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# ECONOMIC COERCION BY CHINA: THE IMPACT ON AUSTRALIA'S MERCHANDISE EXPORTS

## ABSTRACT

**Australia is estimated to have foregone export revenue of around US\$4.9 billion (A\$6.6 billion) over July 2020 to February 2021 as a result of China's restrictions or discriminatory purchasing affecting eight key commodities – coal, copper ores and concentrates, frozen beef, wine, cotton, barley, rough wood and rock lobster.**

Coal makes up by far the biggest contribution at US\$2.2 billion (A\$3.0 billion). These historical estimates understate potential Australian losses in the Chinese market. If these exports cease altogether for a full year, they are estimated at A\$23 billion, with coal contributing more than half (almost A\$14 billion). Diversifying into other markets has been successful to varying degrees. Barley is a success story, albeit at a cost of lower returns, but industries like wine and rock lobster have struggled. Coal has been sold at substantial discounts. For industries like iron ore and wool, China has a strong interest in maintaining the trade and they appear likely to remain largely unscathed in the short term. With iron ore, however, China is seeking to build up a 'swing capacity' that would allow it to switch suppliers at the margin and to further diversify sources of supply. Australia is likely to retain a substantial share of China's liquified natural gas (LNG) market. But renegotiating long-term supply contracts and attracting Chinese direct investment for future project development may be challenging in the medium term if Australia-China tensions persist.

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## EXECUTIVE SUMMARY

In 2020, Australia's trade with China was hit by two important developments other than the COVID-induced global economic downturn. The first was entry into force of Phase One of the US-China Economic and Trade Agreement, under which China undertook to make substantial additional purchases from the United States selected from a wide variety of commodities and services, including many of interest to Australia. The second was the rapid deterioration in Australia's broader relationship with China. This had been building slowly for at least two years and started to engulf crucial Australian trade interests from around July that year.

*China's policy of economic coercion against Australia has most clearly targeted eight commodities – coal, copper ores and concentrates, frozen beef, wine, cotton, barley, rough wood and rock lobster. These collectively made up around 13 per cent of China's merchandise imports from Australia in 2019, the year before relations began to deteriorate markedly.*

Australia's share of China's import market has collapsed for these commodities, going to zero or almost zero in some cases (such as barley and coal) and in other cases to a fraction of previous shares (for example, wine and frozen beef).

Australia's total exports to China, however, fell only slightly in 2020. This result was driven by iron ore exports, which contributed positively about ten percentage points to the change in the value of Australian merchandise exports to China in 2020. Increasing volumes and rising prices largely offset negative contributions from coal, LNG and gold. If iron ore is excluded, Australia's trade with China declined markedly in 2020 by over 23 per cent. The decline is even more pronounced – at 48 per cent – if non-iron ore merchandise exports for January-March 2021 are compared with those for April-June 2020, just before the relationship began to sour badly.

The cost of foregone export revenue in the Chinese market is significant at the commodity level. For the eight commodities targeted by China, export revenue fell by around US\$4.9 billion (A\$6.6 billion) over the eight months July 2020 to February 2021, compared to 'trade as usual' under which Australia maintained its market share. Casting the net wider to a group of 20 major commodities, including iron ore and LNG, raises the estimate for lost export revenue from China to around US\$9 billion (more than A\$12 billion) over these eight months.

If losses from the eight commodities are extrapolated to a full year and exports ceased, lost export revenue in China is estimated at A\$23 billion.

Not surprisingly, other countries have sought to target, or at least benefit from, opportunities arising from China's actions against Australia. With coal, this is true to varying degrees for Russia, Indonesia and Mongolia. In the case of rock lobster, countries as diverse as Vietnam, New Zealand and Mexico have captured increased market share. And for cotton, the United States is an important beneficiary. Even a return to more normal relations with China would probably fail to restore these markets, though it would certainly help.

Industries hit hard by China's policies have sought to diversify. One view is that China's actions have had little effect on Australia because of our capacity to sell into other markets. Our conclusion is more pessimistic. There have been widely varying degrees of success in diversification. Barley has been the most notable success story, with Saudi Arabia the biggest new destination. For coal, the story has been mixed. Sales to other markets, most notably to India, Japan and the Republic of Korea, did increase as sales to China declined, but at least part of the sales to these markets may be due to a recovery from unusually low values of trade in 2020 – a recovery that would have occurred in any event rather than because of diversification from China. Copper ores and concentrates have ready access to other markets, but finding new markets has been challenging for wine, rock lobster and cotton, and diversification has thus far meant lower prices and lower returns.

This paper finds that, to date, diversification has generally not matched markets lost through China's economic coercion and discriminatory purchasing. Analysis of average monthly data on the gains in exports to third countries and the losses in the Chinese market suggest that losses are much greater when comparisons go back a year to eighteen months.

Some commodities are unlikely to be affected by discriminatory purchasing or restrictions in the short term given China's interest in maintaining the trade. The most notable examples are iron ore (which makes up over 60 per cent of China's merchandise imports from Australia) and wool (another one per cent). With iron ore, however, China is seeking to build up a 'swing capacity' that would allow it to switch suppliers at the margin, and in the medium term to diversify sources of supply.

Australia's second biggest export to China, LNG (accounting for about nine per cent of Chinese merchandise imports from Australia) also may face challenges over the medium term should Australia-China tensions persist. They may well centre around renegotiating new long-term supply contracts and attracting sufficient direct investment from China to develop new projects.

It is too early to be definitive about the overall impact of China's economic coercion. Markets in China might be lost until relations improve, while others may never be recovered. These losses could be much greater than the historical estimates in this paper for the eight targeted commodities, though their effects are likely to be compensated substantially over time as Australian exporters diversify.



## INTRODUCTION

Australia's merchandise trade with China declined only slightly in 2020 – a good result, particularly given the sharp COVID-induced downturn in world trade and worsening bilateral trade relations. This was due largely to strong growth in iron ore exports, which almost offset negative contributions by other commodities, including liquefied natural gas (LNG), coal and gold. Australia's share of China's import market for many commodities declined sharply. For eight key commodities targeted by China – coal, copper ores and concentrates, frozen beef, wine, cotton, barley, certain types of wood, and rock lobster – export revenue fell by around US\$4.9 billion (A\$6.6 billion) compared with 'trade as usual' over July 2020 to February 2021.<sup>1</sup> Casting the net to a wider group of 20 commodities lifts the estimate for lost export revenue to around US\$9 billion (more than A\$12 billion) over these eight months.

Various factors contributed to these losses. China has been diversifying its sources of supply. Phase One of the Economic and Trade Agreement between the United States and China has impacted a broad range of commodity trades of high interest to Australia including LNG, crude oil, some oil products, beef, dairy, wheat, cotton, tree nuts, and some iron and steel products (Adams, Wickes & Brown 2021). But the deterioration in Australia-China relations that has engulfed Australian trade since mid-2020 is by far the main contributor. There are justifiable fears that the crisis could deepen and affect more trade sectors before relations hopefully start to recover.

This paper addresses the trade consequences of the souring in relations. The first section looks at Australia's overall export performance in the Chinese market in 2020. Section 2 shows how Australia's market share in China for commodities from coal and barley to lobsters and wine has declined, in some cases collapsing. Section 3 provides estimates of the losses in merchandise trade that have been borne particularly by rural and regional Australia. It also notes efforts by other countries to benefit commercially from Australia's troubled relationship with China. Section 4 examines possible offsetting gains from exporters diversifying trade away from China. To date, these offsetting gains have been significant in some cases (particularly for barley), but not in others (for example wine) and have, in any event, tended to involve lower prices and smaller export volumes. The final section discusses the medium-to-long-term impact of China's actions on Australian merchandise exports, including for iron ore, wool and LNG.<sup>2</sup> It is based on the premise that difficulties in the relationship, and thus China's coercive actions, will continue for some time.

1. 'Trade as usual' here means a scenario where Australia's market share is unchanged from the corresponding period a year previously. The methodology is outlined in Section 3.  
2. A follow-up policy brief to be published by the Institute for International Trade will address policy implications arising from this analysis.

# 1. AUSTRALIA'S TRADE PERFORMANCE IN CHINA IN 2020 WAS DRIVEN BY IRON ORE

Given the scale of China's targeting of key Australian exports and its persistence, it is surprising that Australia's aggregate merchandise exports to China do not show a sharp decline between 2019 and 2020. Australian exports did decline, but only marginally.<sup>3</sup> Australian merchandise exports to all destinations fell much more steeply than those to China, at around seven per cent.

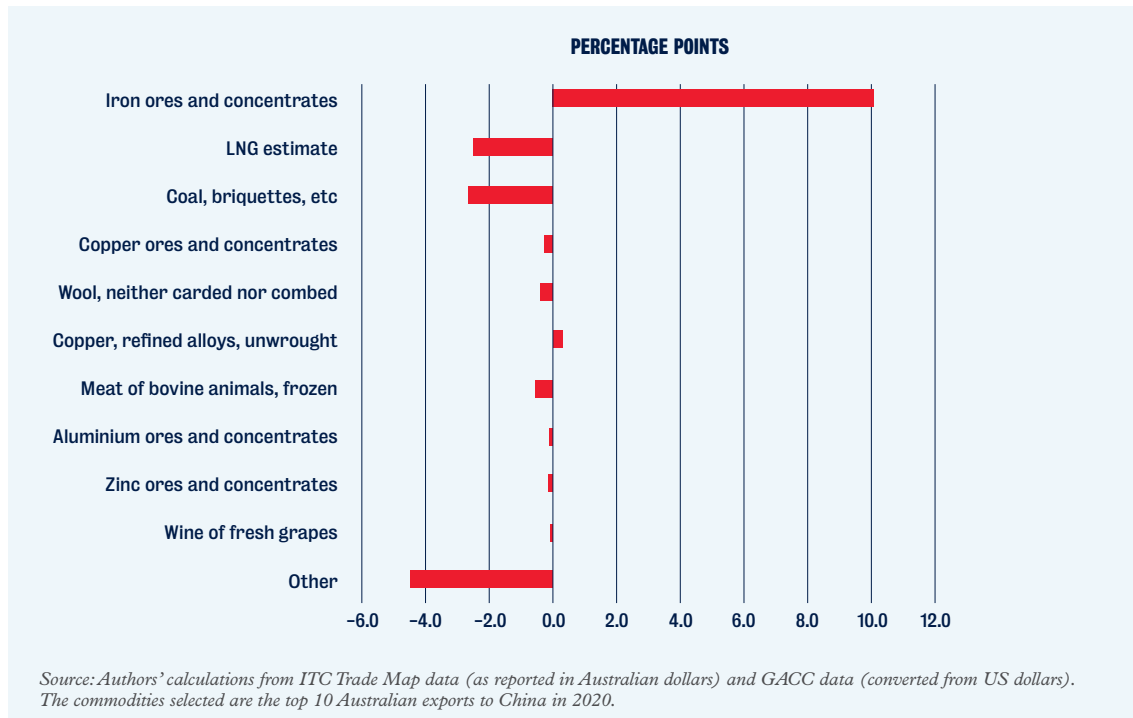
China's global merchandise imports fell by only 0.6 per cent between 2019 and 2020 in current US dollar terms and this is part of the explanation for the resilience of Australian trade. This outcome is again somewhat surprising when it is remembered that 2020 was a calamitous year for world trade. The World Trade Organization (WTO) and the International Monetary Fund (IMF) estimate that global merchandise trade volumes declined by five per cent (WTO 2021; IMF 2021b).

Figure 1 shows some of the contributions that individual commodities made to the percentage change in Australian exports to China in 2020. Iron ore exports had a big positive impact on trade, contributing slightly over 10 percentage points to the total change of minus 0.7 per cent. On the other hand, coal and LNG contributed negatively and by substantial amounts. The 'other item' is also large and negative. Almost half of this (two percentage points) is attributable to the collapse in Australia's gold trade with China between 2019 and 2020. Other negative contributions to the overall decline were made by a variety of commodities, among them cotton (-0.6 ppt), medicaments (-0.3 ppt), crustaceans (-0.2 ppt), sheep meat (-0.2 ppt), lead ores and concentrates (-0.2 ppt) and wine (-0.1 ppt). Some of these smaller commodities were among those targeted by China or affected by the US-China Phase One Agreement.

The big increase in exports of iron ore was partly driven by increases in the volume sold to China. This increased from 701Mt in 2019 to 718Mt in 2020 for non-agglomerated iron ore and concentrates, which make up the overwhelming bulk of the trade. There was also a very substantial rise in the unit value of exports: for non-agglomerated ore, this rose from A\$112 to A\$130 per tonne. Both shifts reflected increased spending on steel-intensive infrastructure in China during 2020 and, from around the middle of the year, a revival in China's manufacturing output (Dyer 2020). Constraints on Brazil's capacity to supply also worked in favour of Australian exports.

If iron ore is excluded, Australia's trade with China declined markedly in 2020. ITC Trade Map data show the decline at over 23 per cent. The decline is even more pronounced – at 48 per cent – if non-iron ore exports for January-March 2021 are compared with those for April-June 2020, just before the relationship began to sour badly.<sup>4</sup> Commodities contributing to the latter decline include some that have clearly been targeted by China, among them coal (the biggest contributor), beef, barley and wine. But they also include confidential items of trade (principally LNG), medicaments, various edible products and preparations, and aluminium ores and concentrates.

**Figure 1: Contributions to the Percentage Change in Australian Exports to China between 2019 and 2020**



3. Australian exports to China declined by around 0.7 per cent if Chinese imports of LNG reported by the General Administration of Customs China (GACC) are included. ITC Trade Map data for Australia, which are sourced from the Australian Bureau of Statistics and exclude LNG (which is confidential for specific country destinations) as well as some other commodities, show Australia's exports to China rising in Australian dollar values by a little over two per cent. Australia's exports for LNG are calculated from China's import data as 0.95 times their value to take into account the impact of freight and insurance on trade values.

4. Australian Ambassador Fletcher reportedly noted that there has been a 40 per cent drop in merchandise exports to China since mid-2020 if iron ore is stripped out (Smith 2021).

## 2. THE IMPACT OF DETERIORATING BILATERAL RELATIONS IS CLEARER FROM MARKET SHARE ANALYSIS

Imports from Australia and the Chinese import market more broadly provide important context in looking at changes in the bilateral trade relationship. Tables 1 and 2 include data for 20 commodities for China's global imports, its imports from Australia and Australia's share of China's import market. Table 1 shows clearly the highly concentrated pattern of Chinese imports from Australia, with the top three commodities – iron ore, LNG and coal - making up almost 78 per cent of total merchandise imports in 2020. These same three products account for a much smaller share of China's global imports – about eight per cent in the same year. The asymmetry is important in looking at trade conflict (although some commodities are much more important to China than their dollar value suggests). The concentrated nature of the trade also means that overall trends are often shaped by a few major commodities.

The data show appreciable movements in Australia's share of China's import market in recent years. For example, Australia's share of the import market for wine jumped from 2016-18 to 2019, as Australian exports built up the market, and then increased further during 2020 in anticipation of an adverse finding on dumping by China's Ministry of Commerce: after the finding and the imposition of swingeing tariffs, imports then sank. Shares for cotton fell dramatically in 2020 under the impact of the Phase One Agreement, while barley's share declined over the whole period reviewed in the Table. Australia's share of the market for wool, the highest of the 20 commodities examined, increased further between 2016-18 and 2020. And wheat's share fluctuated, partly because of the impact of drought.

**Table 1: China's Imports from Australia and the World: Selected Commodities**

HS code	Product label	Australia (US\$ millions)			World (US\$ millions)		
		Average 2016-18	Value in 2019	Value in 2020	Average 2016-18	Value in 2019	Value in 2020
TOTAL	All products	89,983	119,608	114,837	1,854,880	2,068,950	2,055,591
	All products excluding iron ore	47,797	58,592	43,992	1,785,458	1,969,107	1,936,646
2601	Iron ores and concentrates	42,186	61,016	70,845	69,422	99,843	118,944
271111	Natural gas, liquified	7,068	13,179	10,337	16,812	28,834	23,393
2701	Coal; briquettes, etc.	8,618	9,331	7,893	16,532	18,930	16,385
7108	Gold, unwrought, semi-manufactured, etc.	2,734	7,494	1,130	15,269	43,932	11,417
5101	Wool, neither carded nor combed	1,979	1,774	1,218	2,759	2,390	1,623
2603	Copper ores and concentrates	1,356	1,666	1,262	26,468	34,081	34,298
2606	Aluminium ores and concentrates	1,173	1,591	1,545	3,482	5,139	5,052
0202	Meat of bovine animals, frozen	660	1,545	1,208	3,371	7,931	9,771
2602	Manganese ores and concentrates	1,076	1,348	1,012	3,964	6,375	4,904
2709	Crude Oil	904	1,191	469	172,528	238,707	176,321
7403	Copper, refined, copper alloys, unwrought	986	868	1,308	21,454	22,502	30,579
2204	Wine of fresh grapes	693	866	713	2,672	2,445	1,827
5201	Cotton, neither carded nor combed	593	818	225	2,304	3,567	3,562
4401	Fuel wood, wood chips, etc.	767	801	550	2,026	2,397	2,260
1003	Barley	1,001	662	363	1,549	1,561	1,880
7502	Unwrought nickel	527	644	417	3,043	2,692	1,843
4403	Wood in the rough, or roughly squared	530	587	495	9,664	9,435	8,405
030631	Rock Lobster, live, fresh or chilled	217	518	309	589	941	897
1701	Cane or beet sugar, pure sucrose, solid	64	57	1	1,094	1,121	1,802
1001	Wheat and meslin	293	55	360	871	901	2,260

Source: ITC Trade Map Database using GACC Data.

Note: The 20 commodities above are ranked in order of Chinese imports from Australia in 2019, but not all commodities are in the top 20. 2019 is used rather than 2020 since our purpose is to explore changes in market share over the months of 2020 and 2021, and 2019 is a more appropriate base for this purpose. The data take into account that rock lobster of the kind covered by 0306.31 under HS 2017 was 0306.21 under HS 2012.

**Table 2: Australia's Share of the Chinese Import Market**

HS code	Product label	Percent		
		Average 2016-18	Share in 2019	Share in 2020
TOTAL	All products	4.9	5.8	5.6
	All products excluding iron ore	2.7	3.0	2.3
2601	Iron ores and concentrates	60.8	61.1	59.6
271111	Natural gas, liquified	42.0	45.7	44.2
2701	Coal; briquettes, etc.	52.1	49.3	48.2
7108	Gold, unwrought, semi-manufactured, etc.	17.9	17.1	9.9
5101	Wool, neither carded nor combed	71.7	74.2	75.0
2603	Copper ores and concentrates	5.1	4.9	3.7
2606	Aluminium ores and concentrates	33.7	31.0	30.6
0202	Meat of bovine animals, frozen	19.6	19.5	12.4
2602	Manganese ores and concentrates	27.1	21.1	20.6
2709	Crude Oil	0.5	0.5	0.3
7403	Copper, refined, copper alloys, unwrought	4.6	3.9	4.3
2204	Wine of fresh grapes	25.9	35.4	39.0
5201	Cotton, neither carded nor combed	25.7	22.9	6.3
4401	Fuel wood, wood chips, etc.	37.9	33.4	24.3
1003	Barley	64.6	42.4	19.3
7502	Unwrought nickel	17.3	23.9	22.6
4403	Wood in the rough, or roughly squared	5.5	6.2	5.9
030631	Rock Lobster, live, fresh or chilled	36.8	55.0	34.5
1701	Cane or beet sugar, pure sucrose, solid	5.9	5.1	0.0
1001	Wheat and meslin	33.7	6.1	15.9

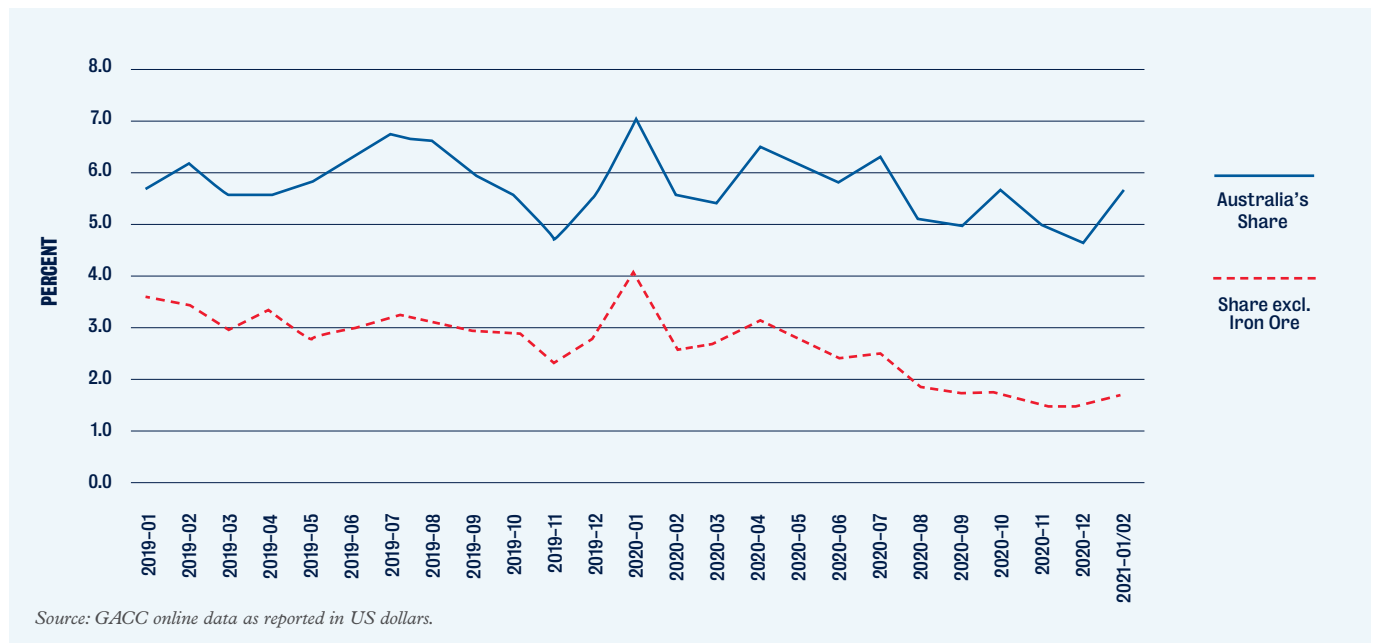
Source and Note: As for Table 1.

Monthly data on Australia's share of China's import market for key commodities over the past two years provide a better indication than calendar years, in spite of the very considerable 'noise' typically present. Figure 2 shows Australia's share of total Chinese merchandise imports and Australia's share excluding iron ore. Our share for all commodities generally fluctuated between five and seven per cent between January 2019 and February 2021, with some downward movement during 2020. Excluding iron ore, the decline was around 55 per cent (i.e. from 3.3 per cent of China's import market in January-February 2019 to 1.5 per cent by January-February 2021).

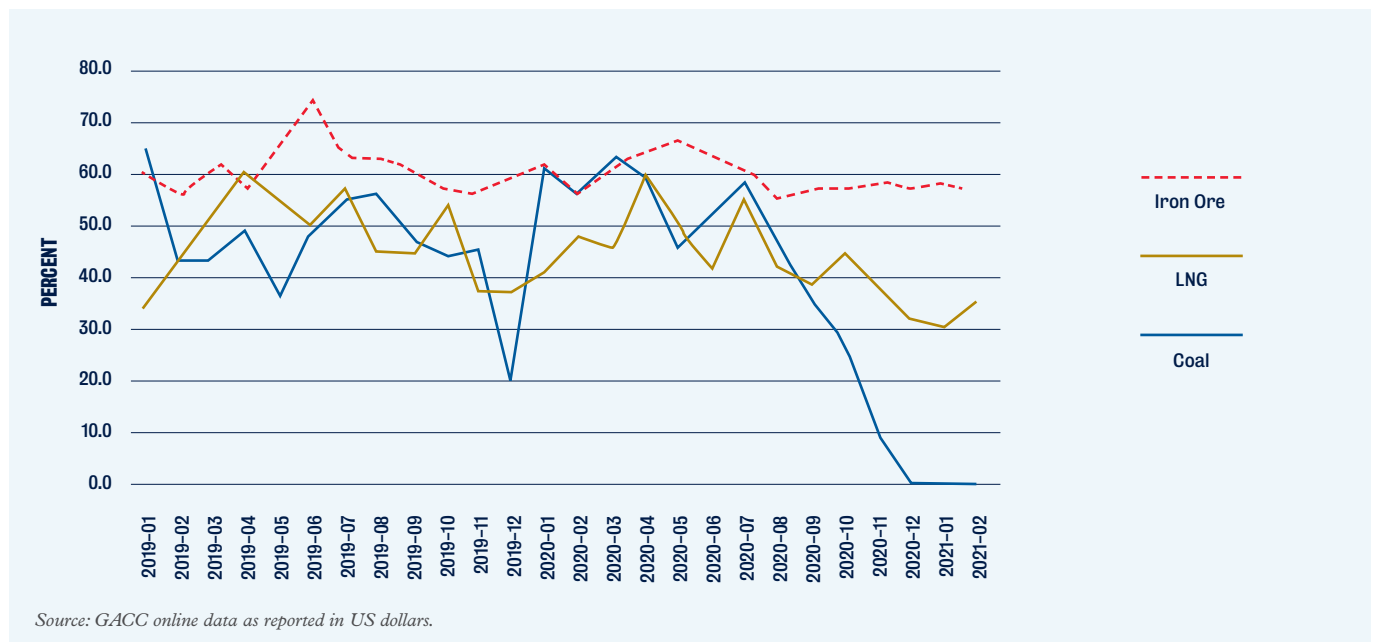
Figure 3 shows trade flows for iron ore, LNG and coal. With iron ore, Australia's share of the import market declined only slightly compared to the other two commodities, reflecting the interest of both sides in maintaining this trade and the absence of alternative sources able to supply China with substantially increased quantities in the short term. In the case of LNG, Australia has remained a key supplier: industry advice suggests that Australian LNG suppliers have not reported significant challenges in the spot or long-term contract markets. In contrast, China's coal imports from Australia have fallen sharply. Media reports suggest that power companies and steel mills were advised in October 2020 to cease using Australian coal, with the result that several dozen ships remained anchored off China's ports waiting to unload. A formal ban was reportedly issued in mid-December (Tillett 2020). Chinese Customs data do not record any imports of Australian thermal or metallurgical coal from December 2020 to April 2021.<sup>5</sup>

5. Australian trade data show small export values in December 2020 (\$34 million) and February 2021 (\$29 million). The reason for this discrepancy with GACC data is not clear.

**Figure 2: Australia's Monthly Share of the Chinese Import Market**

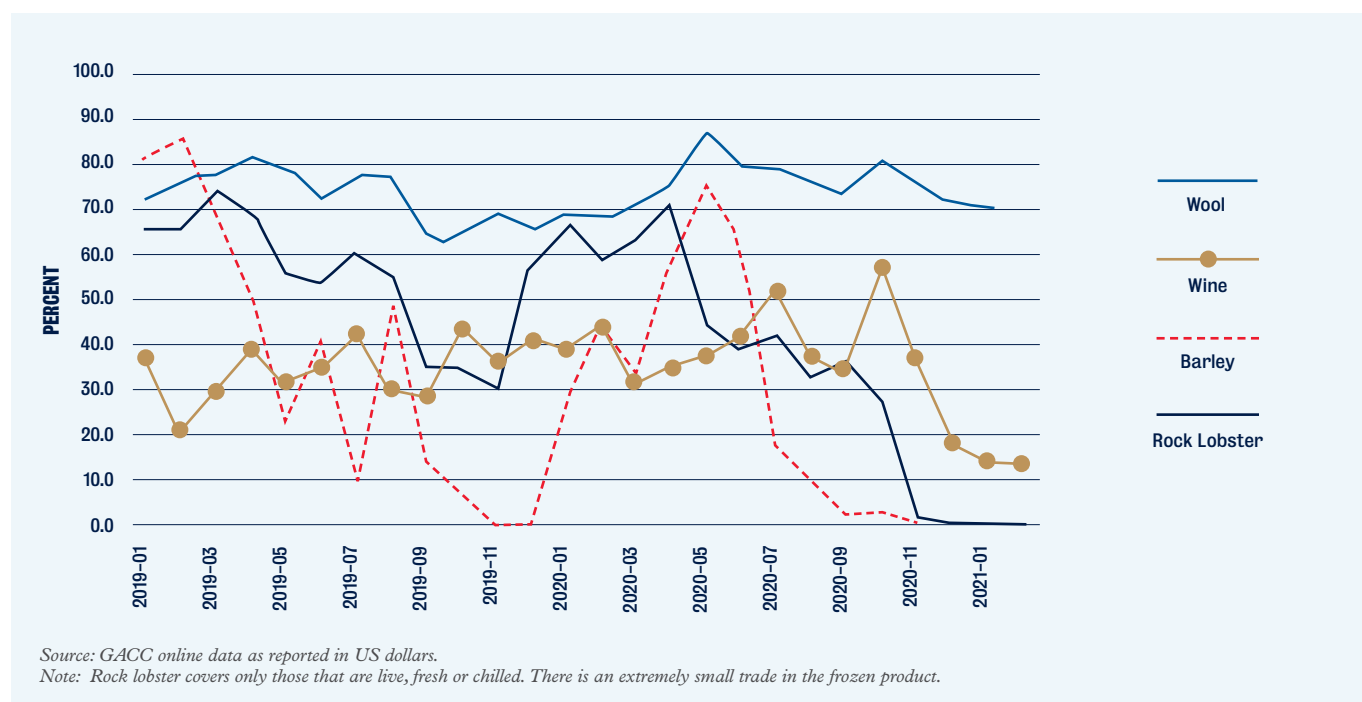


**Figure 3: Australia's Share of the Chinese Import Market: Key Minerals**





**Figure 4: Australia's Share of the Chinese Import Market: Key Rural Commodities**



In the case of the agriculture, fisheries and forestry sector, there is a similar contrast between wool, where China has a strong interest in maintaining the trade – the 2021 import quota for Australian wool was increased by five per cent (Global Times 2021) – and several other Australian commodities that have been subject to formal or informal restrictions by the Chinese authorities. Figure 4 shows trade flows for three such commodities:

- Barley imports collapsed after being subject to anti-dumping and countervailing duties of 80.5 per cent from mid-May 2020. No imports from Australia were recorded in December 2020 or January and February 2021. As Box 2 below notes, this was also the case in March and April.
- Wine imports were the target of an anti-dumping and countervailing inquiry from August 2020, and subject to punitive preliminary anti-dumping and countervailing duties of between 107 and 212 per cent from late November 2020. Australia's market share fell sharply in December, remained at low levels in January and February 2021 and then declined further in March and April.
- Live, fresh or chilled rock lobster imports were subject to extensive delays in customs processing and to heightened quarantine inspections as the relationship deteriorated. No imports were recorded in December 2020 through to April 2021 in what had been Australia's principal export market.

*Australia's market shares also fell sharply for some other commodities. In the case of frozen beef, for example, imports were banned from a number of abattoirs, ostensibly because of labelling and health issues or the presence of COVID-19 among workers.*

Australia's market share dropped to less than six per cent by December 2020, lower than any monthly share in the previous two years. It remained at under eight per cent in January and February 2021. With cotton, where the United States regained market share at Australia's expense, negligible imports from Australia were recorded over January-February 2021. Further information on market shares for a range of commodities is included in Table 3.

### 3. ALREADY, THE COSTS OF DETERIORATING RELATIONS WITH CHINA HAVE BEEN SUBSTANTIAL

The losses presented graphically in the previous two sections can be quantified, admittedly in a rough and ready fashion. The methodology behind this is outlined in Box 1.

#### Box 1: Calculating Australia's Trade Losses with China

Australia's trade losses for affected commodities can be quantified in 'back of the envelope' calculations if it is assumed that, in the absence of deteriorating Australia-China relations and also of losses attributable to the US-China Phase One Agreement,<sup>6</sup> Australia would have retained the market share that it had previously. This gives what we will call hypothetical Chinese imports from Australia (that is the imports that would have occurred under the assumption of no change in market share). These can then be compared with actual imports from Australia to obtain a measure of trade lost. Since the deterioration in trade relations was most marked from July 2020 and the latest available trade data for China when undertaking this analysis was for February 2021, we compare hypothetical imports over July 2020 to February 2021 with China's actual imports from Australia over this period.

Specifically, it is assumed for each affected commodity that:

- If there was no disruption to Australia's trade with China, Australia maintains the same market share realised over July-November 2019 in July-November 2020.
- Over December 2020 to February 2021, Australia similarly maintains the market share it realised in the corresponding period in 2019-20.
- China's total imports (from all sources) of a commodity over July-November 2020 and December 2020 to February 2021 under these circumstances would be the same as those that actually occurred.
- The difference between the hypothetical Chinese imports from Australia and actual imports gives a measure of the trade lost to Australia, primarily because of deteriorating relations.

These assumptions are, of course, major simplifications of reality. In practice market shares change for all manner of reasons other than trade conflict, among them changes in the relative competitiveness of different suppliers (which may be caused by changes in relative exchange rates), interests in diversifying sources of supply, and (for groups of commodities) changes in their composition. Importantly, the measure of trade lost does not take into account successful steps by Australian exporters to diversify their own trade. Finally, and perhaps most important, the analysis does not take services trade into account, especially tourism, which could be most affected by trade conflict with China in the medium term once the main impact of the COVID pandemic has passed.<sup>7</sup>

Table 3 presents market shares over the entire period for Australia for 20 key commodities. It shows appreciable and widespread losses of market share by Australia. For all merchandise trade, Australia's share of the Chinese import market slipped to 5.4 per cent over July-November 2020 from 5.9 per cent in the corresponding period of 2019. Our share of LNG imports dropped from 41.6 per cent in the three months to February 2020 to 32.5 per cent over the corresponding period to February 2021, though it has since risen to nearly 44 per cent in March-April 2021 (Box 2). And our share of China's coal market went to zero over December 2020 to February 2021<sup>8</sup> from well over half a year earlier. On the positive side, some commodities did improve their market share. Unwrought copper is one example; wool is another.

6. The trade implication for Australia of the US-China Economic and Trade Agreement are discussed in detail in Adams, Wickes & Brown 2021.

7. Services trade has been more affected by COVID-19 than commodity trade and is therefore difficult to measure at this stage. The closure or partial closure of international borders has had a big impact on services delivered through consumption abroad (e.g. tourism, education) or through business travel.

8. Chinese customs data show that China also imported no Australian coal in March and April 2021.

**Table 3: Australia's Share of China's Import Market, Monthly Periods**

HS code	Covered by Phase One		March to June 2019 (%)	July to November 2019 (%)	December 2019 to February 2020 (%)	March to June 2020 (%)	July to November 2020 (%)	December 2020 to February 2021 (%)
		All products	5.8	5.9	6.0	6.0	5.4	5.3
		All products, excluding iron ore	3.0	2.9	3.1	2.7	1.8	1.5
2601		Iron ores and concentrates	65.0	60.0	58.9	63.8	57.7	57.6
271111	Yes	Natural gas, liquified	54.0	46.5	41.6	49.6	43.8	32.5
2701	Yes	Coal; briquettes, etc.	44.1	50.5	57.3	56.1	40.7	0.0
7108		Gold, unwrought, semi-manufactured, etc.	16.3	12.6	20.2	19.8	0.4	0.5
5101	Yes	Wool, neither carded nor combed	78.4	70.6	67.4	77.6	76.8	70.5
2603		Copper ores and concentrates	4.3	5.0	4.8	5.2	3.6	0.0
2606		Aluminium ores and concentrates	25.7	38.3	32.1	29.5	33.5	26.4
0202	Yes	Meat of bovine animals, frozen	21.3	20.9	16.3	14.5	9.2	7.0
2602		Manganese ores and concentrates	23.3	20.7	19.6	24.5	18.5	20.2
2709	Yes	Crude oil	0.5	0.5	0.4	0.4	0.2	0.1
7403		Copper, refined, copper alloys, unwrought	4.9	3.4	3.3	3.9	4.6	4.8
2204	Yes	Wine of fresh grapes; grape must	34.0	36.5	40.9	36.3	44.7	15.1
5201	Yes	Cotton, neither carded nor combed	15.8	36.5	10.9	5.0	7.7	0.8
4401	Yes	Fuel wood, wood chips, etc.	35.8	32.5	29.7	24.1	21.9	24.6
1003	Yes	Barley	48.9	14.7	30.0	60.6	3.8	0.0
7502		Unwrought nickel	23.3	22.7	6.7	25.2	22.4	33.8
4403	Yes	Wood in the rough, or roughly squared	6.2	5.8	6.5	6.8	6.2	1.1
030631	Yes	Rock lobster, live, fresh or chilled	63.0	39.6	62.6	48.9	26.9	0.0
1701	Yes	Cane or beet sugar, sucrose, solid	0.1	8.3	0.1	0.1	0.0	0.0
1001	Yes	Wheat and meslin	3.9	12.6	17.7	34.1	5.4	28.0

Source. Authors' calculations from the GACC online database in US dollars.

Note. Commodities are ranked in order of the value of China's imports from Australia in 2019. Not all the commodities listed are in the top 20.

**Table 4: Direct Losses and Gains due to Changes in Market Share**

HS code		July to November 2020 (US\$ million)	December 2020 to February 2021 (US\$ million)	Total
'2601	Iron ores and concentrates	-1366	-511	-1876
271111	Natural gas, liquified	-224	-765	-989
'2701	<b>Coal; briquettes, etc.</b>	<b>-496</b>	<b>-1746</b>	<b>-2242</b>
'7108	Gold, unwrought, semi-manufactured, etc.	-532	-337	-869
'5101	Wool, neither carded nor combed	33	15	48
'2603	<b>Copper ores and concentrates</b>	<b>-221</b>	<b>-524</b>	<b>-745</b>
'2606	Aluminium ores and concentrates	-96	-62	-158
'0202	<b>Meat of bovine animals, frozen</b>	<b>-452</b>	<b>-248</b>	<b>-700</b>
'2602	Manganese ores and concentrates	-55	8	-47
'2709	Crude oil	-260	-156	-416
'7403	Copper, refined, copper alloys, unwrought	182	109	291
'2204	<b>Wine of fresh grapes; grape must</b>	<b>66</b>	<b>-127</b>	<b>-61</b>
'5201	<b>Cotton, neither carded nor combed</b>	<b>-402</b>	<b>-180</b>	<b>-582</b>
'4401	Fuel wood, wood chips, etc.	-94	-33	-127
'1003	<b>Barley</b>	<b>-114</b>	<b>-170</b>	<b>-285</b>
7502	Unwrought nickel	-3	146	143
'4403	<b>Wood in the rough, or roughly squared</b>	<b>16</b>	<b>-123</b>	<b>-107</b>
030631	<b>Rock lobster, live, fresh or chilled</b>	<b>-61</b>	<b>-139</b>	<b>-200</b>
1701	Cane or beet sugar, pure sucrose	-86	-1	-87
1001	Wheat and meslin	-80	100	21

Source: Authors' calculations from GACC online data.

Note: Bolded commodities are those in the group of eight where China's actions against Australia are clearest.

In Table 4, data from Table 3 are used to construct hypothetical losses and (in three cases) gains for two different groups of commodities:

- A group of eight commodities that have been identified by earlier analysis as subject to restrictions by China or preferential purchasing of one kind or another. These commodities are coal, copper ores and concentrates, frozen beef, wine, cotton, barley, wood in the rough, and rock lobsters.
- All 20 commodities in Table 3.

Media reports in late March and April 2021 indicate that hay may be another commodity in the first category, but it has not been included in the present analysis because the problem has emerged only in recent weeks.<sup>9</sup> Concerns also have been raised about table grapes following significant delays in customs clearance of recent shipments (Sullivan 2021).

As Table 5 shows, trade losses with China are substantial. They amount to US\$4.9 billion (A\$6.6 billion) for the limited group of eight commodities and US\$9.0 billion (A\$12.1 billion) for the whole group of 20 commodities.<sup>10</sup> Our preferred estimate for losses due to economic coercion or discriminatory purchasing for the period covered July 2020 to February 2020) is for the eight commodities: for the additional 12 commodities in the broader group of 20, market shares may have changed for other reasons.

9. In 2020, China took around one third of Australia's hay exports worth more than US\$100 million. Media reports in late March and April 2021 indicated that some Australian hay exporters had failed to obtain permits to cover exports to China (Yin Yeping 2021). The United States was the dominant supplier taking 65 and 72 per cent of the market in 2019 and 2020. Australia's shares were 16 and 19 per cent. Market shares were in line with this pattern over January-March 2021 but Australia's share fell sharply in April to 6.5 per cent. The US share increased by around 10 percentage points between March and April.

10. The exchange rates used were period averages: 0.7171 for July-November 2020 and 0.7667 for December 2020 to February 2021.

**Table 5: Summary of Hypothetical Trade Losses: July 2020 to February 2021**

Scenario	Net Change (US\$ billion)
Losses are examined for eight commodities: coal, copper ores and concentrates, frozen beef, wine, cotton, barley, wood in the rough, and rock lobster.	-4.9
Losses and gains are examined for the 20 commodities listed in Tables 2 and 3	-9.0

Source: Authors' calculations from Tables 3 and 4.

The calculations in Tables 4 and 5 do not take account of March and April 2021 data that were only recently released by China. There was no let up for the eight commodities clearly subject to restrictions or discriminatory purchasing: China imported no Australian coal or copper ores and concentrates and our share of wine imports declined further. The wider group of 20 commodities performed better in some respects: our share of the iron ore market increased and rose substantially in the case LNG. There were substantial gold sales (Box 2).

### Box 2: China's March and April 2021 Imports and Australia's Share

China's March and April 2021 trade import data were released too late for inclusion in the preceding analysis. However, it is possible to make some observations about trends in Australia's share of the import market. Commodities fall into six main categories.

**Continued exclusion or restrictions in the market.** No imports from Australia were recorded for five products largely or completely excluded from the market previously: these were coal, copper ores and concentrates, barley, wood in the rough, and rock lobster. The share of Australian cotton in the import market picked up to over five per cent in April, but this was well below shares achieved over 2019, though admittedly under extraordinary conditions where the United States, the market leader, was subject to tit-for-tat tariff increases with China. The share of Australian wine in China's imports slipped further to around two per cent, less than one seventh of the share over December 2020 to February 2021 and a much smaller fraction of import shares typical in 2019 and 2020 before punitive tariffs were applied. The share of frozen beef from Australia picked up a little to over nine per cent (compared to seven per cent over December 2020–February 2021), but it was appreciably lower than shares achieved before relations soured in the second half of 2020.

**No imports from Australia: other cases.** No imports were recorded for Australian sugar in March and April 2021, as in January and February. But Australia's share had been low for most months in the preceding two years (the exceptions were in September and October of 2019 when shares were 11 and 20 per cent respectively). No crude oil imports from Australia were recorded in March or April, but shares had again been typically low in 2019 and 2020.

**Decline.** The market share for fuel wood declined by over four percentage points to around 20 per cent.

**Relatively steady.** The market shares for manganese ores and concentrates and refined copper were relatively steady.

**Appreciably increased market shares.** Australia's share of the iron ore import market rose above 62 per cent, up from 57 per cent over December–February. The share had dropped as low as 55 per cent in August 2020. LNG's share bounced back reaching nearly 44 per cent, compared to an average of under 33 per cent over the previous three months (see also Table 7). Exports of gold recovered to a market share of over 19 per cent for March–April 2021. The market share of Australian wool rose by over four percentage points compared to December 2020 to February 2021. The share of Australian unwrought nickel rose by almost nine percentage points to reach 43 per cent. Aluminium ores and concentrates increased its share by three percentage points.

**Continued instability.** Wheat continued its roller coaster ride with Australia's market share falling to under two per cent in March, compared to 46 per cent in January 2021. It rose to nine per cent in April.

Overall, Australia's market share in March–April 2021 for the 20 commodities increased for nine, stayed the same for five and went backwards for six, when compared to the average for the three preceding months. From a trade perspective, the most striking aspect of the March–April data was the continued exclusion of Australian coal, which had been China's third biggest merchandise import from Australia in 2019.

The results identified in Table 5 are historically based. Estimated losses are much larger if we take a forward-looking approach of the kind used by the Perth USAsia Centre and discussed in the media in October 2020 (see Hurst 2020) in which the value of trade lost is estimated on the basis that all exports cease for a period of one year.<sup>11</sup> Our estimate on this basis is that the trade loss would amount to A\$23 billion (based on Australia's 2019 exports to China). It has some validity given that exports of coal are not expected to be resumed until relations are re-set. This is also likely to be true for several other commodities among the eight. In some ways, our estimate overstates the potential loss for commodities like beef that still have a market presence that is likely to continue. But in other ways it may understate losses given that commodities like wine were growing rapidly before the relationship deteriorated badly.

For strategic and business reasons, China is diversifying its sources of supply of major commodities, and exporters around the world are filling market gaps left by sanctioned Australian exports. Table 6 outlines who has gained for selected commodities.

11. For merchandise exports, this work reportedly found annual trade worth A\$19.3 billion could be affected as a result of China's actions. The conclusion appears to have been based on the 2019 value of exports to China of selected commodities, namely coal, beef, wine, cotton and barley. A bigger figure (A\$47.7 billion) was given for all trade that could be affected, including education and tourism.

**Table 6: Increases in Market Share by Other Economies**

LNG	The US share rose by almost 8 percentage points for December 2020 to February 2021 compared with the three preceding months. Qatar's share fluctuated over 2019-21, as did Indonesia's. China's LNG imports increased sharply and by January were well over double the value purchased in October 2020. Imports from Australia were not noticeably down.
Coal	Indonesia and Russia were the main winners when Australia's share went to zero over December 2020 to April 2021: Indonesia's share rose to around 40 per cent and Russia's reached 38 per cent in December 2020 before falling back. Mongolia captured between 32 and 37 per cent over September to November 2020 before also falling back to average 15 per cent over December 2020 to March 2021.
Wine	France has performed well. Its share averaged over 41 per cent over December 2020 to March 2021 as Australia's share fell, compared to 26 per cent over July-November 2020. Chile and Italy also gained market share, though not to the same extent.
Cotton	The US share over April to October 2020 fluctuated between 60 and 72 per cent. It fell back somewhat over December to March but was still much higher than in the corresponding period of 2019-2020. Brazil's December-March share was lower than it had been a year earlier.
Rock lobster	Vietnam was an early winner: its share rose to over 40 per cent in August 2020, but this was not sustained. New Zealand's share rose to 43 per cent in December 2020, while Mexico's share reached almost 28 per cent in February 2021.

Source: GACC online data.

## 4. OFFSETTING TRENDS: AUSTRALIA IS DIVERSIFYING INTO OTHER MARKETS

Many Australian exporters have responded to more difficult market conditions in China by seeking to diversify their trade to other export markets. They have had varying degrees of success. Rajah (2021) concludes that Chinese sanctions have had little effect on Australia, mainly because of our capacity to sell into other markets. He believes that almost all (or perhaps more than the) sales lost in the Chinese market for affected commodities have been replaced by exports to third countries.<sup>12</sup> Our conclusion is more pessimistic.

Rajah highlights sales to China and the rest of the world from late 2020 when sanctions against some Australian exports became more severe. He finds that exports of sanctioned commodities other than coal were steady over most of 2020 at slightly over A\$9 billion and then dropped to half that amount as sanctions intensified, giving rise to an annualised loss of around A\$4.5 billion. Exports to the rest of the world increased by A\$4.2 billion, also annualised, almost offsetting the decline in the China market. For coal, he suggests that exports to China slipped by A\$6 billion from late 2020, but that by January 2021, 'Australian coal exports to the rest of the world were running [A]\$9.5 billion higher in annualised terms than before the [October] ban' (Rajah 2021, pp.3, 5-6). This, however, does not recognise patterns of discrimination against Australian exports by China that became evident for some of the affected commodities, and particularly for coal, by around mid-2020 (see Tables 3 and 4).<sup>13</sup>

Our data show broad agreement with Rajah if the monthly average for December 2020-February 2021 is compared to the monthly average for July-November 2020 (Table 7). But when exports over July-November 2020 and December 2020-February 2021 are compared to a March-June 2020 base, the gains from exports to the rest of the world are much less than the losses to China: indeed, there are losses from changes to exports to the rest of the world. And when the averages for July-November 2020 and December 2020-February 2021 are compared to exports in the comparable periods a year previously (that is, to July-November 2019 and December 2019 to February 2020), the results are even more decisive. In short, both the second and third comparisons show that changes in Australian exports to the rest of the world fell well short of offsetting the loss of sales to China. This conclusion also holds for the specific case of coal (Table 7 and Figure 6).

12. Smyth (2021) contains further information on Rajah's findings.

13. Rajah agrees that coal exports were cut in the earlier period but argues that this was to protect the domestic coal industry rather than economic coercion. Our data (contrary to Rajah's assessment) show Australia's market share for coal falling appreciably, which suggests that more than just protectionism was at work.

**Table 7: Average Monthly Australian Exports to China and the Rest of the World**

SITC		March to June 2019 (A\$ millions)	July to November 2019 (A\$ millions)	December 2019 to February 2020 (A\$ millions)	March to June 2020 (A\$ millions)	July to November 2020 (A\$ millions)	December 2020 to February 2021 (A\$ millions)
<b>To China</b>							
011	Beef, f.c.f.	192.2	266.4	237.2	198.9	118.0	125.3
036	Crustaceans, f.c.f.	68.8	49.2	71.4	37.7	40.9	7.9
043	Barley	49.3	14.8	55.3	77.7	12.7	0.0
112	Alcoholic beverages	110.7	103.4	97.3	77.9	113.0	3.2
247	Wood, rough	54.4	48.4	38.9	50.2	45.9	4.7
263	Cotton	83.5	88.3	34.8	16.4	30.0	3.6
283	Copper ores and conc.	156.0	221.4	163.3	213.8	167.4	50.1
321	Coal	1221.0	1155.3	1079.6	1173.0	419.2	21.2
	<b>Total</b>	<b>1935.9</b>	<b>1947.3</b>	<b>1777.8</b>	<b>1845.6</b>	<b>947.1</b>	<b>216.0</b>
<b>To RoW</b>							
011	Beef, f.c.f.	695.4	725.3	661.2	702.1	605.0	491.5
036	Crustaceans, f.c.f.	16.2	18.1	18.6	11.4	18.8	34.9
043	Barley	54.6	24.3	56.5	46.4	49.7	251.7
112	Alcoholic beverages	176.7	199.8	157.6	168.0	190.6	171.8
247	Wood, rough	3.4	2.0	2.2	3.8	6.0	13.6
263	Cotton	38.7	44.7	17.7	18.8	14.2	32.4
283	Copper ores and conc.	346.1	302.4	382.0	436.0	396.1	496.4
321	Coal	4682.8	3802.5	3315.7	2988.5	2591.4	3242.0
	<b>Total</b>	<b>6014.0</b>	<b>5119.1</b>	<b>4611.6</b>	<b>4375.0</b>	<b>3871.7</b>	<b>4734.3</b>

Source: Department of Foreign Affairs and Trade online Monthly Pivot Table data.

Note: f.c.f. stands for fresh, chilled or frozen. RoW means the rest of the world (other than China).

This Table defines commodities in terms of 3-digit levels of the fourth revision of the Standard International Trade Classification (SITC) rather than the HS system used previously. There are some differences as a result. Beef includes fresh or chilled beef, as well as frozen beef. Crustaceans, f.c.f. are used instead of rock lobster, live, fresh or chilled (in practice most Australian crustacean exports are rock lobster). Alcoholic beverages are used rather than wine (though in practice almost all Australian exports are wine). Copper ores and concentrates includes copper mattes and cement copper from HS74.01 in addition to HS26.03. Cotton includes not only cotton, not carded or combed (HS52.01), but also cotton linters, cotton waste and cotton, carded and combed. The differences on coal are minor in practice and are indicated in the note to Figure 6.

Data for exports of canned and bottled beer to China in the table are subject to confidentiality restrictions, but wine of fresh grapes is not affected.

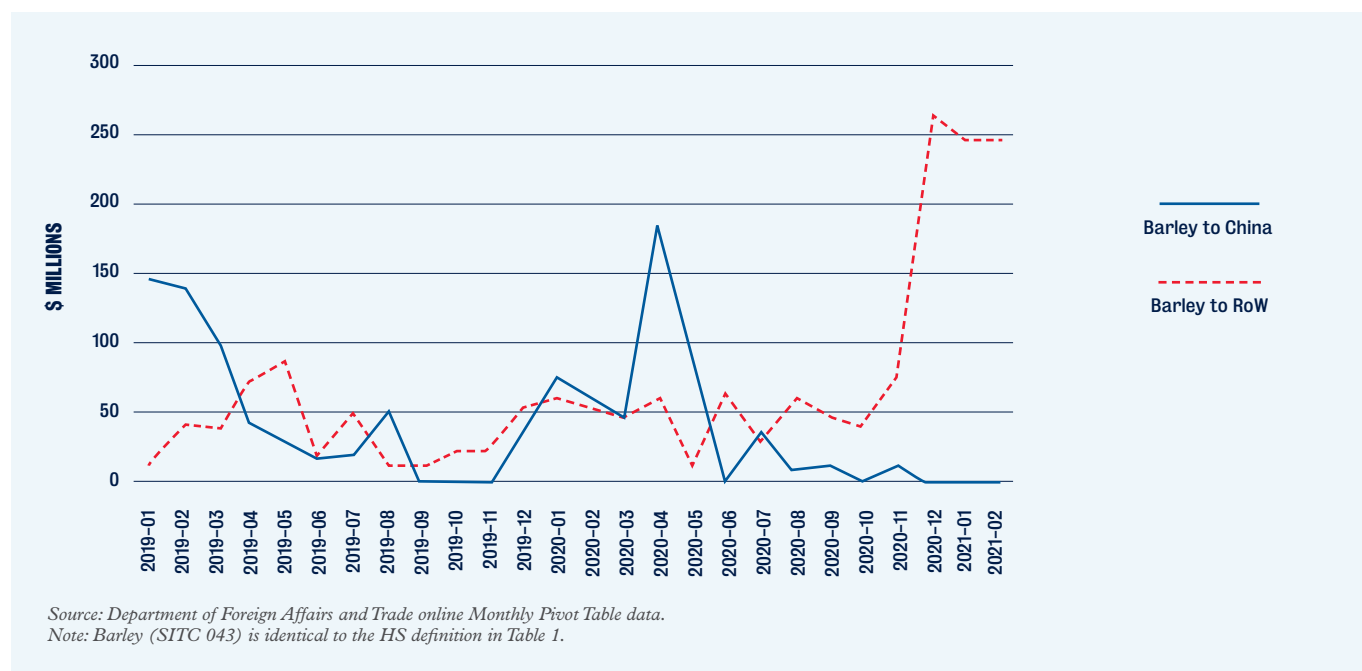
**Barley has been the stand-out success in diversification** among the eight main products subject to economic coercion by China. Figure 5 shows the value of barley exports to the rest of the world soaring in December 2020 and January 2021, to the point where the increase in sales to other countries exceeded the sharp decline in exports to China.<sup>14</sup> Saudi Arabia was the biggest new destination with export sales of A\$106 million in December 2020 and A\$129 million in January 2021. The industry was also successful in expanding sales to other markets in the Middle East and East Asia where they had been negligible, very small or appreciably lower in previous months. Small sales of malting barley were also made to Mexico in 2021. Success in diversification partly reflects barley's characteristics as a relatively uniform commodity traded on international markets, rather than a differentiated product like wine or some horticultural products. This positive story, however, comes with an important caveat: prices and returns were typically lower than in trade with China (Le May 2021).<sup>15</sup>

In the case of **coal**, Rajah's findings on diversification have already been mentioned. His finding of significant increases in coal sales to third countries from late 2020 is in broad agreement with our data (Table 6). However, over three quarters of this increase in monthly Australian coal sales outside China between July-November 2020 and December 2020-February 2021 is attributable to just three countries: India, Japan and the Republic of Korea. In Japan's case, December 2020-February 2021 exports were below those for the corresponding months a year earlier and it may be that the recovery in average monthly sales was just that – a recovery in that specific market. In India, sales over March-June 2019 were in excess of A\$1 billion per month, before slumping to a low of less than A\$300 million in June 2020. The subsequent increase in sales to that market might again reflect recovery.

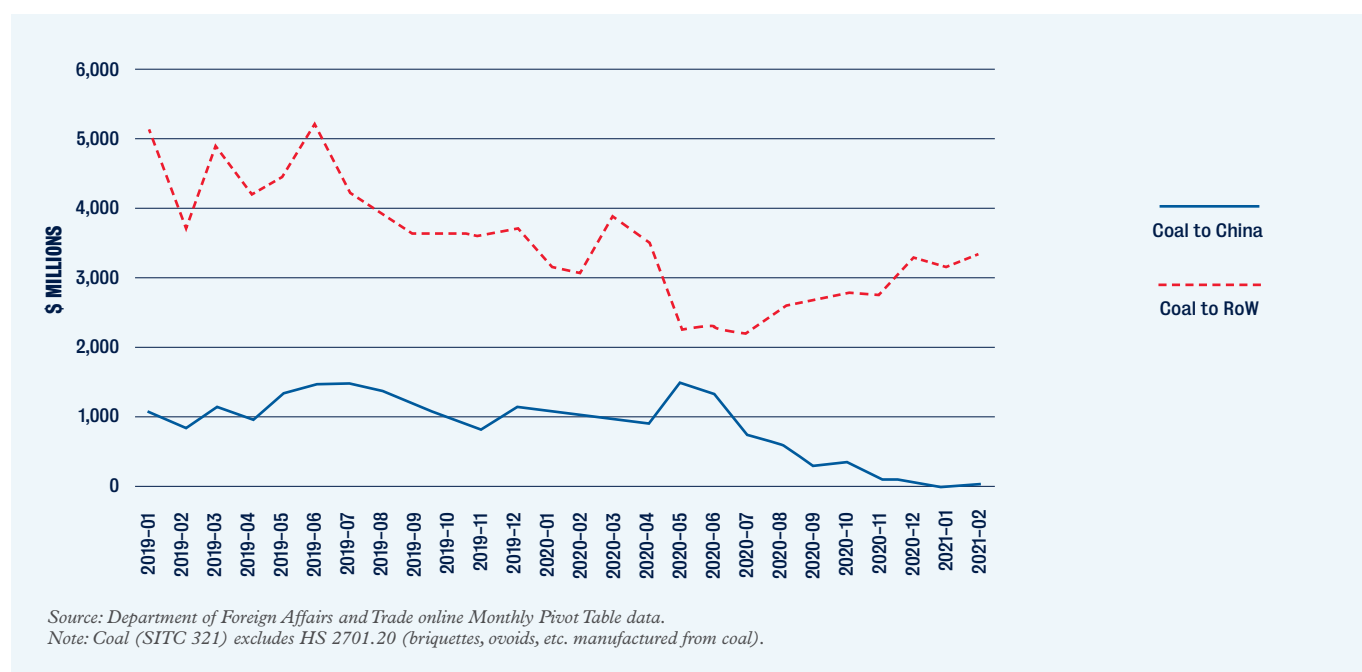
14. As Rajah (2021) points out, this increase was aided by a bumper crop.

15. For example, Australian feed barley sold in Saudi Arabia at around A\$293/tonne in 2020 compared to A\$325/tonne in the Chinese market. ABARES reports that Australian export prices have dropped below those of other major suppliers around the Black Sea and in Europe (ABARES 2021).

**Figure 5: Australia's Exports of Barley**



**Figure 6: Australia's Exports of Coal**



Of the other six commodities covered in some detail in Table 7:

- Copper ores and concentrates is probably the best example of a commodity that has been hit by Chinese restrictions but has ready access to alternative markets because of strong demand.
- Australian wines have probably reached their high watermark in the premium Chinese market, and the industry faces tough times. There are no obvious alternative markets that will provide the same price premium.<sup>16</sup> Alcoholic beverages (which as noted in Table 6 are mainly wine) showed few signs of diversifying as sales to China plummeted in December 2020-February 2021.

16. China was clearly a premium market for Australian wine in 2020, with sales on average at A\$10,255/cubic meter, compared to A\$3194 for the United States and just A\$1863 for the United Kingdom.



- Australia’s cotton industry is totally dependent on exports. China was by far our principal market. Some of the slack has been taken up by various countries, particularly in Asia. Australia has missed out on surging Chinese imports during recent months. Building new markets or expanding old ones is challenging in the face of strong competition from the United States and Brazil. One positive for the Australian industry is that surging Chinese import demand has pushed up world prices (O’Rielley 2020).
- Average monthly beef sales outside China fell after July-November 2019. Australian exporters are attempting to find alternative markets to China, but it comes with sizeable caveats because of herd rebuilding, Australian meat companies not wanting to forgo the price premium on meat exports to China, and the time and money needed to move into new markets. Australian industry is understood to be confident that it can hold its current market share given rising demand for red meat and the impact of African swine flu on the supply of animal protein in China.
- Australian rough wood exports to countries other than China have increased in value, but the growth was off a low base and was not nearly as great as the decline in exports to China. The immediate result is significant pockets of distress as jobs are lost in thinning, harvesting, haulage, and port operations (Packham & Barrett 2021).
- Crustaceans (mainly rock lobster for Australia) show some signs of diversification, with sales outside China up in December 2020-February 2021. But the loss in sales to China was far bigger. The industry is going through hard times and will struggle to find replacement markets.

As already suggested, restrictions in the Chinese market for some Australian commodities changed their prices relative to competitors as Chinese importers scrambled to obtain products from other countries and Australian producers grappled with oversupply. For example, Australian thermal coal prices, which had typically been higher than Indonesian prices before the ban, dropped well below them. Australian metallurgical coal prices also fell relative to prices of product sourced from the United States and from China itself, with US coking coal, according to Russell, becoming US\$39/tonne more expensive than Australian coal by April 2021 (Russell 2021; DISER 2021, p.62).

The task of adjustment nevertheless has been eased for some commodities because of a broader tendency for commodity prices to rise over 2020 and 2021. Trends for different commodities among the eight have varied. Australian thermal coal, measured by the benchmark Newcastle f.o.b. (free on board) price, rose from around US\$58/tonne in the first quarter of 2020 to almost US\$98/tonne in April 2021. Barley prices soared from around US\$99/tonne in the second quarter of 2020 to US\$154/tonne in April 2021 and cotton prices rose from around 66 to 91 US cents per pound over the same interval (IMF 2021a). As noted in Section 5, copper prices reached their highest level in more than 10 years in 2021, and this has meant high prices for ores and concentrates.

*The prices of lower-calorific thermal coals and Australian premium coking coal, however, have languished, at least until recently. And although there are no price indices for wine and rock lobster, it is likely that their prices went backward as they were largely or completely excluded from the Chinese market.*

Overall, the evidence points to significant diversification of markets by Australian exporters in response to Chinese trade measures as they claw back some of the trade losses identified earlier. But diversification appears to have meant lower prices in some cases, and action by China against Australian wine has meant much reduced sales to what had been a premium market. There is no evidence of diversifying beef exports. For coal (which dominates trends for the eight because of the size of the trade), the aggregate data shows some recovery in export sales in third markets, but more detailed evidence would be required to form a more definitive conclusion as to how far these increases have meant securing new markets by diversifying away from China and how much would have occurred in any event.



## 5. ASSESSING THE MEDIUM-TO-LONG-TERM IMPACT OF DETERIORATING RELATIONS

If Australia-China relations continue to deteriorate, adjustment costs over the medium term for many Australian industries will be considerable. Costs will depend on their reliance on the Chinese market, the likelihood that China will switch purchases to other countries, and prospects in other markets as sales in China become more difficult. Commodities fall into five different categories.

**Commodities largely unaffected in the short-to-medium term:** Iron ore and wool, and to a lesser degree some other metal ores and concentrates, are the most significant examples.

In the case of iron ore, China has limited sources of alternative supply in the short term – Brazil has a limited capacity to ship increased quantities and African economies such as Guinea with substantial iron ore reserves are some way off becoming significant suppliers, even given Chinese investment.

Australia's dominance of iron ore trade with China should not, however, lead to complacency because it is not assured beyond the next few years. China is investing heavily in developing alternative sources of supply, particularly in Africa. These investments could be pushed harder if relations with Australia remain difficult. In the medium term, Brazil can also be expected to increase its capacity to supply. Across a range of suppliers and even in China itself, it would be possible for China to pursue a strategy of adding modest amounts to output – say 10 million tonnes in one location and 20 million tonnes elsewhere, giving it the capacity within 4-5 years to divert supply partially from Australia. China's economy is also likely to become less steel intensive in the longer term and there is likely to be increasing use of scrap to make new steel (Hale 2021). All this needs careful watching.

This also applies to Australian exports of wool to China, though it is difficult to imagine, even in the medium-to-long term, that Australia will come under too much pressure in this market because China needs Australia just as much as Australia needs China. As we have previously argued, 'China cannot disrupt wool trade with Australia without undermining domestic and international supply chains ... that are critical for its wool textile industry' (Adams, Wickes & Brown 2021, p. 28).

**Commodities likely to retain a large market share in the medium term:** Australia's long-term LNG contracts with China should ensure that the industry will continue to supply very large volumes to China throughout the 2020s, even if our share of the market declines somewhat as China steps up overall LNG imports. Beyond then, however, there is some uncertainty.<sup>17</sup>

Several of Australia's LNG contracts come up for renewal at the end of this decade. If Australia-China relations continue to be difficult, China could look to other suppliers. In particular, US capacity has been developing rapidly (Adams, Wickes & Brown 2021). The fact that major Chinese state-owned companies (for example, Sinopec and the China National Offshore Oil Corporation) have stakes in Australian LNG projects may work in Australia's favour.

There also is some uncertainty about long-term supply trends for Australian LNG. Australia's future LNG supply capacity will depend on new investment beyond brownfield projects, as well as on policies on climate and energy. China could play a big part in possible future LNG investment in Australia and therefore in the expansion (or stabilization) of supply capacity.

**Commodities where adjustment costs will be limited, either because they are relatively homogenous and widely traded, or because global demand is buoyant:** Copper ores and concentrates, wheat and gold are examples, though for different reasons. Copper, as noted, is benefiting from strong global demand, which has seen prices rise to decade highs. This has flowed through to demand for copper ores. Wheat is an internationally traded commodity where Australia, as a competitive supplier, benefits from strong demand. Indeed, Australian wheat exports to China have been rising strongly in response to recovering pig numbers, which were decimated by African Swine Flu. Gold also is traded in many different markets, and the loss of sales to China in the past has been offset by increased exports to the United States, the United Kingdom and Switzerland.

**Adversely affected commodities that have a reasonable degree of access to other markets:** Coal is a good example. China's ban on Australian coal is likely to continue not only because of the poor relationship with Australia but because it helps to protect Chinese coal producers. The ban, nevertheless, has hurt China with higher prices on domestic markets and the need to pay premiums for relatively low-quality imports.

Optimistically, given the cost of the ban to China, Australia might regain some of its market, perhaps for metallurgical coal, albeit with a greater role for rival suppliers such as Russia. More realistically, the Chinese coal market is probably lost until relations with China are reset. Possibilities for adjustment are uncertain. Although Australian coal is of high quality, trading conditions on regional and global markets are likely to be difficult over the next decade. Southeast Asia and India are growth markets, but trade is likely to be competitive because of changes in the energy mix, protectionist pressures in some of these countries and new barriers linked to climate change concerns (Adams, Brown & Wickes 2018, 2020).

**Adversely affected commodities that face considerable difficulties accessing alternative markets:** Wine, rock lobsters and pine logs each face immediate and longer-term difficulties in finding alternatives to China.

As a broad generalization, Australia is not facing a problem with China on agricultural commodities. Most commodities essentially look after themselves on global markets. The problem is with specific agricultural products that often earned a substantial risk-related price premium, that were over-exposed to the vagaries of a single market and where producers did not manage risk as effectively as commodity producers like grain growers.

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17. Media reports in early May 2021 suggested that at least two of China's second-tier LNG importers had been instructed not to buy Australian LNG (see, for example, Macdonald-Smith 2021). More second-tier importers are starting to emerge as China pursues a strategy of gas market liberalisation, and this trend is expected to continue through the 2020s (Rystad Energy 2021).

## 6. A CONCLUDING NOTE

The trade data surveyed in this paper are concerning in several ways. One is China's carefully calibrated calculations of damage to specific industries and the communities that support them. Another is the speed of the collapse in specific trades where Australia was usually a prominent or dominant and often growing supplier. After years of mostly rapid growth, formal regulatory processes, rumour and fuzzy communication of Chinese policy all played a part in hobbling or terminating trades as the 'ocean of goodwill' between the two countries started to evaporate.

*The sheer breadth of Chinese targeting is immediately apparent. It extends across more sectors than in China's other coercive forays against 'difficult' partners<sup>18</sup> and directly affects, at a minimum, commodities that accounted for about 13 per cent of China's merchandise imports from Australia in 2019.<sup>19</sup>*

This is a significant slice. And it leaves a question mark hanging over a range of important commodity trades, including some of the largest, as well as over tourism and education once borders re-open.

The greater the depth and breadth of China's targeting, the greater the urgency for Australia's trade to become more diversified. For many Australian exporters, this will require trading off higher returns on offer from China for a broader, more resilient export portfolio.



18. Over the past decade or so, examples include blocking Norwegian salmon to China following the award of the Nobel Peace Prize to Chinese dissident Liu Xiaobo; obstructing rare earth exports to Japan after a Chinese trawler was detained in disputed waters around Senkoku (Diaoyutai) Islands; blocking exports of Philippine's tropical fruit to China following confrontation with China in the Scarborough Shoal region of the South China Sea; and damaging South Korean businesses from pop-groups to departmental stores to tourism following South Korea's decision to install the THAAD US defence missile system.

19. This estimate is based on the eight commodities listed in Table 4 as a percentage of China's merchandise imports from Australia. Data for 2019 are used because this was the last year prior to China's actions against Australian imports.

## GLOSSARY

ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences	HS	Harmonized Commodity Description and Coding System developed by the World Customs Organization
ABS	Australian Bureau of Statistics	IMF	International Monetary Fund
Chinese Customs	General Administration of Customs of the People's Republic of China	ITC	International Trade Centre
Conc.	Concentrates	LNG	liquefied natural gas
DFAT	Department of Foreign Affairs and Trade	Mt	million tonnes
DISER	Department of Industry, Science, Energy and Resources	PIIE	Peterson Institute for International Economics
f.c.f.	fresh, chilled or frozen	Phase One Agreement/Agreement	US-China Economic and Trade Agreement
FTA	free trade agreement	ppt	percentage point
GACC	General Administration of Customs of the People's Republic of China	RoW	Rest of the World
GDP	gross domestic product	SITC	Standard International Trade Classification
		WTO	World Trade Organization

## REFERENCES

- Adams, M, Brown, R & Wickes, R 2018, *New Frontiers South and East Asia: India: Trade Agenda 03*, Minerals Council of Australia, Canberra, <https://minerals.org.au/sites/default/files/181016%20New%20Frontiers%20India.pdf>
- 2018, *New Frontiers South and East Asia: ASEAN: Trade Agenda 04*, Minerals Council of Australia, Canberra.
- Adams, M, Wickes, R & Brown, N 2021, *Morphing Risks to Australia's Goods Trade with China: the US-China Economic and Trade Agreement and Deteriorating Australia-China Relations*, Institute for International Trade, University of Adelaide, Working Paper 02, February, <https://iit.adelaide.edu.au/news/list/2021/02/22/morphing-risks-to-australias-goods-trade-with-china>
- Department of Foreign Affairs and Trade (DFAT) online monthly country and commodity pivot table on Australia's trade, [Trade statistical pivot tables | Australian Government Department of Foreign Affairs and Trade \(dfat.gov.au\)](https://www.dfat.gov.au/data-and-publications/resources-and-energy-quarterly), last viewed 25 April 2021.
- Department of Industry, Science, Energy and Resources (DISER) 2021, Office of Chief Economist, *Resources and Energy Quarterly*, March, <https://www.industry.gov.au/data-and-publications/resources-and-energy-quarterly>
- Dyer, G 2020, 'China Crude Steel Production Powers On', Sharecafe, 20 October, [China Crude Steel Production Powers On – ShareCafe](https://www.sharecafe.com/news/china-crude-steel-production-powers-on)
- General Administration of Customs of the People's Republic of China (GACC) online database, last viewed 24 April 2021.
- Global Times 2021, 'China increases import quota for Australian wool', 5 January, <https://www.globaltimes.cn/page/202101/1211860.shtml>
- Hale, T 2021, 'If China demands less steel, Australian exporters will suffer', *Financial Times*, 13 April, <https://www.ft.com/content/af9904c9-ddd8-4729-a37c-6a0f62b22ce5>
- Hurst, D 2020, 'How much is China's trade war really costing Australia?', *The Guardian*, 28 October, [How much is China's trade war really costing Australia? | Australian foreign policy | The Guardian](https://www.theguardian.com/australia-news/2020/oct/28/how-much-is-chinas-trade-war-really-costing-australia)
- International Monetary Fund (IMF) 2021a, Primary Commodity Prices Data, [IMF Primary Commodity Prices](https://www.imf.org/external/comm/primary-commodity-prices), last viewed 1 June 2021.
- IMF 2021b, World Economic Outlook Database, April, [World Economic Outlook Database, April 2021 \(imf.org\)](https://www.imf.org/external/press/pr202104), last viewed 27 April 2021.
- International Trade Centre (ITC) Trade Map Database, <https://www.trademap.org/Index.aspx>, last viewed 24 April 2021.
- Le May, R 2021, 'Australian malting barley exports to Mexico, other China alternatives open up', NCA NewsWire, 20 January, <https://www.perthnow.com.au/business/finance/first-ever-australian-malting-barley-exports-to-mexico-other-china-alternatives-open-up-ng-38a7cb5b891bbe269412495a2717537f>
- ABARES 2021, [Agricultural forecasts and outlook](https://www.abares.gov.au/forecasts-and-outlook), March quarter 2021, Department of Agriculture
- Macdonald-Smith, A 2021, 'Fears grow of China dispute spilling over into Australian LNG', *Australian Financial Review*, 11 May, <https://www.afr.com/companies/energy/fears-grow-of-china-dispute-spilling-over-into-australian-lng-20210511-p57qq>
- O'Rielly, M 2020, 'China fallout impacts Australia's cotton industry', *Queensland Country Life*, 22 December 2020, <https://www.queenslandcountrylife.com.au/story/7049279/cotton-shippers-at-sea/>
- Packham, C & Barrett, J 2021, 'Australian timber faces protracted logjam amid China's import freeze', *Reuters*, 12 March, <https://www.reuters.com/article/australia-lumber-china-idUSL4N2KA1SV>
- Rajah, R 2021, 'The big bark but small bite of China's trade coercion', *The Interpreter*, The Lowy Institute, Sydney, 8 April, [The big bark but small bite of China's trade coercion | The Interpreter \(lowyinstitute.org\)](https://www.theinterpreter.org.au/2021/04/08/the-big-bark-but-small-bite-of-chinas-trade-coercion/)
- Russell, C 2021, 'China's ban on Australian coal forces trade flows to realign', *Reuters*, 12 January, <https://www.mining.com/web/chinas-ban-on-australian-coal-forces-trade-flows-to-realign/>
- Rystad Energy 2021, 'China's need for gas outweighs urge to restrict imports from Australia ... so far', 26 May.
- Smith, M 2021, 'Why business blames Canberra for the China mess', *Australian Financial Review*, 16 May, [Why business blames Canberra for the China mess \(afr.com\)](https://www.afr.com/news/politics/federal/why-business-blames-canberra-for-the-china-mess-20210516-p57qq)
- Smyth, J 2021, 'Australia shrugs off China trade dispute and opens new markets', *Financial Times*, 26 May, [Australia shrugs off China trade dispute and opens new markets | Financial Times \(ft.com\)](https://www.ft.com/content/20210526/australia-shrugs-off-china-trade-dispute-and-opens-new-markets)
- Sullivan, K 2021, 'Has China's trade war extended to table grapes? Search for answers as growers lose millions', *ABC News*, 20 May, [Has China's trade war extended to table grapes? Search for answers as growers lose millions - ABC News](https://www.abc.net.au/news/2021-05-20/has-chinas-trade-war-extended-to-table-grapes-search-for-answers-as-growers-lose-millions-1.5844444)
- Tillet, A 2020, 'China bans Australian coal as trade war worsens', *The Australian Financial Review*, 14 December, <https://www.afr.com/politics/federal/china-bans-australian-coal-as-trade-war-worsens-20201214-p56nfx>
- World Trade Organization (WTO) 2021, 'World trade primed for strong but uneven recovery after COVID-19 pandemic shock', Press Release 876, 31 March, [WTO | 2021 Press Releases - World trade primed for strong but uneven recovery after COVID 19 pandemic shock - Press/876](https://www.wto.org/press/2021/03/31/pr876.htm)
- Yin Yeping 2021, 'Chinese firms confirm halt to some Australian hay imports, seek alternatives', *The Global Times*, 25 March, [Chinese firms confirm halt to some Australian hay imports, seek alternatives - Global Times](https://www.globaltimes.cn/content/124952717537f)

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