cent year-on-year in the September quarter 2018, reaching 306 tonnes. Weaker gold prices during the quarter (down 5.1 per cent year-on-year) discouraged consumers (particularly Indian consumers) from selling back their jewellery to the markets.

World gold supply is estimated to increase by 1.4 per cent in 2018, to 4,517 tonnes, as rising mine production in the United States and Canada more than offsets declines from China and South Africa.

**World gold supply forecast to grow between 2018 and 2020**

World gold supply is forecast to increase at an average annual growth rate of 1.8 per cent in 2019 and 2020, reaching 4,680 tonnes in 2020. Supply growth in 2019 and 2020 is expected to be mainly driven by stronger mine production (Figure 10.3).

Global mine production is forecast to increase at an average annual rate of 2.0 per cent in 2019 and 2020, reaching 3,473 tonnes by 2020. High local currency gold prices and solid project pipelines in Australia, Canada, Ghana and Ecuador are expected to drive higher global gold output. In Canada, the 9.7 tonnes per year Meliadine gold mine project, the 6.2 tonnes per annum Back River gold project, and the 5.9 tonnes per year Eagle gold project are expected to commence production in 2019.

In Ecuador, the 11 tonnes per annum Fruta del Norte gold project is expected to be commissioned in 2019.

**Figure 10.3: World primary and secondary gold production**

![Figure 10.3: World primary and secondary gold production](source)


However, lower output is expected from South Africa, Tanzania, China and Indonesia. The shift of Indonesia’s Grasberg gold mine’s operations from open mine to underground is likely to reduce its annual output by 58 tonnes in 2019 and onwards. China’s gold output is forecast to fall until stabilising in 2020, as the country’s gold miners continue to adapt to new environmental legislation.
10.5 Australia

Exploration expenditure continues to increase in trend terms

Australia’s gold exploration expenditure rose by 24 per cent year-on-year in the September quarter 2018, to $240 million, likely driven by an expected rise in gold prices in 2019 and beyond. Western Australia remained the centre of gold exploration activity in Australia, accounting for 73 per cent (or $174 million) of total gold exploration expenditure (Figure 10.4).

Figure 10.4: Australia’s gold exploration

![Graph showing Australia's gold exploration expenditure from Mar-08 to Mar-18]


Australian gold mine production increased in the September quarter 2018

Australia’s gold mine production increased by 9.8 per cent year-on-year in the September quarter 2018, to nearly 80 tonnes, driven by increased production in existing gold mines, and the commissioning of new mines.

Newmont’s Tanami gold mine production over the quarter rose by 8.0 per cent to 3.8 tonnes of gold, driven by higher ore grades. Newcrest’s Cadia gold mine production increased by 37 per cent in the September quarter, to 6.6 tonnes of gold, after seismic activity had forced slower production in the June quarter. Kirkland Lake Gold’s Fosterville mine in Victoria recorded a 17 per cent rise in gold mine production to 2.8 tonnes of gold in the September quarter, propelled by improved gold grades. Mincon Resources’ Widgiemooltha gold project in Western Australia poured its first gold in July 2018, and produced 0.2 tonnes of gold in the September quarter.

A few large gold mines encountered operational problems over the September quarter. Newmont’s Boddington gold mine production decreased by 5 per cent year-on-year, to 5.8 tonnes of gold, due to lower ore grades and a lower draw down of in-circuit inventory. Newmont and Barrick’s Super Pit joint-venture gold mine production fell by 21 per cent year-on-year to 4.7 tonnes of gold, due to a failure in the east wall of the pit, leading to the processing of lower grade stockpiles. Newcrest’s Telfer gold production fell by 12 per cent to 3.3 tonnes of gold, due to an unplanned outage at the operation’s process water system and a rake failure in the tailings thickener.

Australian gold mine output forecast to grow moderately in the short term

Australia’s gold mine production is forecast to grow by 3.6 per cent in 2018–19 and 1.9 per cent in 2019–20, reaching 320 tonnes. Growth is expected to be driven by mine expansions and new mines. Gold Roads’ Gruyere gold mine (annual production of 8.4 tonnes) is expected to come online in the first half of 2019. Capricorn Metals’ Karlawinda gold mine project (annual production of 4.0 tonnes) is expected to be commissioned in 2020. Newcrest’s Cadia Valley expansion project, due to be completed in 2019, is expected to add 3.3 tonnes of gold a year. Northern Star’s Jundee expansion project — adding around 1.1 tonnes of gold per annum — is expected to be completed by 2020.

In October 2018, Evolution Mining received approval from the New South Wales Government to increase its Cowal gold mine’s processing rate by 31 per cent, from 7.5 to 9.8 million tonnes per year (increasing Cowal’s annual gold production to over 9.3 tonnes per annum).
Evolution Mining is expected to commence its Cowal gold mine expansion in March 2019. The expansion project is due to be completed in March 2020, adding about 0.3 tonne of gold to the company’s annual production.

In November 2018, the UK’s Greatland Gold discovered a combined 275 metres of high grade gold mineralisation deep beneath the Paterson Range in Western Australia — east of Newcrest’s Telfer gold mine.

A substantial new ore body was discovered in the second half of 2018, with Havilah Resources announcing that its reserves at Kalkaroo are expected to exceed 450,000 tonnes of copper. The site is also estimated to hold more than 1.4 million ounces of co-located gold. This would make the company’s Kalkaroo project the largest undeveloped copper-gold deposit currently known in Australia, and the second largest in the world after the Productora deposit in Chile.

**Figure 10.5: 2018 Gold mine AISC costs by company for Australia**

![Figure 10.5: 2018 Gold mine AISC costs by company for Australia](image)

Note: Blue horizontal line indicates world average all-in sustaining costs (AISC) by company.
Source: AME (2018)

Australia’s gold exports increased by 22 per cent year-on-year in the September quarter 2018, to over $4.9 billion, propelled by higher mine production (up 7.0 per cent year-on-year) and export volumes (up 16 per cent year-on-year). Perth Mint’s refinery production rose by 7.0 per cent year-on-year nearly 86 tonnes. Hong Kong remained the largest export market for Australian gold, accounting for 37 per cent of Australia’s total gold exports.
Exports forecast to increase in 2018–19 and 2019–20

Australia’s gold export earnings are forecast to increase by 0.4 and 3.9 per cent in 2018–19 and 2019–20, to $19 billion and $20 billion, respectively. The growth is driven by increased export volumes and prices. Australia’s gold producers are expected to experience good margins over the outlook period in an environment of high local-currency returns (Figure 10.6).

The outlook for Australia’s gold export earnings in 2018–19 has been revised up by $526 million (2.9 per cent) from the September 2018 Resources and Energy Quarterly. The upward revision reflects a weaker outlook for the AUD-USD exchange rate and higher export volumes.

The forecast for Australia’s gold export earnings in 2019–20 has been broadly unchanged from the September 2018 Resources and Energy Quarterly.

Figure 10.6: Australia’s gold exports

Table 10.1: Gold outlook

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2017</th>
<th>2018(^a)</th>
<th>2019(^f)</th>
<th>2020(^f)</th>
<th>2018(^s)</th>
<th>2019(^f)</th>
<th>2020(^f)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total demand</strong></td>
<td>tonnes</td>
<td>4,152</td>
<td>4,117</td>
<td>4,284</td>
<td>4,360</td>
<td>–0.8</td>
<td>4.0</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>Fabrication consumption(^b)</strong></td>
<td>tonnes</td>
<td>2,527</td>
<td>2,585</td>
<td>2,703</td>
<td>2,801</td>
<td>2.3</td>
<td>4.5</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Mine production</strong></td>
<td>tonnes</td>
<td>3,312</td>
<td>3,339</td>
<td>3,405</td>
<td>3,473</td>
<td>0.8</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nominal</strong></td>
<td>US$/oz</td>
<td>1,257</td>
<td>1,270</td>
<td>1,275</td>
<td>1,310</td>
<td>1.0</td>
<td>0.4</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Real(^d)</strong></td>
<td>US$/oz</td>
<td>1,288</td>
<td>1,270</td>
<td>1,247</td>
<td>1,267</td>
<td>–1.4</td>
<td>–1.8</td>
<td>1.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Australia</th>
<th>Unit</th>
<th>2016–17</th>
<th>2017–18(^s)</th>
<th>2018–19(^f)</th>
<th>2019–20(^f)</th>
<th>2017–18(^s)</th>
<th>2018–19(^f)</th>
<th>2019–20(^f)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mine production</strong></td>
<td>tonnes</td>
<td>292</td>
<td>303</td>
<td>314</td>
<td>320</td>
<td>3.8</td>
<td>3.6</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Export volume</strong></td>
<td>tonnes</td>
<td>334</td>
<td>348</td>
<td>345</td>
<td>359</td>
<td>4.3</td>
<td>–1.0</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>Nominal value</strong></td>
<td>A$m</td>
<td>18,013</td>
<td>18,888</td>
<td>18,959</td>
<td>19,704</td>
<td>4.9</td>
<td>0.4</td>
<td>3.9</td>
</tr>
<tr>
<td><strong>Real value(^e)</strong></td>
<td>A$m</td>
<td>18,783</td>
<td>19,323</td>
<td>18,959</td>
<td>19,238</td>
<td>2.9</td>
<td>–1.9</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Price</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nominal</strong></td>
<td>A$/oz</td>
<td>1,720</td>
<td>1,665</td>
<td>1,709</td>
<td>1,705</td>
<td>–3.2</td>
<td>2.6</td>
<td>–0.2</td>
</tr>
<tr>
<td><strong>Real(^e)</strong></td>
<td>A$/oz</td>
<td>1,793</td>
<td>1,703</td>
<td>1,709</td>
<td>1,664</td>
<td>–5.0</td>
<td>0.3</td>
<td>–2.6</td>
</tr>
</tbody>
</table>

Notes: \(b\) includes jewellery consumption and industrial applications; \(c\) London Bullion Market Association PM price; \(d\) In 2018 calendar year US dollars; \(e\) In 2017–18 financial year Australian dollars; \(f\) Forecast; \(s\) Estimate.