

Livestock Brief - International Supply Chain Benchmarking Sectoral Assessment

Report for the Department of Infrastructure, Transport, Regional Development and Communications

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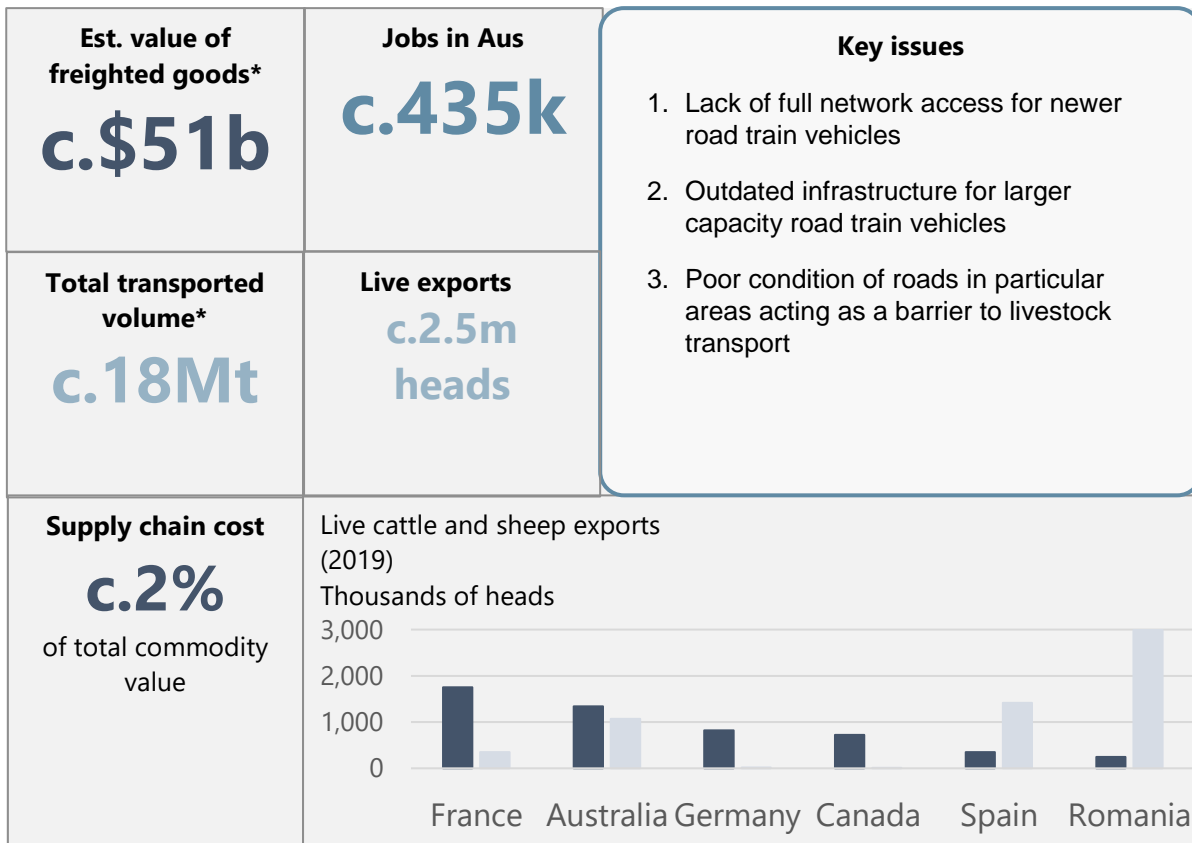
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Executive Summary



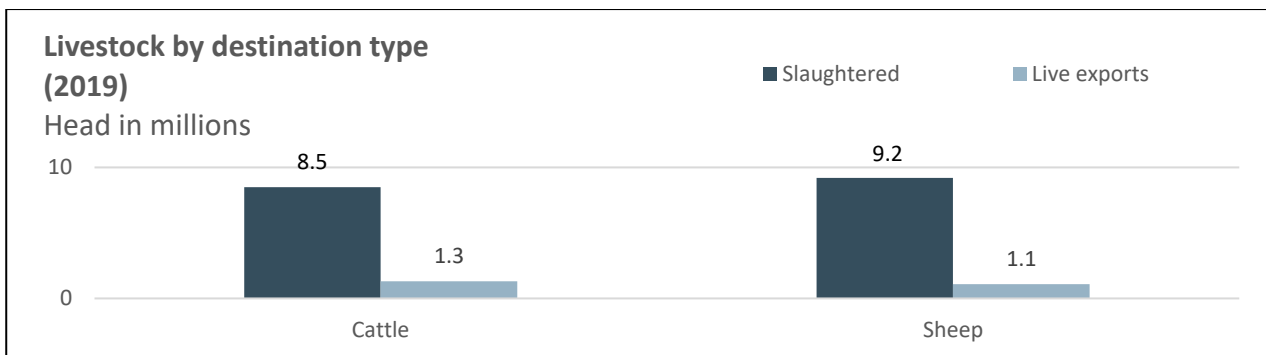
*Value and volume include cattle, sheep (incl. wool), goats, pigs, chickens and sheep goats

Australia's livestock industry is estimated to be worth c.\$51b annually. Australia's most demanding livestock freight, in terms of overall freight task, are cattle (c.11Mt) and sheep (3.5Mt). Cattle and sheep combined make up c.85% of the total livestock transport costs due to geographically dispersed production and a significant number of live exports.

The key issues in the livestock supply chain are the lack of full network access and outdated road infrastructure for newer, safer and more productive large road train vehicles, and some major roads in poor condition in Central Australia.

Livestock Supply Chains in Australia

Cattle and sheep make up c.85% of the livestock supply chain transport costs and represent Australia's top two live exports. As Australia prohibits the importation of livestock, all livestock supply chains only relate to animals produced in Australia.



Australian livestock is produced in every state and territory all over Australia except ACT. For live export markets, livestock is moved from properties to livestock depots where they are aggregated and moved to port. For domestically slaughtered cattle, sheep or goats, the animals are transported primarily via road from property to the abattoir, with some livestock first spending time in a feedlot to increase their size. While the use of rail is generally limited, in Queensland, a small number of cattle are transported on road to a rail point, and then transported to the abattoir via rail.

Major live export ports are in Darwin, Townsville, Portland, Fremantle and Broome due to proximity to export markets in Asia and the Middle East.ⁱ As these ports are mostly located in the north, farms located in the Northern Territory and Queensland generally have a strong live export focus, while farms in southern areas have a focus on processed beef exports and domestic consumption. However, farms in the north tend to be located further from their core destinations than farms in the south, increasing the total journey time.

Due to the live cargo, there are significant regulations around transport. There are strict rules around ventilation, drainage and the provision of food and water.

The live exports sector employs c.13k people in Australia, with the wider livestock and processed red meat industry directly and indirectly employing c.435k. Indirect jobs include those involved in the transportation of meat and livestock, activities related to livestock sales and employment in providing animal health services and supply of farm inputs.ⁱⁱ

Australia's livestock supply chain has the following key issues:

1. For newer road train vehicles (e.g. A-Double), trucking operators or freight customers must lodge several individual vehicle access applications with the government for different sections of the route, which can be a lengthy and uncertain process. As a result, operators choose to use less productive, less safe trucks (the lowest common denominator vehicle through the whole route) to undertake the journey.ⁱⁱⁱ
2. Some road infrastructure cannot support larger and heavier vehicles, resulting in lost opportunity to increase livestock capacity and productivity. By the time the roads are updated, newer, more productive trucks will enter the market and necessitate further investment. Future infrastructure should pre-emptively consider future trucks still in development.
3. Some of central Australia's main beef-transport roads connecting NT to QLD / WA are in poor condition, with bulldust in some spots causing trucks to get bogged. Cattle producers are avoiding these major roads at a huge additional cost to ensure livestock safety, either adding hundreds of kilometres to circumnavigate the roads, or choosing not to sell to QLD / WA markets.^{iv} There is a significant opportunity to identify and improve roads which can cut down travel distance and supply chain reliability for cattle producers.

International Supply Chain Comparison

The world's cattle population reached c.1 billion in 2021. The top five countries with the largest cattle populations are India, Brazil, China, USA, and Argentina, holding c.80% of the world's cattle inventory. USA, China and Argentina predominantly farm cattle for dairy and beef production, while India mainly produces dairy as it is prohibited to slaughter cattle in many states. Brazil produces cattle for dairy and beef production, and for live exports. Australia is the world's second largest live exporter of cattle after France, exporting 1.3m head in 2019. This is followed by Canada, Mexico, Germany and Brazil.

The world's sheep population is c.1.2 billion. The top five countries with the largest sheep populations are China, Australia, India, Nigeria, and Iran, holding c.35% of the world's sheep inventory. Australia is the world's fourth largest live exporter of sheep after Romania, Jordan, and Spain, exporting 1.1m head in 2019.

Globally, the predominant mode of land transport for livestock is road. While rail historically dominated livestock transport globally, rail has been phased out. Road trains are more suited for the just-in-time logistics required in the livestock industry. They are faster, more flexible, and more easily comply with animal welfare obligations and meat quality standards which most major exporters must adhere to worldwide.

The difference between countries' transport systems is in the quality of the roads, the size and weight the roads can support, and the consistency of road quality standards across the national network.

Animal heads head in '000s	Australia	France	Canada	New Zealand	United States	Spain
Cattle population	25,000	18,200	11,500	10,150	94,400	6,600
Cattle live exports	1,300	1,750	723	40	304	350
Cattle slaughtered	8,500	3,300	3,150	4,300	33,000	2,300
Sheep population	66,000	7,100	795	26,800	5,200	15,480
Sheep slaughtered	9,200	5,000	490	22,300	4,200	10,060
Sheep live exports	1,100	347	12	0.3	23	1,415
Mode of transport	Predominantly by road, with some rail in QLD	Predominantly by road	Predominantly by road	Predominantly by road	Predominantly by road	Predominantly by road

Benchmarking Outlook

Intl benchmarking considerations	Importance	Livestock Supply chain
Size and growth		Livestock supply chains directly and indirectly employs c.435k Australians and carry a significant 17Mt of freight. The supply chain represents Australia's largest non-mining export (incl. processed meat)
Freight importance		While freight typically accounts for only a small proportion of value, for cattle travelling more than 1000km, transport costs can be up to 40% of the total price
Export importance		Efficiencies in the supply chain will boost Australia's live export and processed meat export industries. Australia is the 2 nd highest exporter of live cattle, and the 4 th highest exporter of live sheep.
Geographic scope		Cattle and sheep are produced all over Australia – majority of cattle in QLD, NSW and VIC; majority of sheep in WA, NSW, VIC, SA. Abattoirs are also all over Australia, majority in NSW, VIC, QLD
Known efficiency / public interest		The movement of live animals is an issue with high public visibility. High welfare standards and regulations is important for maintaining the social license to operate. While these standards must be maintained when seeking further efficiency, lower transport costs could be passed to consumers through lower food costs

There is an opportunity to benchmark the supply chain for livestock due to its importance to the processed meat sector and the size of the industry in terms of employment and geographic scope. Efficiencies in this supply chain could result in higher margins or passed on to consumers in the form of lower meat prices for consumers. Countries chosen for benchmarking should ideally produce both cattle and sheep domestically, have geographically dispersed production and broadly comparable road infrastructure to Australia, and good data availability.

The United States is a major producer of both cattle and sheep and has geographically dispersed production, similar to Australia. The cost of transporting livestock by road in the United States is estimated to

be cheaper than in Australia², reflecting more efficient loading capacities of their trucks, better transport infrastructure and lower fuel costs. Thus, the US would be a suitable comparator country.

Canada has a significant population of cattle and is a major live exporter. The production of sheep is not a major focus. However, Canada's small population relative to its land mass, geographically dispersed cattle production, and similar level of transport infrastructure to Australia makes it a good comparator.

New Zealand is a major producer and exporter of cattle and sheep, with most livestock slaughtered domestically. Live exports transported via sea will be phased out by 2023, however the domestic supply chain is comparable to Australia, with a high reliance on road transport and sizable cattle and sheep populations.

References

ⁱ Agrifutures Australia, The Impact of Freight Costs on Australian Farms, May 2019

ⁱⁱ Meat and Livestock Australia, State of the Industry Report 2020 The Australian red meat and livestock industry,

ⁱⁱⁱ Juturna Consulting, Australia's red meat freight supply chain: Challenges to sector productivity, opportunities for planning and investment reform, September 2017

^{iv} ABC News (article), NT beef roads in such poor condition that cattle trucks refuse to travel them, June 11 2020