Gold
Resources and Energy Quarterly September 2018

Australia is the 2nd largest producer of gold in the world

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)

Global uses of gold

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

Major Australian gold deposits (t)
- <20
- 21–70
- 71–185
- 186–473
- 474–1,027
- >1,028

Deposit
Operating mine
10.1 Market summary

- A rising US dollar has placed downward pressure on gold prices during the past five months.
- However, gold prices are likely to be supported in 2019 and 2020 by higher inflation and interest rates in the US.
- Australia’s export earnings for gold are forecast to fall slightly in 2018–19, but recover in 2019–20 to reach $20 billion. This is expected to be driven by higher gold prices and a lift in export volumes to 361 tonnes by the end of the outlook period.

10.2 Prices

Gold prices were under pressure in the first eight months of 2018

The London Bullion Market Association (LBMA) gold price reached a 20 month low on 17 August, falling to $US1,179 an ounce. This was driven by monetary policy tightening in the United States and the strengthening of the US dollar. The US Federal Funds Rate has been raised steadily, increasing the target range from 0.50-0.75 per cent in January 2017, to 1.75-2.0 per cent by August 2018.

The US Trade Weighted Index (TWI) — a measure of the foreign exchange value of the US dollar against a basket of major foreign currencies — remains at very high levels (around 126), as the strength of the US economy becomes apparent. Weak gold demand from India has also placed downward pressure on gold prices. And the meeting between the US and North Korea in Singapore in June 2018 has led to some easing in geopolitical risks, which has led to slightly lower demand for safe-haven assets. Gold prices are expected to remain under pressure for the rest of 2018 US interest rates and the US dollar continue to rise, reducing the relative attractiveness of gold (Figure 10.1).

Reflecting these factors, the forecast average price for 2018 has been revised downward, from US$1,352 an ounce forecast in the June quarter Resources and Energy Quarterly (REQ) to average US$1,304 an ounce.

**Figure 10.1: Gold price and US dollar**

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. Gold prices are expected to recover modestly in 2019 and beyond, as the US interest rate cycle tops out and US inflation pushes above the US Federal Reserve’s 2 per cent target.

The US economy has been stoked by tax cuts and a flood of repatriated capital in 2018. With US monetary conditions tightening steadily 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, after outflows from the gold market over the past few quarters.

Gold price is forecast to increase by 1.8 and 0.4 per cent in 2019 and 2020, to average US$1,328 and US$1,333 an ounce, respectively.
10.3 Consumption

World gold consumption declined in the first half of 2018

World gold consumption fell to 1,960 tonnes in the first half of 2018 — a fall of 6.1 per cent year-on-year. Higher US interest rates and a stronger US dollar led global investors to seek higher returns elsewhere. Demand for gold bars and coins declined by 7.6 per cent year-on-year in the first half of 2018, to 509 tonnes. This was driven by lower purchases in China, Germany and the US, where attractive equity valuations and strong economic growth dampened the demand for gold. Over this period, inflows into gold-backed exchange traded funds (ETFs) dropped by 62 per cent year-on-year to 61 tonnes. Demand for jewellery fell slightly (by 0.5 per cent year-on-year), largely due to weaker demand from India. Partially offsetting this, the use of gold in electronic devices and equipment rose by 3.9 per cent year-on-year to 132 tonnes (Figure 10.2).

World gold consumption forecast to increase in 2019 and 2020

World gold demand is forecast to increase by 3.3 per cent in 2019 and 1.9 per cent (to 4,369 tonnes) in 2020. Growth is expected to be driven by increased consumption from India and China, with the US-China trade war stimulating Chinese demand. Economic growth in India and China is expected to remain relatively strong, leading to higher income and wages, which should also support gold demand. Fears of further Chinese currency weakness is likely to be a strong catalyst for increased gold consumption in China, as gold is often used as a currency hedge. China’s recent fiscal stimulus policy (which includes personal income tax cuts), may also boost gold demand in 2018. In India, the impact of the Kerala floods appear to be temporary, and expectations remain positive as consumers prepare for the traditional buying (wedding) season from October to December.

Escalating trade tensions, rising inflation rates in some advanced economies, and increasing economic uncertainty in Turkey, Argentina and the United Kingdom are all likely to have some effects on consumer and business confidence. As a result, strong demand for safe-haven assets (including gold) is expected over the forecast period.

10.4 Production

World gold supply increased in the first-half of 2018

World gold supply rose by 5.1 per cent year-on-year in the first-half of 2018 to 2,227 tonnes, driven by rising mine production and increased recycling. Over this period, supply from gold mine production grew by 3.7 per cent year-on-year to 1,630 tonnes, as several projects ramped up. Output is rising from the Tanami gold mine in Australia, the Natalka mine in Russia, the Grasberg mine in Indonesia, and the Brucejack, Rainy River and Moose River mines in Canada.

However, production in the first half of 2018 in China — the world’s largest gold producer — continued to decline, falling by 5 per cent year-on-year. Environmental reforms introduced in 2017 have impacted the country’s gold production, and in June 2018, the Chinese Ministry of Ecology and Environment launched the largest ever number of compliance inspections. Gold recycling grew by 0.8 per cent year-on-year in the first-half of 2018, reaching 575 tonnes. Turkey and Iran were the main drivers of the growth,
as the depreciation of both nations’ currencies raised local currency gold prices, encouraging gold consumers to take profits on their holdings. Over this period, recycling in India grew by 4.5 per cent to 46 tonnes, as Indian farmers sold gold to fund their farming equipment and seed purchases.

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

World gold supply is forecast to increase at an average annual growth rate of 2.1 per cent in 2018 and 2019, reaching 4,631 tonnes in 2019 before declining to 4,530 tonnes in 2020. Supply growth in 2018 and 2019 is expected to be mainly driven by stronger mine and scrap output (Figure 10.3).

Global mine production is forecast to increase by 2.1 per cent (to 3,370 tonnes) in 2019 and by 1.2 per cent (to 3,409 tonnes) in 2020. An expected rise in gold prices and solid project pipelines in Australia and Russia are likely to drive higher global gold output, with miners focusing on expansion and joint-venture partnerships after years of cost cutting.

In Russia, output remains dominated by locally owned miners, as strict regulation of foreign investment limits overseas entrants to the sector. However, the increasing trend towards partnerships is likely to boost project development. Highland Gold Mining (a UK-based gold producer) has spent US$229 million developing its flagship Kekura gold mine project (located near the Arctic Circle, in remote far eastern Russia), which is expected to begin production in 2020. In July 2018, India's Sun Gold and China National Gold launched a joint Kluchevskoye gold mining project in Russia's Siberia region.

Russian gold and silver producer Polymetal commissioned its Kyzyl mine in Kazakhstan in June 2018. The mine is expected to ramp-up production to 8.8 tonnes of gold in 2019 and 10 tonnes of gold in 2020.

China’s gold mine production is expected to fall over the forecast period, due to declining ore grades and the impact of tightened environmental standards.
10.5 Australia

Exploration expenditure continues to increase in trend terms

Australia’s gold exploration expenditure rose by 16 per cent year-on-year in the June quarter 2018, to $220 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 74 per cent (or 162 million) of total gold exploration expenditure (Figure 10.4).

Figure 10.4: Australia’s gold exploration

![Graph showing gold exploration expenditure in Australia, WA, and Rest of Australia from June 2008 to June 2018.](image)


Australian gold mine production increased in 2017–18

Australia’s gold mine production increased by 3.5 per cent in 2017–18, to 303 tonnes, propelled by increased production in several large gold mines in the Northern Territory and Western Australia. The joint-venture AngloGold Ashanti and Independence Group’s Tropicana production increased by 8.2 per cent, to nearly 15 tonnes, driven by an improved grade streaming process. Newmont’s Tanami production rose by 21 per cent, to 15 tonnes, driven by higher throughput and ore grade milled. However, production at Newcrest’s Cadia mine in New South Wales decreased by 3.2 per cent, to 19 tonnes, as one of the mine’s two tailings dams suffered a wall slide. Newmont’s Boddington gold mine production fell by 12 per cent, to 23 tonnes, due to lower ore grades and recoveries.

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

Australia’s gold mine production is forecast to grow by 1.1 per cent in 2018–19, to 306 tonnes, and then by a further 4.5 per cent to 320 tonnes in 2019–20. The growth is driven by mine expansions and by the commencement of production at several new gold mine projects. Gold Roads’ Gruyere gold mine (annual production of 8.4 tonnes) is expected to come online in early 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 — worth around 1.1 tonnes of gold per annum — is also expected to finish by 2020.

In April 2018, OZ Minerals received approval from the South Australian Government to start the second phase of development of its $916 million Carrapateena copper-gold project — one of the largest mines being developed in Australia — with an annual production of 2.0 tonnes of gold. Carrapateena is currently in phase 1 of construction, with an estimated commissioning date in the December quarter 2019.

Junior gold producers are expected to assist production growth, with several projects now underway. Kin Mining received approval from the Western Australia Government to begin construction at its Leonora gold mine project (annual production of 2.2 tonnes), which is expected to commence production in the first-half of 2019.

Figure 10.5 shows gold production cash costs for Australia, Russia, China, the US, Papua New Guinea, Chile and South Africa for 2017. Australia’s gold cash costs (at US$630 an ounce of gold) were higher than Russia, China and the US. However, Australia’s mining costs were about 25 per cent below South Africa’s, reflecting lower processing costs (by 45 per cent), and lower administration and support costs (by 13 per cent). Australia’s gold industry thus remains competitive and profitable, despite recent falls in the gold prices.
Australian gold exports increased in 2017–18

Australia’s gold exports increased by 4.8 per cent in 2017–18, to nearly $19 billion, propelled by higher production and export volumes in the first-half of 2017–18. Over this period, export volumes rose by 4.2 per cent to 348 tonnes. The jump in exports was driven by increased local mine production and higher imports of gold ore from Papua New Guinea (PNG) for refining — the Ok Tedi mine in PNG is ramping up production, which is shipped to the Perth Mint for further processing and re-export (Figure 10.6).

Exports forecast to fall slightly in 2018–19, but resume growing in 2019–20

Australia’s gold export earnings are forecast to decrease by 2.3 per cent in 2018–19 to just above $18 billion, as export volumes and prices fall. However, gold exports are forecast to resume growing in 2019–20, lifting by 7.5 per cent to $20 billion, as a result of increased export volumes and prices. Australia’s gold producers are expected to experience strong conditions over the outlook period, in an environment of high local currency returns and rising global demand.

China (including Hong Kong) is the main export market for Australian gold, accounting for 58 per cent (or 202 tonnes) of Australia’s total gold export volumes of 348 tonnes in 2017–18. The Chinese market is expected to provide further upside to Australian gold producers and exporters over the outlook period. Demand for bar and coin from China rose by 8 per cent in 2017 to 314 tonnes, and is forecast to grow strongly in the next two years, driven by rising fears of local currency depreciation and trade tensions with the US. In addition, gold used in technology is expected to grow further, driven by wireless applications. The traditional technology hubs in mainland China and Hong Kong are likely to consume more gold from Australia in meeting increased demand for printed circuit boards — tools that provide mechanical and electronic connections.
### Table 10.1: Gold outlook

<table>
<thead>
<tr>
<th>World</th>
<th>Unit</th>
<th>2017</th>
<th>2018&lt;sup&gt;f&lt;/sup&gt;</th>
<th>2019&lt;sup&gt;f&lt;/sup&gt;</th>
<th>2020&lt;sup&gt;f&lt;/sup&gt;</th>
<th>Annual percentage change</th>
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<tbody>
<tr>
<td>Total demand</td>
<td>tonnes</td>
<td>4,138</td>
<td>4,148</td>
<td>4,286</td>
<td>4,369</td>
<td>0.2</td>
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<tr>
<td>Fabrication consumption&lt;sup&gt;b&lt;/sup&gt;</td>
<td>tonnes</td>
<td>2,515</td>
<td>2,599</td>
<td>2,671</td>
<td>2,725</td>
<td>3.3</td>
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<tr>
<td>Mine production</td>
<td>tonnes</td>
<td>3,305</td>
<td>3,370</td>
<td>3,409</td>
<td>3,397</td>
<td>2.0</td>
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<table>
<thead>
<tr>
<th>Price&lt;sup&gt;c&lt;/sup&gt;</th>
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<tbody>
<tr>
<td>Nominal</td>
<td>US$/oz</td>
<td>1,257</td>
<td>1,304</td>
<td>1,328</td>
<td>1,333</td>
<td>3.7</td>
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<tr>
<td>Real&lt;sup&gt;d&lt;/sup&gt;</td>
<td>US$/oz</td>
<td>1,288</td>
<td>1,304</td>
<td>1,298</td>
<td>1,289</td>
<td>1.2</td>
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<tbody>
<tr>
<td>Mine production</td>
<td>tonnes</td>
<td>293</td>
<td>303</td>
<td>306</td>
<td>320</td>
<td>3.5</td>
<td>1.1</td>
<td>4.5</td>
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<tr>
<td>Export volume</td>
<td>tonnes</td>
<td>334</td>
<td>348</td>
<td>336</td>
<td>361</td>
<td>4.3</td>
<td>–3.6</td>
<td>7.7</td>
</tr>
<tr>
<td>Nominal value</td>
<td>A$m</td>
<td>18,013</td>
<td>18,875</td>
<td>18,433</td>
<td>19,810</td>
<td>4.8</td>
<td>–2.3</td>
<td>7.5</td>
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<tr>
<td>Real value&lt;sup&gt;e&lt;/sup&gt;</td>
<td>A$m</td>
<td>18,783</td>
<td>19,309</td>
<td>18,433</td>
<td>19,341</td>
<td>2.8</td>
<td>–4.5</td>
<td>4.9</td>
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<tbody>
<tr>
<td>Nominal</td>
<td>A$/oz</td>
<td>1,720</td>
<td>1,665</td>
<td>1,709</td>
<td>1,705</td>
<td>–3.2</td>
<td>2.6</td>
<td>–0.2</td>
</tr>
<tr>
<td>Real&lt;sup&gt;e&lt;/sup&gt;</td>
<td>A$/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 2018–19 financial year Australian dollars; f Forecast; s Estimate.