

# Overview

## Australia's mining sector



Accounted for 28% of Australia's GDP growth in 2019



58% of Australia's good and services exports in 2018–19\*



8.7% of GDP in 2019

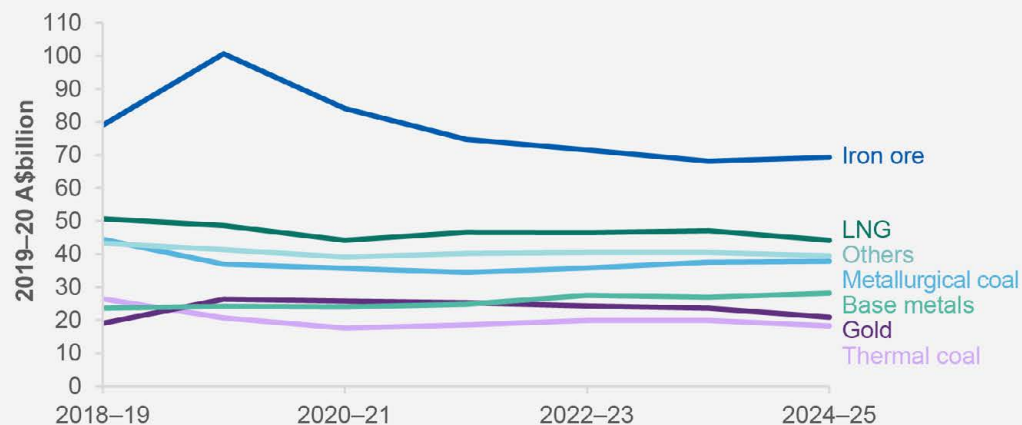


Over 250,000 people employed (as at November 2019)

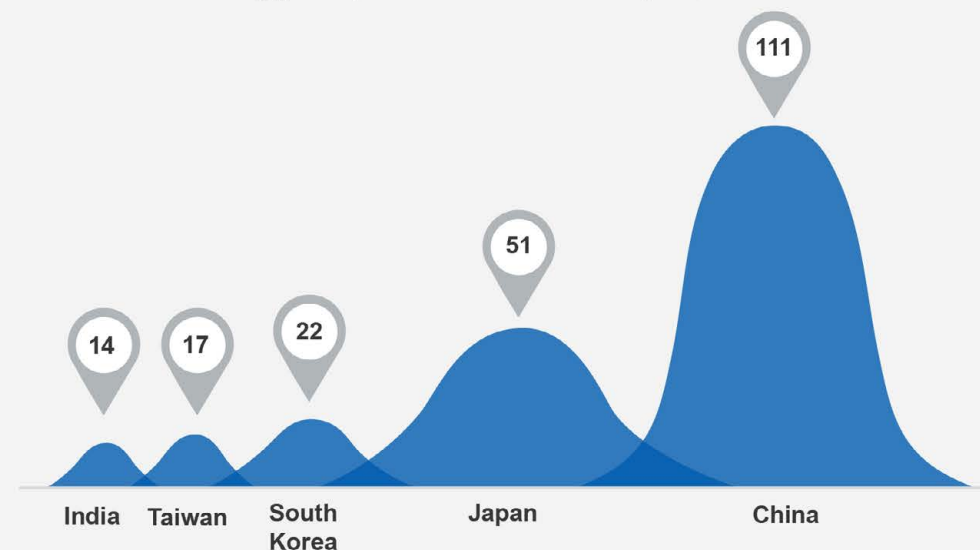


73% of Australia's goods exports in 2018–19\*

## Australia's resources and energy exports



## Major markets for Australia's resources and energy exports in 2018–19, A\$billion



\*Export figures are for resources and energy (broader than mining sector)

## 1.1 Summary

- In the first quarter of 2020, the COVID-19 outbreak has moved the prices of some commodities — notably, oil and base metals (down) and gold (up). Assuming China’s economy is largely back to normal by the second half of 2020, these moves are likely to be fully unwound by then. Thereafter, supply issues will largely drive price moves.
- Iron ore prices have steadied at high levels, as supply problems offset demand worries. Coal prices have steadied after the sharp declines of 2019. Base and precious metal prices have wavered (in opposite directions), on concerns about the COVID-19 outbreak.
- Offsetting the impact of weaker prices, both higher export volumes and a lower-than-expected Australian dollar are likely to see Australia’s resource and energy exports set a record \$299 billion in 2019–20 (Figure 1.1). A stronger Australian dollar and price falls are likely to reduce export earnings over the outlook period to 2024–25.

## 1.2 Export values

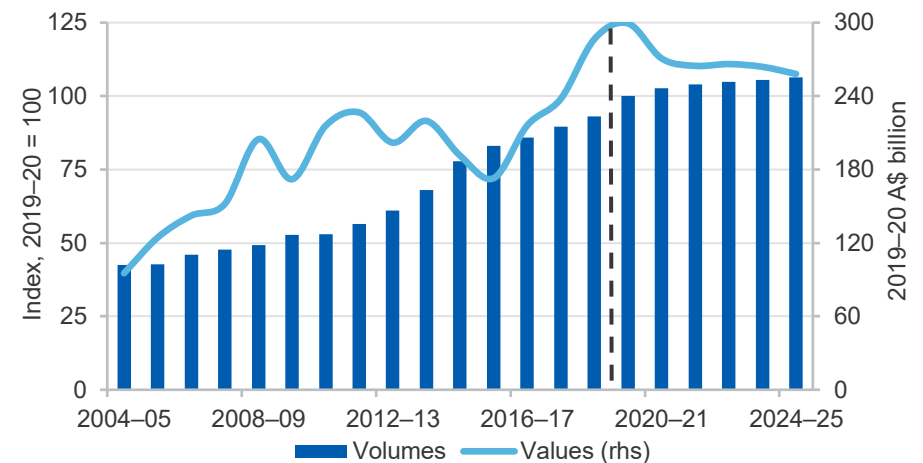
Australia’s export values forecast to reach almost \$300 billion in 2019–20

The Office of the Chief Economist’s (OCE) Resources and Energy Export Values Index rose by an estimated 7.8 per cent in the year to the March quarter 2020. A 4.2 per cent fall in prices was more than offset by a 13.1 per cent rise in volumes. In 2019–20, resource and energy exports are forecast to set a record of \$299 billion, as a 0.5 per cent fall in prices is more than offset by a 7.5 per cent rise in volumes. Lower prices and a rising Australian dollar are expected to lower export earnings (in real terms) to \$265 billion in 2021–22, after which earnings flatten (Figure 1.2).

**Ongoing weakness in the Australian dollar is helping to support earnings**

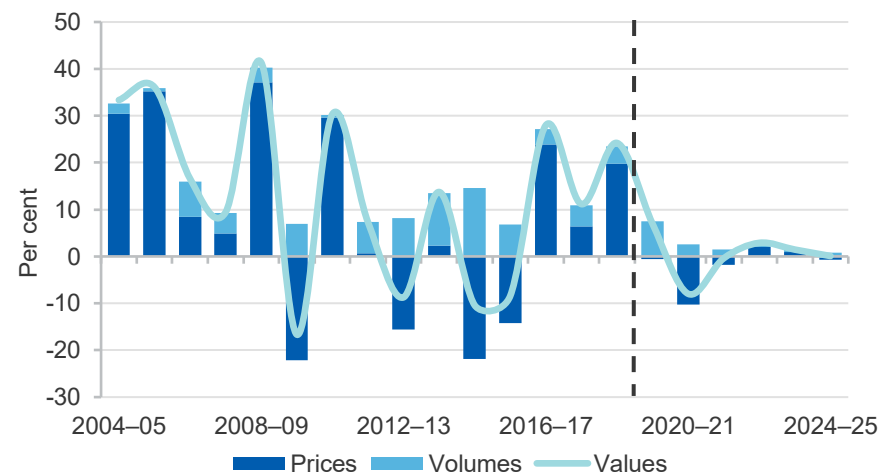
In Australian dollar terms, the OCE’s Resources and Energy Commodity Price Index fell by 0.7 per cent (preliminary estimate) in the March quarter, and was 3.3 per cent lower than a year ago. In US dollar terms, the index rose by 0.2 per cent in the quarter, but was 7.7 per cent lower than a year before. The index of prices for resource commodity exports (in Australian dollars) rose by 10.7 per cent in the year to the March quarter 2020, while an index of prices of energy commodities fell by 17.5 per cent (Figure 1.3).

Figure 1.1: Australia’s resource and energy export values/volumes



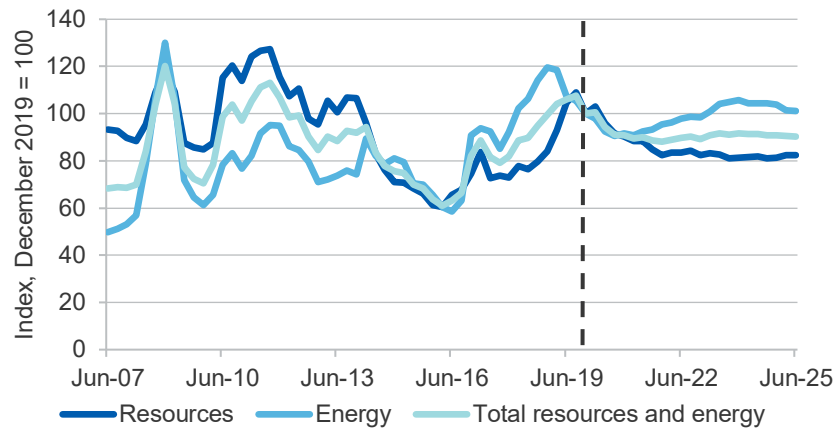
Source: ABS (2020) International Trade in Goods and Services, 5368.0; Department of Industry, Science, Energy and Resources (2020)

Figure 1.2: Annual growth in Australia’s resources and energy export values, contributions from prices and volumes



Source: ABS (2020) International Trade in Goods and Services, 5368.0; Department of Industry, Science, Energy and Resources (2020)

**Figure 1.3: Resource and energy export prices, AUD terms**



Notes: The export price index is based on Australian dollar export unit values (EUVs, export values divided by volumes); the export price index is a Fisher price Index, which weights each commodity's EUV by its share of total export values.

Source: ABS (2020) International Trade in Goods and Services, 5368.0; Department of Industry, Science, Energy and Resources (2020)

### 1.3 Macroeconomic, policy, trade and other factors

Just as the world economy looked to be responding to an easing in US-China trade tensions — and to prior measures by several major central banks aimed at stemming the impact of those trade tensions — activity has been affected by the outbreak of COVID-19. Originating in China, at the time of writing the viral outbreak has spread globally and has not been totally contained. The Chinese government has taken measures to offset the economic impact of the outbreak.

The impact of the COVID-19 outbreak on the Chinese economy stems largely from its timing — during Lunar New Year (LNY) holidays, when hundreds of millions of Chinese workers travel across the country to visit relatives. Movement restrictions imposed by the Chinese government during the LNY holidays inhibited the return to work of over two thirds of internal migrant workers. The number of new cases has now peaked in China, and it seems likely that, as factories restart, Chinese activity will quickly rebound. It is assumed that the overwhelming majority of work places in China will be fully operational by the end of June 2020. The

major central banks are likely to adopt a stimulatory monetary stance in 2020, aided by disinflationary impact of the COVID-19 outbreak.

The COVID-19 outbreak is a timely illustration of the huge influence that China has on world resource and energy commodity markets. China consumes a large portion of world industrial metal output, and is also a major miner and refiner of some metal and energy commodities. So disruptions to resource and energy commodity supply and demand have been significant, often cancelling each other out. Multi-nationals' efforts to reduce the reliance on China in their supply chain(s) as a result of the outbreak, may impact China's economy adversely over the outlook period.

Assuming the impact of the COVID-19 outbreak has passed by the second half of 2020, it is expected that annual growth in the Chinese economy will drift lower over the outlook period, but remain above 5 per cent per annum. Coming on a higher base than a decade ago — when Chinese growth was routinely double digit — this still implies enormous commodity demand in absolute terms. Strong growth in emerging Asia is likely to partially compensate for the impact of slower Chinese growth.

The US 2020 (Presidential, House of Representatives and part Senate) elections on 3 November 2020 may have some impact on a number of resource and energy commodity markets from 2021. The US President has committed to formally leaving the Paris Agreement on 4 November 2020, the day after the US elections. Wins by the Democratic Party for the Presidency, and majorities in both houses of US Congress, could see policy moves affecting carbon emissions, fracking and other environmental regulations governing energy commodity usage and production.

A rise in the number of nations committing to phase out the sale of internal combustion engine vehicles and becoming carbon net neutral by 2050 could start to impact (adversely) on commodities such as oil and thermal coal, but have positive implications for metals used in renewable energy technology and electric vehicles, such as copper, nickel and lithium.

Continued trade tensions pose a significant risk to world growth and resource and energy commodity trade over the outlook period.

## 1.4 Prices

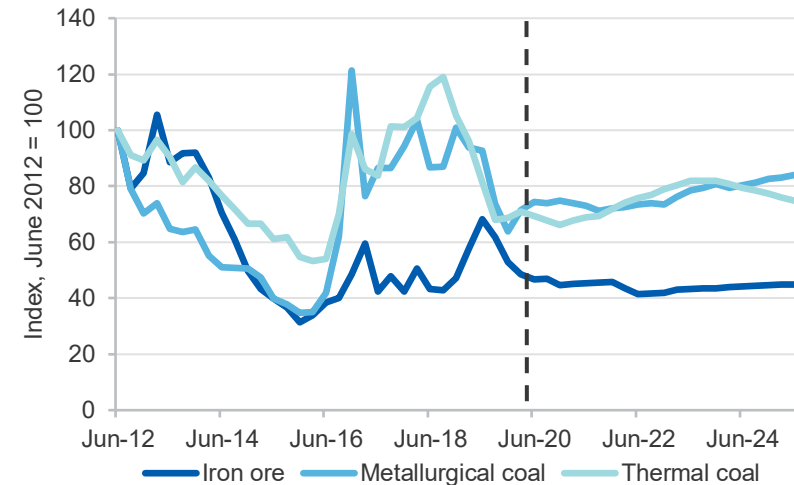
After reaching US\$120 in July 2019, the iron ore price has consolidated in US\$81-97 a tonne range since the December 2019 *Resources and Energy Quarterly*. Supply disruptions in Australia and Brazil have offset the impact of reduced Chinese demand arising from the COVID-19 outbreak. The price is forecast to fall during 2020 (Figure 1.4), as growth in Chinese steel output eases and (Brazilian) iron ore supply recovers.

After declines through 2019, the prices of metallurgical and thermal coal steadied in the March quarter 2020. Metallurgical coal prices benefited from supply problems in some of the major producing nations. A rise in prices is likely over the latter half of the outlook period, as supply is slightly outpaced by demand. Rising supply and softer demand has put pressure on the thermal coal price. Prices are likely to rise modestly in the first few years of the outlook period, as shortages build (Figure 1.4).

Oil prices have declined sharply over the past quarter, as the COVID-19 outbreak and associated movement restrictions in China spark demand concerns. The price should recover in the second half of 2020 assuming the impact of the COVID-19 outbreak recedes. Over the balance of the outlook period, oil prices should experience minor gains, staying below US\$80 a barrel. The value of Australia's growing oil, condensate and LNG exports will all move with the oil price as 75 per cent of our LNG is sold under contract at prices linked to Japanese customs cleared oil prices.

The gold price pushed to a 7-year high above the US\$1,600 an ounce mark in mid-February, as worries about the COVID-19 outbreak sparked a move to safe haven assets. Price strength during 2020 is likely to attract strong scrap supply and deter jewellery demand in price sensitive markets such as India and China. After receiving a boost with the announcement of the US-China Phase One trade deal in December 2019, base metal prices have declined significantly on the back of the COVID-19 outbreak. Copper and zinc have been particularly hard hit. Base metals should recover once the COVID-19 outbreak is largely contained, with nickel and copper likely to rise on low supply and strong demand for metals needed in electric vehicle and renewable energy generation (Figure 1.5).

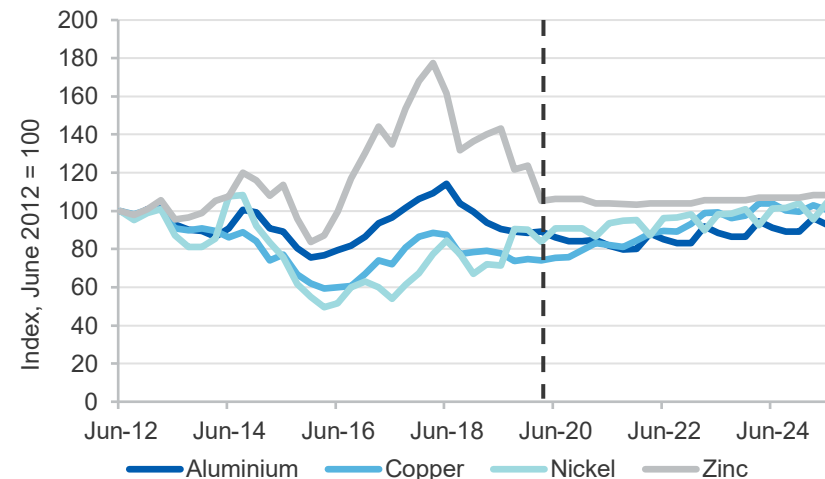
Figure 1.4: Bulk commodity prices



Notes: Prices are in US dollars, and are the international benchmark prices

Source: Bloomberg (2020)

Figure 1.5: Base metal prices



Notes: Prices are in US dollars, and are the international benchmark prices

Source: Bloomberg (2020)

## 1.5 Export volumes

### Export volumes to grow, driven by growing energy exports

The OCE's Resources and Energy Export Volumes Index (preliminary estimate) rose by 0.4 per cent in the March quarter 2020 from the December quarter 2019, and were 13.1 per cent higher than a year before. Resource commodity volumes rose by 13.8 per cent over the year and energy commodity volumes rose by 12.3 per cent. Export volumes are expected to show solid growth (largely across-the-board) in 2019–20, but more tepid growth over the rest of the outlook period output growth slows.

## 1.6 Contribution to growth and investment

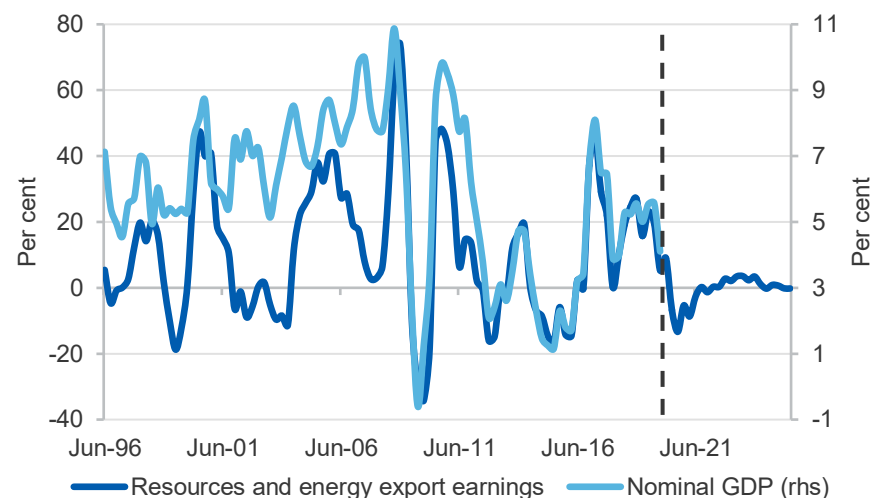
### Mining industry continues to support overall economic growth

Australia's real Gross Domestic Product (GDP) grew by 0.5 per cent in the December quarter 2019, and by 2.2 per cent though the year. The mining industry directly accounted for 28 per cent of the growth in Australia's GDP in the year to the December quarter 2019. Mining value-added rose by 1.8 per cent in the December quarter to be 7.3 per cent higher over the year, driven by growth in coal, and base and precious metal mining.

After being the largest contributor to mining industry value-added growth in the last few years, the contribution of oil and gas extraction was relatively low in the December quarter. In the coming few years, it is likely that this sector will make a much smaller contribution to GDP growth than over the 2010s, as the fruits of the LNG expansion of the 2010's diminish in size.

Since the global financial crisis, swings in Australian resource and energy export earnings have correlated very closely with swings in nominal GDP (Figure 1.6). The rising share of resource and energy commodity export earnings in Australia's nominal GDP — driven by favourable gains in our terms of trade and the fruits of the resource commodity investment boom — appears to have made resource and energy exports a significant swing factor in the economy. With growth in resource and energy export values likely having peaked in the second half of 2019, if the correlation persists, a sharp slowing in resource export earnings growth could have significant implications for nominal GDP growth.

Figure 1.6: Australia's nominal GDP vs resource and energy commodity export earnings, annual per cent change



Source: Department of Industry, Science, Energy and Resources (2020)

### Mining investment is picking up

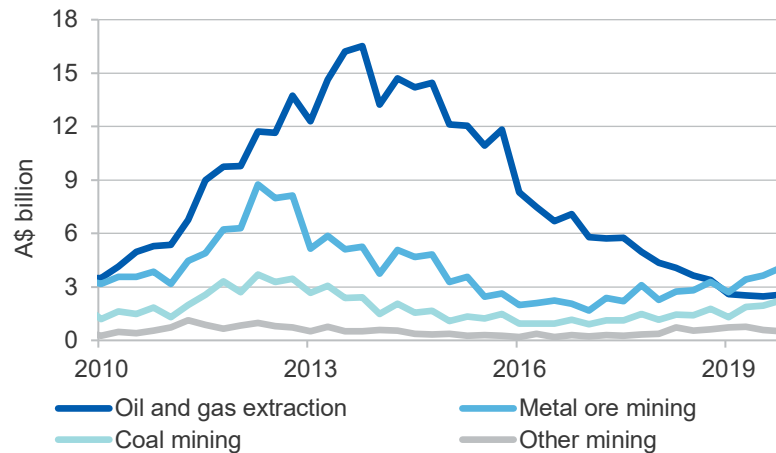
The ABS Private New Capital Expenditure and Expected Expenditure survey shows that investment by Australia's mining industry was \$9.4 billion in the December quarter 2019, up 4 per cent over the year. Total investment for 2018–19 summed to \$33 billion, down by 8.3 per cent from the year before.

Higher commodity prices in the past two years appear to have encouraged some recovery in capital spending over the most recent quarters. This has been led by growth in investment by the metal ore mining sector (Figure 1.7), which may have been encouraged by surging iron ore and steel prices in mid and late 2019.

Expenditure across the mining sector as a whole was driven by higher investment in machinery and equipment, which was up by 34 per cent over the year to the December quarter (Figure 1.8).



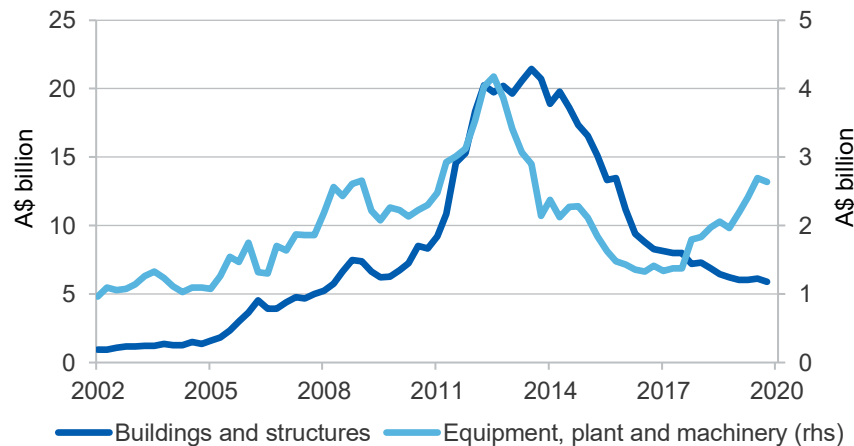
**Figure 1.7: Mining industry capital expenditure by commodity**



Notes: Other mining includes non-metallic mineral mining and quarrying and exploration and other mining support services; chart data is in nominal terms

Source: ABS (2020) Private New Capital Expenditure and Expected Expenditure, 5625.0

**Figure 1.8: Mining industry capital expenditure by type, quarterly**

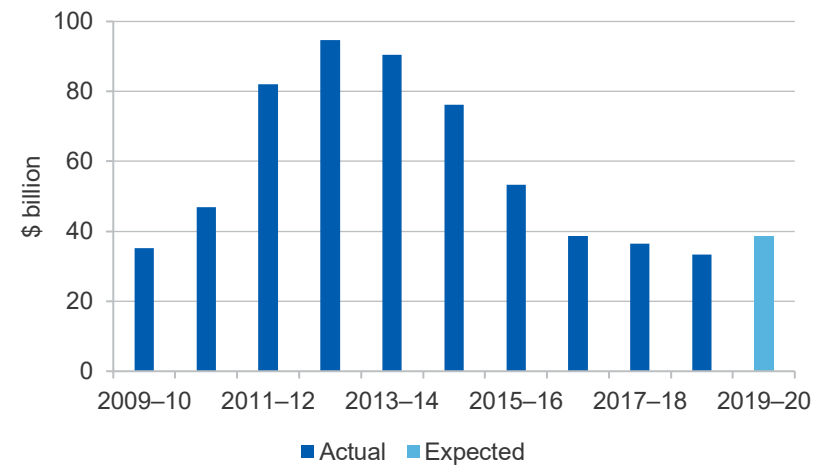


Notes: Chart data is in nominal terms

Source: ABS (2020) Private New Capital Expenditure and Expected Expenditure, 5625.0

Forward expectations (Figure 1.9) suggest that mining companies generally expect investment over 2019–20 to lift by about 15 per cent, to an estimated \$38 billion for the year. Actual spending for the December quarter 2019 — the second quarter of the 2019–20 financial year — was up 4 per cent from the level of December 2018. Growth in prices for gold, iron ore and other minerals are leading to new investment plans, including the re-opening of mines. However, investment in new greenfield projects remains well below the levels of early this decade.

**Figure 1.9: Mining industry capital expenditure, fiscal year**

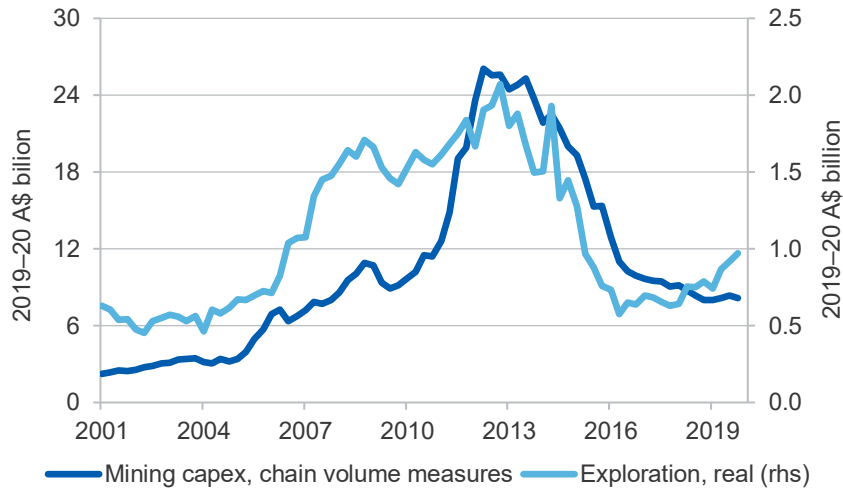


Notes: Chart data is in nominal terms

Source: ABS (2020) Private New Capital Expenditure and Expected Expenditure, 5625.0

Data on exploration spending (adjusted for inflation) suggests that a recovery in mining capital expenditure is underway (Figure 1.10). Exploration spending for all commodities grew by 23 per cent through the year, to reach \$970 million in the December quarter in real terms.

**Figure 1.10: Mining capital expenditure vs exploration, quarterly**



Notes: Chart data is in real terms

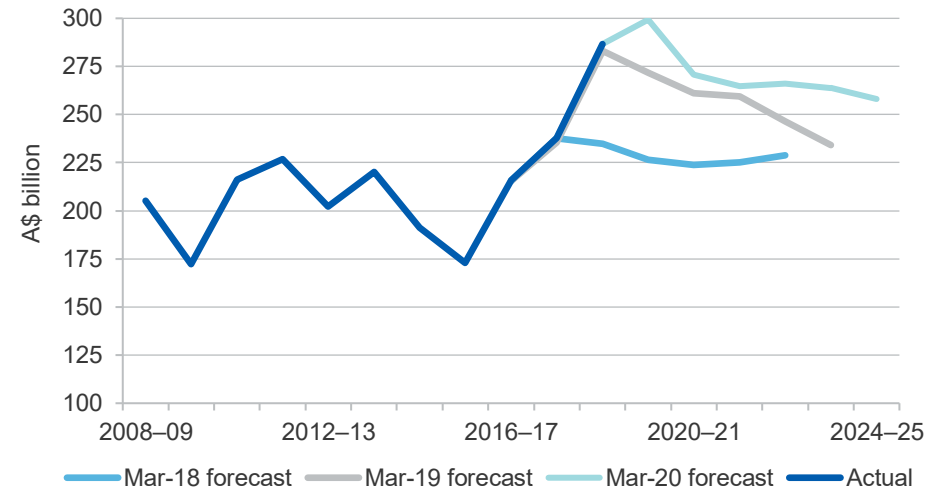
Source: ABS (2020) Private Capital Expenditure Survey, Mining, Chain Volume measure, 5625.0

## 1.7 Revisions to the outlook

At \$299 billion, the new forecast for Australia’s resources and energy export earnings in 2019–20 is \$18 billion higher than forecast in the December 2019 *Resources and Energy Quarterly* (Figure 1.11). The three driving factors have been: much stronger than expected iron ore prices; a COVID-19-induced spike in the gold price; and a further (unexpected) decline in the Australian dollar.

In 2020–21, weaker prices — virtually across the board — and a rising exchange rate, are expected to drive a noticeable fall in export earnings. Export earnings (in real terms) are now forecast to be \$271 billion, and then fall to \$265 billion in 2021–22 before stabilising at around that level for two years. Export earnings are projected to weaken modestly in 2024–25.

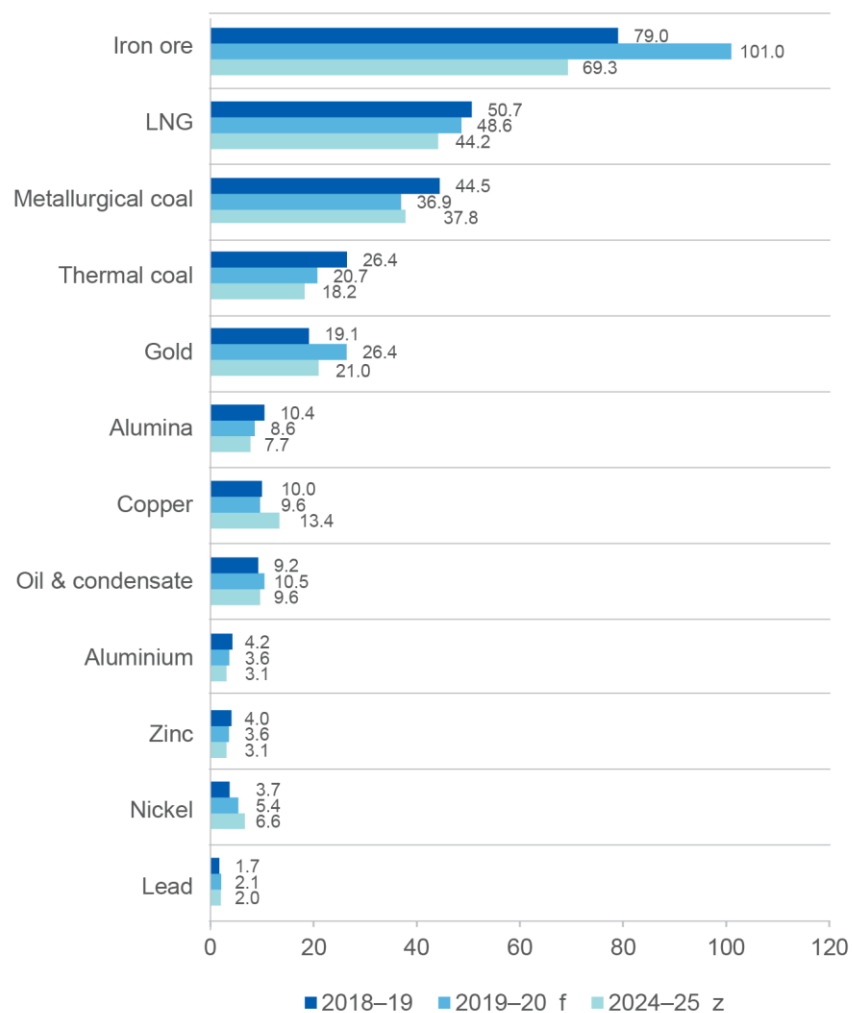
**Figure 1.11: Resource and energy exports, by forecast release**



Notes: Chart data is in real (2019–20) terms

Source: Department of Industry, Science, Energy and Resources (2020)

**Figure 1.12: Australia's major resources and energy commodity exports, 2019–20 dollars**



**CAGR per cent change from 2018–19**

	2019–20			2024–25z		
	volume	EUV	value	volume	EUV	value
Iron ore	▲	▲	▲	▲	▼	▼
	7	19	28	3	-5	-2
LNG	▲	▼	▼	▲	▼	▼
	7	-11	-4	1	-3	-2
Metallurgical coal	▲	▼	▼	▲	▼	▼
	1	-18	-17	2	-4	-3
Thermal coal	▲	▼	▼	▲	▼	▼
	4	-25	-22	1	-7	-6
Gold	▲	▲	▲	▲	▼	▲
	19	16	38	2	-1	2
Alumina	▲	▼	▼	→	▼	▼
	1	-19	-18	0	-5	-5
Copper	▲	▼	▼	▲	▲	▲
	5	-8	-3	3	1	5
Oil & condensate	▲	▼	▲	▲	▼	▲
	23	-8	13	2	-2	1
Aluminium	▼	▼	▼	▼	▼	▼
	-4	-11	-15	-1	-4	-5
Zinc	▲	▼	▼	▲	▼	▼
	16	-24	-11	5	-9	-4
Nickel	▲	▼	▲	▲	▼	▲
	49	-2	46	12	-1	10
Lead	▲	▲	▲	▼	▲	▲
	1	24	25	-1	4	3

Notes: f forecast; z projection.

Source: ABS (2020) International Trade in Goods and Services, 5368.0; Department of Industry, Science, Energy and Resources (2020)



**Table 1.1: Outlook for Australia's resources and energy exports in nominal and real terms**

Exports (A\$m)	2018–19	2019–20 <sup>f</sup>	2020–21 <sup>f</sup>	2021–22 <sup>f</sup>	2022–23 <sup>z</sup>	2023–24 <sup>z</sup>	2024–25 <sup>z</sup>	CAGR <sup>r</sup>
Resources and energy	281,300	299,319	276,050	275,693	283,878	288,522	289,375	0.5
– real <sup>b</sup>	286,586	299,319	270,703	264,662	266,131	263,871	258,086	–1.7
Energy	132,717	121,366	114,175	119,878	125,645	131,272	128,583	–0.5
– real <sup>b</sup>	135,210	121,366	111,963	115,082	117,790	120,056	114,680	–2.7
Resources	148,584	177,953	161,875	155,815	158,233	157,250	160,792	1.3
– real <sup>b</sup>	151,376	177,953	158,740	149,581	148,341	143,815	143,406	–0.9

Notes: **b** In 2019–20 Australian dollars; **f** forecast; **r** Compound annual growth rate; **z** projection.

Source: ABS (2019) International Trade in Goods and Services, 5368.0; Department of Industry, Science, Energy and Resources (2020)

**Table 1.2: Australia's resource and energy exports, selected commodities**

	Unit	Prices			Unit	Export volumes			Export values (real 2019–20 terms), A\$b		
		2018–19	2019–20 <sup>f</sup>	2024–25 <sup>f</sup>		2018–19	2019–20 <sup>f</sup>	2024–25 <sup>f</sup>	2018–19	2019–20 <sup>f</sup>	2024–25 <sup>f</sup>
Iron ore	US\$/t	72	70	60	Mt	818	877	996	79	101	69
Metallurgical coal	US\$/t	206	156	182	Mt	184	186	205	44	37	38
LNG	A\$/GJ	12.6	11.5	11.8	Mt	75	80	80	51	49	44
Thermal coal	US\$/t	95	65	72	Mt	210	218	224	26	21	18
Gold	US\$/oz	1,264	1,471	1,372	t	326	389	377	19	26	21
Alumina	US\$/t	437	328	341	Mt	17,619	17,825	18,005	10	9	8
Copper	US\$/t	6,151	5,861	7,931	Kt	929	973	1,141	10	10	13
Oil <sup>a</sup>	US\$/bbl	69	59	70	Kb/d	254	312	290	9	10	10
Aluminium	US\$/t	1,920	1,746	1,817	Kt	1,452	1,398	1,384	4.2	3.6	3.1
Zinc	US\$/t	2,658	2,204	2,073	Kt	1,325	1,542	1,759	4.0	3.6	3.1
Nickel	US\$/t	12,352	15,238	17,378	Kt	225	336	436	3.7	5.4	6.6
Lithium	US\$/t	720	535	531	Kt	1,298	1,177	2,474	1.6	1.0	3.0
Uranium	US\$/lb	27	25	48	t	7,571	7,000	5,800	0.7	0.6	0.7

Notes: **a** Export data covers both crude oil and condensate; **f** forecast. **Price information:** Iron ore fob (free-on-board) at 62 per cent iron content estimated netback from Western Australia to Qingdao China; Metallurgical coal premium hard coking coal fob East Coast Australia; Thermal coal fob Newcastle 6000 kc (calorific content); LNG fob Australia's export unit values; Gold LBMA PM; Alumina fob Australia; Copper LME cash; Crude oil Brent; Aluminum LME cash; Zinc LME cash; Nickel LME cash; Lithium spodumene ore.

Source: ABS (2020) International Trade in Goods and Services, Australia, Cat. No. 5368.0; LME; London Bullion Market Association; The Ux Consulting Company; US Department of Energy; Metal Bulletin; Japan Ministry of Economy, Trade and Industry; Department of Industry, Science, Energy and Resources (2020)