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The Adaptation of the Australian Barley Value Chain to the China Tariffs

Louise Campbell

Undergraduate student, University of Melbourne

Abstract

Between 2014 and 2019, China accounted for 60-75 per cent of Australia's total barley exports, with the majority being malt barley, a high-quality grain that was sold at a premium price. However, the Chinese government's imposition of an 80.5 per cent tariff on Australian barley in 2020 significantly impacted the barley value chain. This tariff directly affected pricing, as China had been willing to pay a premium for malt barley unlike other markets that predominantly purchase lower-value feed barley. The tariff disrupted trade relations with China and forced the Australian barley industry to diversify and seek alternative trade partners. In this paper, these adaptations are discussed in terms of value chain principles.

Keywords: Tariff, Barley, Australia, China, Value Chain, Trade

Introduction

Barley is an annual cereal crop and one of the most important and widely consumed commodities in the world (New World Encyclopedia, 2022). Australia's annual barley production averages over 9 million tonnes, with approximately 70 per cent exported. Of the total production, 30-40 per cent is malt barley used primarily in brewing, while the rest is used for stock feed or as food for human consumption (AEGIC, 2023, p.2). In 2019, China was Australia's largest importer of barley (Farrell, 2023). However, in May 2020 the Chinese government imposed an 80.5 per cent tariff on all imported Australian barley for five years (Condon, 2024). Whilst the tariff has since been removed, its imposition caused major disruptions to Australia's barley trade. In this paper a value chain analysis is conducted to examine the ability of the Australian barley industry to adapt following the imposition of the Chinese tariff.

Australian Barley Industry Overview

The barley industry contributed \$4.4 billion to the Australian economy in 2021-22 and is the second largest crop in Australia (Australian Bureau of Statistics, 2022). The majority of barley is grown in southern Western Australia, extending along the coastline of South Australia, and Eastern Australia (Figure 1). Globally, Australia is highly competitive because of its ocean freight advantages into Asia, ranking as the third largest barley producer (Figure 2). Approximately 70 per cent of Australia's total barley production is exported annually. This positions Australia as the second largest barley exporting country (Figure 3). As a net exporter, and consequently a price taker, Australian barley prices are

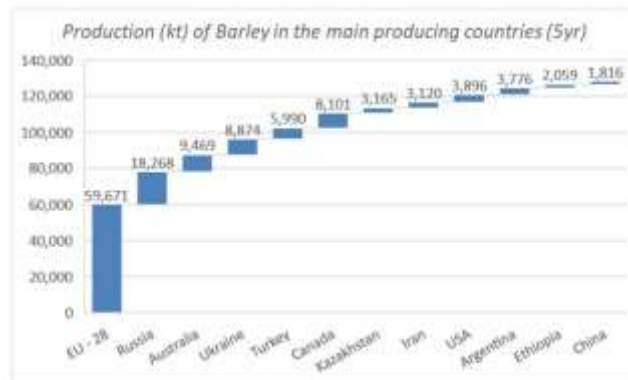
dominated by global markets, which have a high level of competition from other major exporters including those countries listed in Figure 3 (O’Shannassy, 2021).

Figure 1. Location of barley production regions across Australia, five-year average to 2022-23



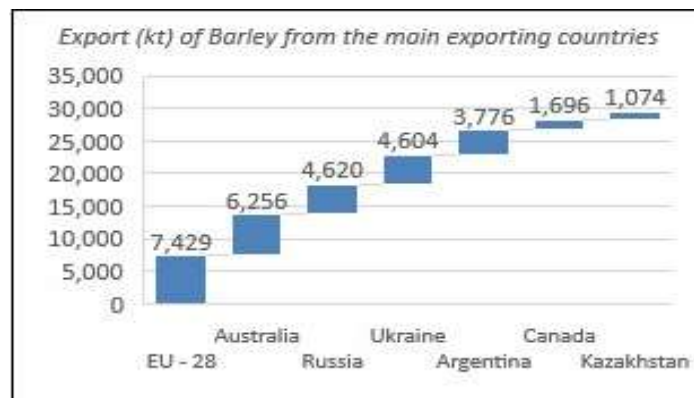
Source: (AEGIC, 2023)

Figure 2. Global production of barley, five-year average 2016-2021



Source: (USDA, 2021)

Figure 3. Export of barley from main exporting countries, five-year average 2016-2021?



Source: (USDA, 2021)

The Chinese Tariff

Prior to 2020, Australian exports of barley to China were worth about \$1.2 billion annually (Cao & Greenville, 2021). However, in 2018 China began an anti-dumping and countervailing duty investigation into Australian barley imports. Dumping occurs when a country exports a product at a price lower than its domestic market price. Countervail cases examine if this is due to subsidies or tax benefits from the exporting country (Australian Bureau of Statistics, 2022).

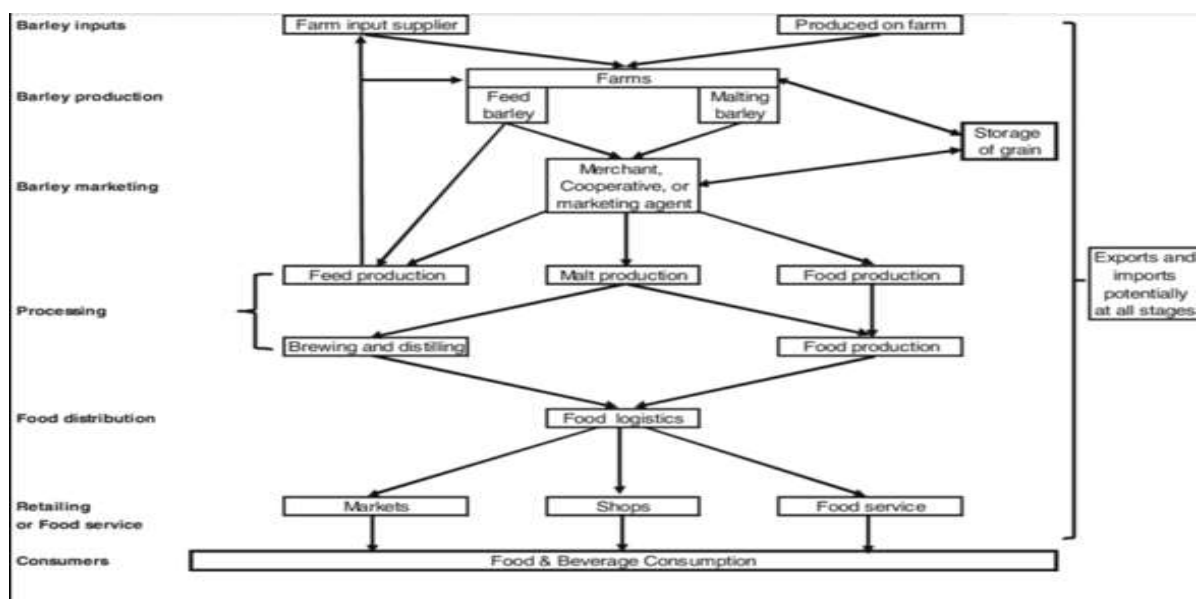
In 2020, the Chinese Ministry of Commerce ruled that both dumping and subsidisation had occurred, resulting in the imposition of a 73.6 per cent antidumping duty and a 6.9 per cent countervailing duty for five years (Cao & Greenville, 2021). The Australian government contested these claims through the World Trade Organisation’s dispute settlement process, but this was expected to take considerable time (O’Shannassy, 2021). The immediate impact was a loss of trade with China, a premium market, forcing the Australian barley industry to adjust its value chain and find alternative export partners.

The Barley Value Chain

The barley value chain consists of multiple stages and phases, including production, marketing, processing, distribution and retailing or food services usage to finally meet the needs of consumers (see Figure 4). It begins at the farm gate, where the barley is sown and harvested. It is then transported to a storage facility for cleaning and/or malting before being distributed to various markets. Finally, the grain reaches the port for export or factories to be converted into usable products for consumers.

There are two main types of barley. Malt barley has lower protein and beta-glucan levels and higher enzyme activity (Grain Australia, 2023). It is a key ingredient in beer and is also used in baking, confectionery, breakfast cereals, malt beverages, dairy products, condiments, and as a caramel substitute (Grain Research & Development Corporation, 2018, p. xvii). Conversely, feed barley has less stringent quality requirements and can have higher protein content (Grain Australia, 2023). It is primarily used as stock feed in the intensive pig, poultry, dairy and beef industries (Grain Research & Development Corporation, 2018, p. xvii).

Figure 4. Barley value chain



Source: (Newtown et al., 2011)

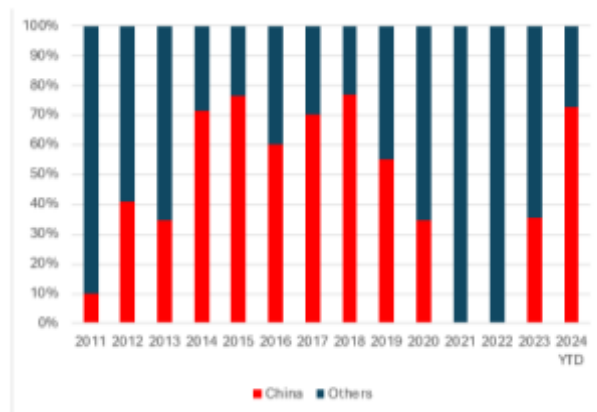
The tariff enforced by China primarily affected the market stage of the value chain. However, long-term impacts have reverberated through every part of the chain. In response to the tariff, Australia had to seek alternative markets for export. Farmers had to adapt and exhibit market responsiveness to mitigate the impact on their business.

Furthermore, the processing and distribution stages were also affected, as lower demand for barley exports led to decreased activity in these stages. The need to find new markets increased logistical challenges and required changes in marketing strategies. Ultimately, the tariff had a cascading effect, influencing all stages of the barley value chain from production to export.

Changes in Barley Exports and Prices

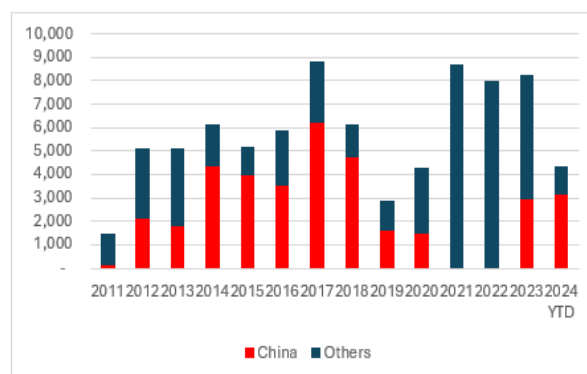
China represented 60-75 per cent of Australia’s total barley exports prior to the tariff (Figure 5). China was the dominant buyer of Australian barley and was prepared to pay the highest price to secure Australia’s supply. In 2018, barley exports to China were worth \$1.5 billion (Jackson & Patton, 2023). After the tariff was implemented in 2020, Australian exports to China went to zero overnight which unfortunately coincided with near record barley production in 2021 and 2022 (Figure 6). Without China as a buyer, the value chain had to move barley into alternative, lower paying markets.

Figure 5. Australian barley export percentage to China and other market regions, 2011 - 2024



Source: data from (ABS, 2024)

Figure 6. Australian barley export quantity to China and other market regions, 2011 - 2024



Source: data from (ABS, 2024)

Premium price

The Chinese grain import policy is a form of market manipulation (Zhao et al., 2021, p.1). The Chinese government places quotas on corn and wheat imports to protect domestic farms and local growers from overseas competition (Donley, 2021). However, China produces a relatively small amount of barley, approximately 1 million hectares, compared to Australia's 4 million hectares (Grains Australia, 2023). Due to this low production, China traditionally did not place a quota on barley imports, paying a premium price compared to other regions where barley is seen as a substitute feed.

China's dominance in the Australian barley market, coupled with the premium prices they paid, highlights the significant economic impact of the tariff on Australia's value chain. Although the industry found alternative trade routes, these came with higher freight costs and increased transport expenses (Gray & Hastie, 2020). These changes affected the marketing and production stages, influencing prices, trade structures, volume and industry structure (Liu et al., 2023, p.13).

Reduction in barley price

The tariff had substantial and immediate impacts on the Australian barley price. As seen in Figure 7, BFed Albany Barley was priced at \$320/tonne in April 2020; however, immediately after the tariff imposition, the price dropped to \$225/tonne. This \$95 decrease in price in less than a month had severe ramifications for the barley value chain particularly at the farm gate.

Figure 7. Buyer BFed price Albany, 2017 - 2024



Source: (Daily Grain, 2024)

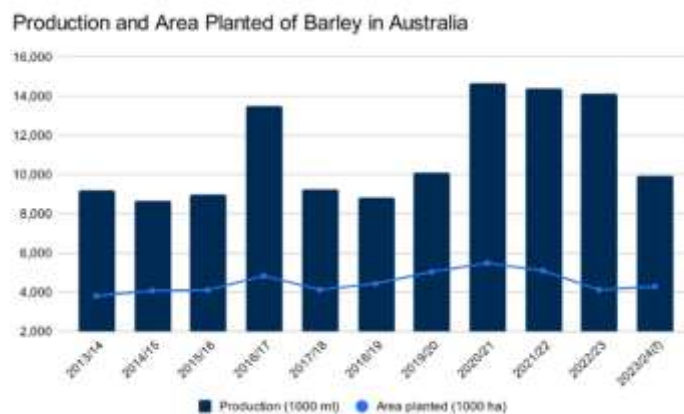
The timing of the tariff also coincided with a record harvest in 2020-21. As seen in Figure 8, barley production increased from 10,000 mt in 2019-20 to over 14,000 mt in 2020-21, marking the second largest harvest on record (MLA, 2020). This created an oversaturated market, especially with decreased exports to China, leading to an excess supply of barley compared to demand. Consequently, this had adverse impacts on the value chain requiring additional storage, marketing and processing.

Adaptability of the value chain

Prior to the imposition of the tariff, China was the dominant market for Australian barley exports, as illustrated in Figure 9.

However, following the introduction of the tariffs, Australian barley exporters were forced to diversify to more traditional markets, such as the Middle East. This led to a substantial increase in barley exports to Saudi Arabia, reaching 3 mt, an increase from just 0.06 mt in 2019/20 (Figure 10).

Figure 8. Production and area planted of barley in Australia, 2013/14 - 2023/24



Source: (Aisyah, 2023)

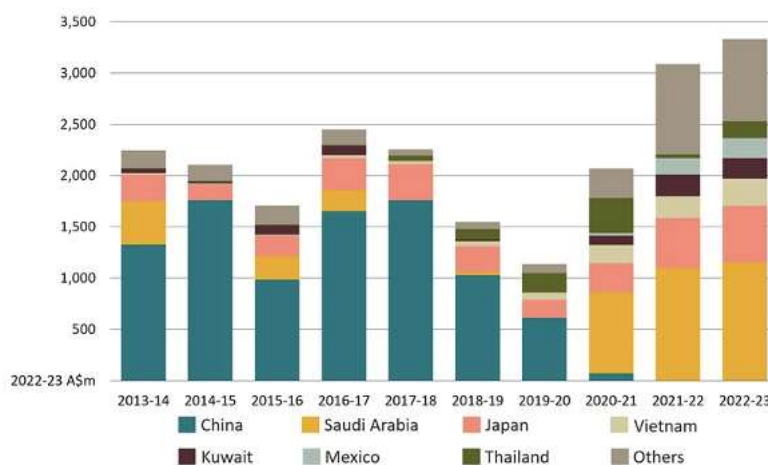
Figure 9. Australian barley export by destination, 2019/20 - 2021/22



Source: (Grain Central, 2022)

Additionally, new markets in Asia, such as Japan and Vietnam, also developed as major export regions for Australia (Figure 10).

Figure 10. Australian barley exports by destination, 2013/14 - 2022/23

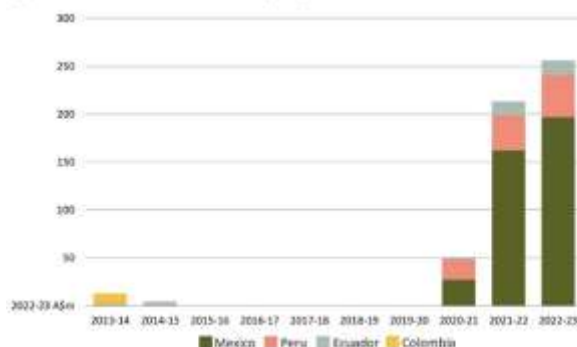


Source: (Australian Government – Department of Agriculture, Fisheries and Forestry, 2024)

Despite these new market opportunities, increased competition was evident from lower-cost United States corn, and barley from the Black Sea region (Thompson, 2020). The combination of the lower price and diversion of export markets was expected to decrease export returns by \$330 million in 2020-2021 (Cao & Greenville, 2021).

However, new markets emerged in Latin America, where Australian barley exports increased by 416 per cent, reaching \$256.1 million in 2022-23 (ABS, 2023). Notably, Australia accounted for 95 per cent of the value of Mexican barley imports in 2022 (Figure 11) (Australian Government - Department of Agriculture Fisheries and Forestry, 2024).

Figure 11. Value of Australia’s barley exports to Latin America, 2013-14 - 2022-23



Source: (Australia Government- Department of Agriculture, Fishers and Forestry, 2024)

Russia and Ukraine War

To add to the challenges caused by the Chinese tariffs, in 2022, there was a significant escalation in the ongoing Russia-Ukraine war (Lin et al., 2023, p.5). This directly affected the global grain trade, with modelling suggesting a 60 per cent drop in the availability of barley with wheat prices expected to increase by 50 per cent (Lin et al., 2023, p.5). This situation came at an opportune time for Australia, as it facilitated the formation of new trading partnerships due to the limited global grain supply. This reduction in supply coupled with increased demand, led to a rise in Australian barley prices. As shown in Figure 12, prices increased from a low of \$253/tonne in January 2022 to a peak in \$430/tonne in July 2022.

Figure 12. Buyer BFed price Albury, 2017 - 2024



Source: (Daily Grain, 2024)

Using the Aramyan approach to assess value chain performance, the Australian barley value chain demonstrated its ability to adapt effectively to external market variables (Aramyan et al., 2007, p.305). The value chain exhibited flexibility and responsiveness by adjusting its marketing strategy, enabling producers and consumers to navigate the evolving global landscape and successfully address the gap in the global barley supply during the Russia and Ukraine War.

Tariff Removed

In August 2023, China removed the tariff on Australian barley, resulting in 76 per cent of barley exports being directed to China following the removal of restrictions. This allowed the industry to capitalise on the premium price offered by the Chinese market (Edmonstone, 2024). The immediate response was a surge in exports to China, driven by their high premium prices, which, as shown in Figure 12, led to a \$30 per tonne increase in barley prices almost immediately (Wells, 2023).

While this development was welcomed by the Australian government and growers, it has also emphasised Australia's historical reliance on China within the barley market. Although China continues to pay a premium for Australian barley compared to other markets and remains a significant buyer, the imposition on the tariff highlighted the need for developing alternative markets to ensure long-term resilience and market diversification.

Conclusion

The tariff on Australian exports of barley to China imposed in 2020 had significant and extensive impacts on the Australian barley value chain. The immediate consequences were the disruption of a major export market, which forced Australian exporters to rapidly adapt by seeking alternative markets in regions such as the Middle East, Southeast Asia and Latin America. While these new markets provided opportunities to offset the loss of the Chinese market, they also introduced challenges, including increased competition from other suppliers and lower prices. Overall, the Australian barley industry demonstrated resilience and adaptability, effectively diversifying its market base and adjusting its value chain to maintain its global position.

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