



VALUE ANALYSIS OF THE AUSTRALIAN LIVE SHEEP EXPORT TRADE

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This report was commissioned by LiveCorp and Meat & Livestock Australia

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The live sheep export trade contributes a vital element to regional economies

KEY FINDINGS

The collapse of the wool reserve price scheme in the early 1990s precipitated a reduction in the Australian sheep flock as farmers transitioned away from Merino sheep toward cropping. The Australian sheep flock declined by over 100 million head during the 1990 to 2010 period. In line with a contracting Merino flock, the annual live sheep export volumes exiting Australia declined from 6.8 million head in 2001 to 1.9 million head in 2013.

Since 2010, the Australian sheep flock (excluding lambs under a year of age) has stabilised at around 50 million head and for the last five years live sheep export volumes have fluctuated around 2 million head per annum. In 2018, the cessation of the live sheep trade during the northern hemisphere summer saw annual volumes shrink toward 1.1 million head.

- Western Australian sheep farmers are heavily reliant on the live sheep export trade with over 82% of the national trade volume exiting the port of Fremantle over the last five years. Within Western Australia, the live sheep trade represents nearly 30% of their annual sheep and lamb turnoff. As well as providing a selling alternative for surplus sheep, the access to live export becomes critical for Western Australian farmers when the season deteriorates.
- Within the south eastern region of Australia, South Australia is considered the hot spot for live sheep export flows. Live sheep export volumes exiting this state represent over 5% of their annual sheep and lamb turnoff, compared to 0.3% for Victoria and 0.1% for the remaining states.
- On-farm direct employment on a full time equivalent basis related to the live sheep export trade is calculated to be 1,037 employees nationally. Across the entire live sheep export supply chain, full time equivalent employment is estimated at 3,443 workers.
- Value chain analysis indicates that 44-49% of revenue earned from the live sheep export trade is retained on-farm and is estimated to have averaged \$100 million per annum over the last five years. Some participants in the supply chain that receive a relatively low share of the total value chain report that a high proportion of their revenue is attributable to the trade. This is particularly true for fodder livestock agents, handlers and buyers, veterinarians and quality control service providers.
- Many participants in the value chain in Western Australia derive a higher proportion of their business revenue from the live sheep trade than their counterparts in the south eastern states. For example, veterinarians in Western Australia that are involved in the live sheep trade report that 25-50% of their income is generated from activities pertaining to the live sheep trade. In contrast, veterinarians from the south eastern states indicate that their proportion of revenue from live export related business is less than 5% of their overall income.

PROJECT SCOPE

Mecardo has been engaged by LiveCorp to undertake an analysis of the Australian live sheep export trade. The objective of this project was to determine the value of the industry to regional zones across the country. This report is the first of a three-stage project which will deliver the following:

1. Identify and outline the economic benefit that flows from the live sheep export trade to participants in the Australian supply chain.
2. An economic analysis of the industry's self-imposed three-month moratorium and the regulatory changes introduced in 2019.
3. An analysis of a range of farm level decision-making options (domestic fundamentals) influencing national sheep flock numbers, with a primary focus on Western Australia.

METHODOLOGY

QUANTITATIVE ASSESSMENT

An estimate of live sheep export related on-farm employment levels, on a full time equivalent (FTE) basis, was calculated from ABARES AAGIS annual survey data from thirty-two pastoral zones across Australia.

A red meat and livestock industry employment multiplier, which was derived from the Red Meat Advisory Council's State of the Industry 2018 report, was used to determine the total employment figures across the entire live sheep export industry supply chain within Australia.

Employment multipliers are used to assess the impact of an industry on a region by measuring the amount of direct, indirect and induced employment that is supported by that industry. Generally, direct jobs are those that related specifically to the industry being assessed, while indirect jobs relate to employment within supporting industries. Induced employment refers to those jobs that are the result of the direct/indirect industry workforce spending within the community.

For the purpose of this report, and the associated surveys undertaken, direct jobs were determined to be on-farm employment relating to the live sheep export trade. Indirect employment refers to any relevant off-farm employment that was the result of exposure to the live sheep trade and included participants within the Australian value chain such as livestock agents, fodder suppliers, transport operators, veterinarians, wharf staff, quarantine, export company employees, onboard shipping staff, shearers, etc. Induced employment levels were not assessed as part of this report, nor included in the accompanying surveys.

A review of employment multipliers from a selection of agricultural reports and surveys demonstrates that there can be some variation in the measure, depending upon what constitutes direct and indirect employment, or whether induced employment was included in the measurement.

Employment Multipliers in Agriculture	Multiplier
Live Export Sheep Survey - Mecardo, 2019	6.56
Food Fibre & Forestry Facts - National Farmers Federation, 2017	5.26
Value Analysis of the Australian Live Cattle Trade - Mecardo, 2018	4.83
Live Export Cattle Survey - Mecardo, 2018	4.76
State of the Industry Report - Red Meat Advisory Council, 2018*	3.32
Live Export Report - Hassall & Assoc, 2004	2.60
Agriculture Workforce Insights - ABARES, 2018	2.04
Live Export Report - Clark, Morrison et al, 2007	1.90

*production on farm jobs vs total employment

(production on farm jobs don't include meat processing and retailing/wholesale employees)

SURVEYS

In order to capture current information on the live sheep export supply chain, the value to regional communities and the reliance on the industry at a regional level, two surveys were designed by Mecardo and completed by 203 industry participants within the supply chain.

Survey 1- 'The value of the live sheep trade to supply chain participants' asked all participants of the live sheep export supply chain to identify the role of their business and estimate the total percentage of their revenue derived from the live sheep trade. This data provides an indication of each participant's reliance on the trade.

Survey 2- 'The value of the live sheep export trade to regional Australia' was completed by sheep farmers and exporters, and collected data on their operation for the 2018/19 season and associated costs. This data was weighted and analysed to produce indicative live sheep export value chains for Western Australia and South Eastern regions.

Desktop research and analysis using public data and previous literature was also utilised in the preparation of this report to validate the findings.



AUSTRALIA'S SHEEP MARKETS

During the 2014-2018 period, Australian live sheep export volumes have represented approximately 6% of annual sheep and lamb turnoff, on average. The Western Australian sheep and wool industry is heavily dependent upon the live sheep export trade with the bulk of the flow exiting through the port of Fremantle. As well as providing a selling alternative for surplus sheep to Western Australian sheep farmers, the access to live export becomes critical when seasons deteriorate.

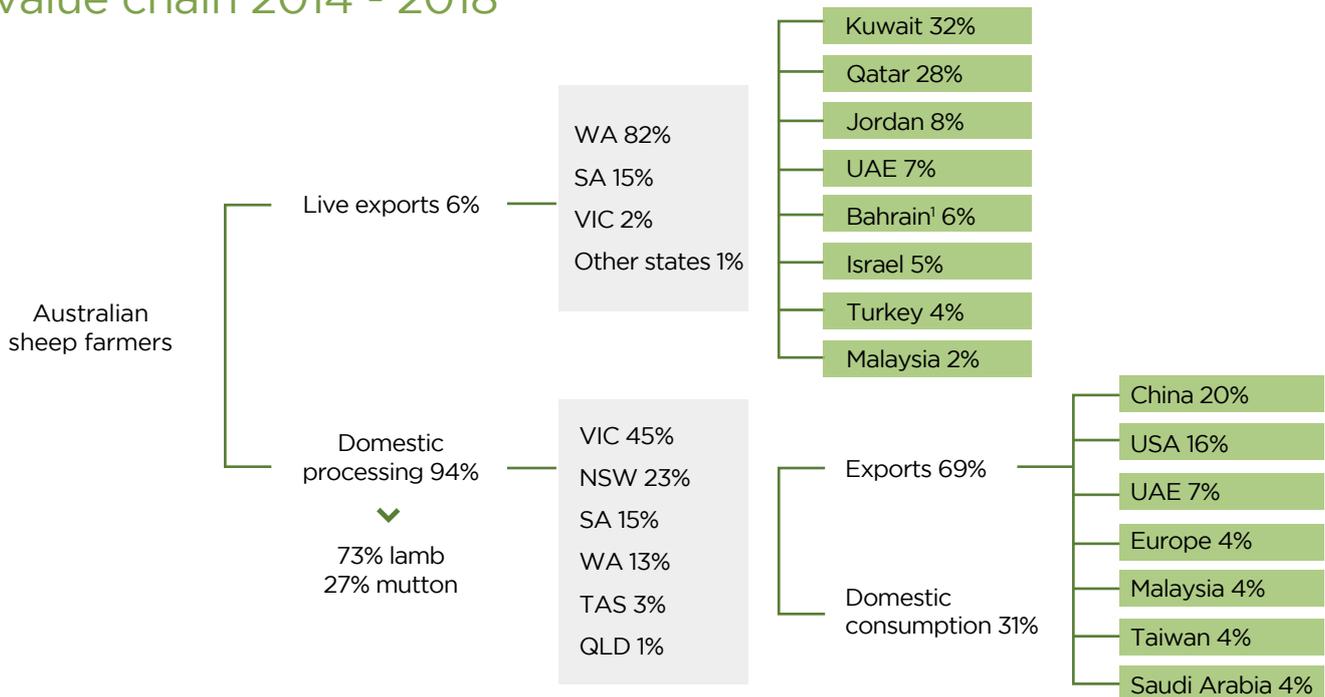
WA sheep farmers use the live export trade to reduce their sheep numbers, with the sale of wethers the relief valve to allow the better management on pasture and breeding flock in a drought. This option provides a stock reduction model while allowing the retention of ewes, thereby allowing WA sheep farmers to position for a flock rebuild when seasons improve.

Most live sheep exported from Australia are transported to the Middle East, with 60% of the trade going to Kuwait and Qatar over the last five years.

LIVE SHEEP EXPORT STATS 2014-2018 avg



Trade flows through the sheep value chain 2014 - 2018

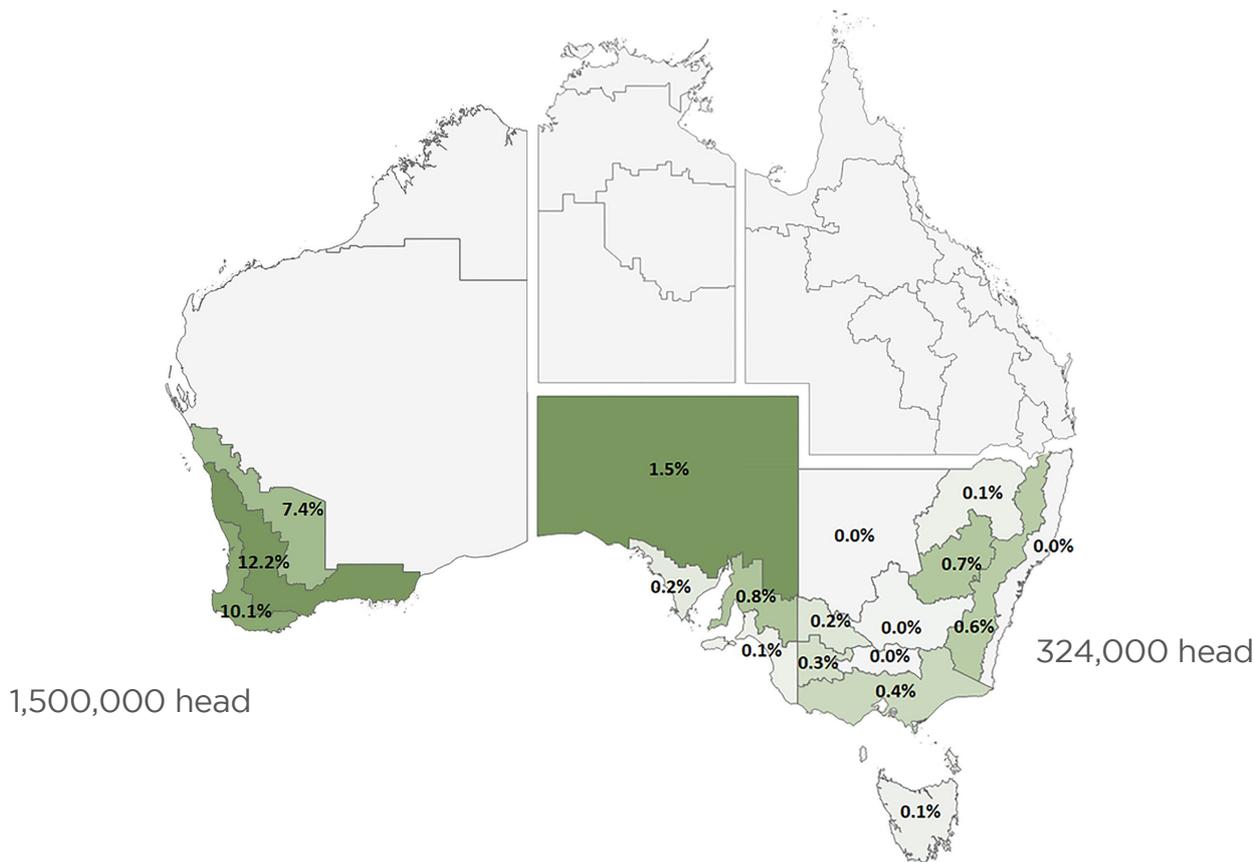


Key live sheep export zones:

1. WA: Central and South Wheat Belt
2. WA: South West Coast
3. WA: North and East Wheat Belt
4. SA North Pastoral

1. Bahrain stopped taking live sheep from Australia in 2015

These regional representations show the average percentage of sheep sold to live export as a proportion of total sheep sales within each zone over the 2014 to 2018 period. The colour shades identify the key source zones for live sheep within Western Australia and the combined south eastern region, which encompasses New South Wales, Victoria, South Australia and Tasmania.



WESTERN AUSTRALIA

82.4% of Australia's live sheep exit the country through the port of Fremantle at 1.5 million head per annum averaged over the last five years. WA has the highest proportion of live sheep export volumes as a percentage of total sheep and lamb turnoff at an average of 27.7% over the 2014-2018 period. The Central and Southern Wheat Belt has the largest proportion of live sheep sales in terms of total sales values at 12.2%.

The South West Coast and North East Wheat Belt are also highly dependent on live sheep export, at 10.1% and 7.4% of total sales respectively for those regions, according to the ABARES AAGIS survey. The Pilbara and Central Pastoral and the Kimberly are not considered significant sheep production regions, therefore, ABARES AAGIS data is not available for these zones.

NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA & TASMANIA

In the South Eastern region of the country, the ports of Port Adelaide and Portland send approximately 279,000 and 39,000 head of sheep offshore each season, respectively. When combined, this constitutes 17.2% of the national live export trade. Only 1.9% of the sheep sold to live export within the south eastern region exit from ports other than Port Adelaide or Portland and consist of around 6,200 head per annum. Most live export sheep from zones within New South Wales exit the country via Portland or Port Adelaide.

In terms of annual sheep and lamb turnoff, the south eastern region live export trade volumes over the last five years was 1.2% of total turnoff. South Australia is the hot spot for live sheep exports sales within the south eastern region, with live sheep export volumes representing 5.6% of their total turnoff, compared to 0.3% for Victoria and 0.1% for the remaining states. Sales to live export make approximately 1.5% of total sales in the SA Northern pastoral zone, according to the ABARES AAGIS data.

N.B. The percentage of sales reported as live export in the ABARES AAGIS survey may be understated as survey data is collected at the producer level. Sales conducted at the saleyard listed as farm to farm, farm to saleyard or transported interstate may be listed by the vendor as a domestic sale but still exit the country via live export channels during a secondary transfer of ownership.



LIVE EXPORT AND THE AUSTRALIAN FLOCK

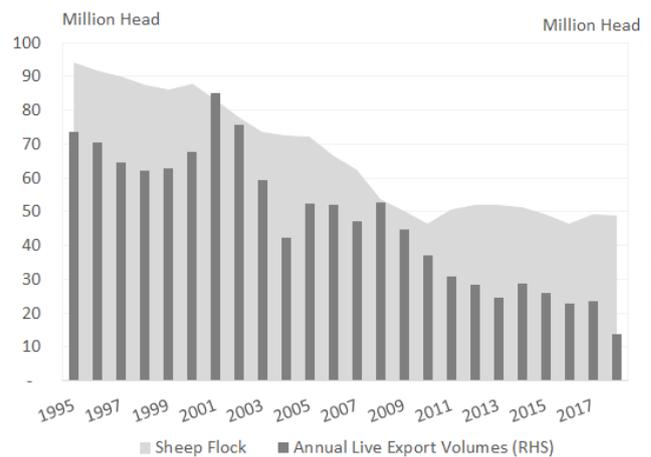
The Australian sheep flock has been in decline since the early 1990s, post the collapse of the wool reserve price scheme and the transition away from sheep toward cropping. In line with a reducing Merino flock, the annual live sheep export volume contracted from 6.8 million head in 2001 to 1.9 million head in 2013.

In the last decade, the sheep flock has stabilised at around 50 million head while live export volumes have fluctuated near 2 million head over the past five years. In 2018, the moratorium on the live sheep trade during the northern hemisphere summer saw annual live trade flows reduce to 1.1 million head.

Analysis of the annual percentage change in the sheep flock versus live export flows demonstrates that increasing live export volumes often precedes a reduction in the sheep flock. This occurs as farmers take advantage of live export channels during periods of higher than normal turnoff. During the 2000 to 2010 period, the NSW sheep flock declined 44%. ABARES AAGIS survey data shows that the annual percentage of sheep sales to live export as a proportion of total sales in NSW during this period was more than four and a half times higher than in the 2014-2018 period.

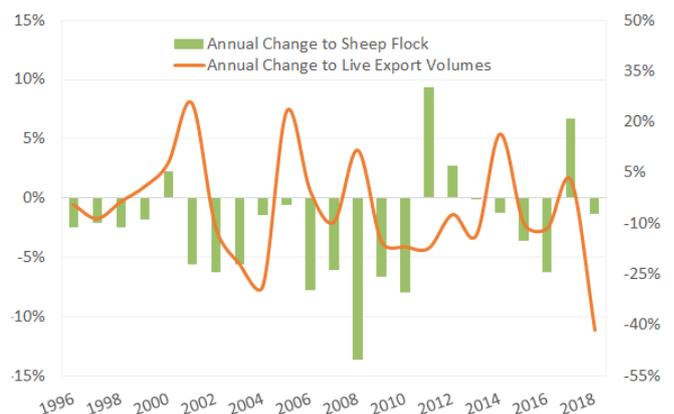
Elevated live sheep export sales as a proportion of total sales were noted across the south eastern region from 2000 to 2005, averaging 3% compared to just 0.3% in the 2014-2018 period.

Live sheep export volumes versus flock¹



1. Sheep flock (doesn't include lambs under 1 year of age)

Change in live sheep export volumes versus flock



SIGNIFICANCE OF THE LIVE SHEEP EXPORT TRADE TO EMPLOYMENT

1,037
on farm workers

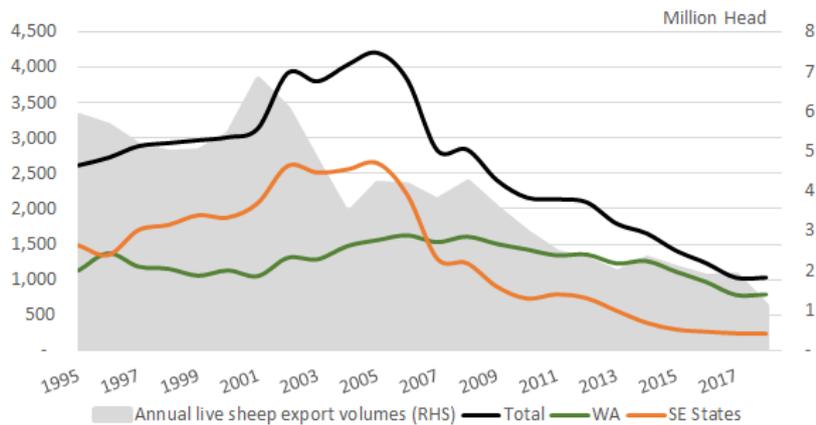
3,443
total employment

During the strong live sheep export period from 2000 to 2005, on-farm labour units allocated to full-time equivalent (FTE) employment in the south eastern region increased to a peak of 2,649 direct on-farm jobs by 2005. By 2018, a reduction in live export volumes and a reduced proportion of live export sheep sales as a percentage of total sales throughout the south eastern region saw on-farm employment estimates decline by 90% to 239 FTE jobs.

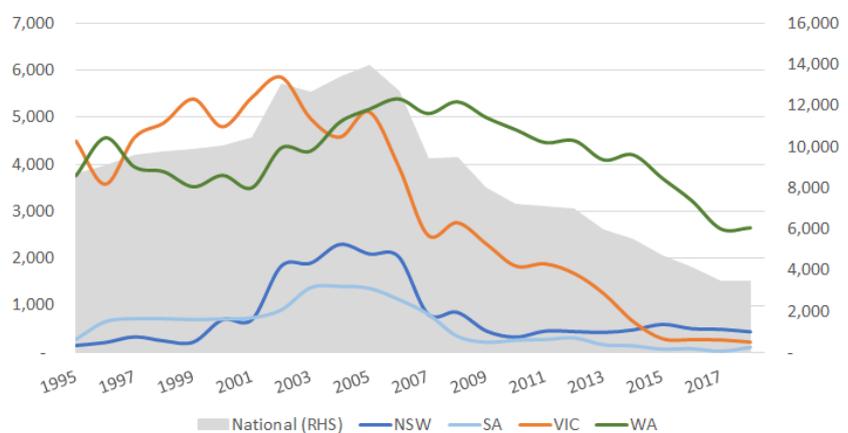
A similar pattern is noted for direct on-farm employment figures for Western Australia, albeit with a lesser magnitude decline. On-farm direct FTE employment relating to the live sheep trade in Western Australia fell 50% from 1,627 in 2005 to 798 in 2018.

Across Australia, on-farm direct FTE employment from the live sheep export trade was calculated at 1,037 jobs in 2018. By applying the Red Meat Advisory Council (RMAC) employment multiplier¹ to the on-farm employment figure, a total employment level can be estimated for the supply chain. On a national level across the live sheep export supply chain the total number of FTE employment is estimated to be 3,443 workers, with 77% attributed to the Western Australian supply chain.

On-farm FTE employment versus live sheep export volumes



Total FTE employment of the live sheep export industry



1. A multiplier of 3.32 was used to convert from direct on-farm employment to total employment figures representing both direct and indirect employment across the value chain for the live sheep export trade. This employment multiplier is derived from red meat industry employment statistics contained in the [RMAC/MLA State of the Industry 2018 report](#), which reports 132,100 on-farm jobs to 438,100 total jobs in the sector.



Who is part of the live sheep export value chain?



Farmers, livestock agents, shearers and wool agents, fodder growers and manufacturers, transport operators, consultants, quarantine staff, quality control officers, veterinarians, port operators, rural merchandise, sheep buyers, stevedores, exporters, ship owners and rural finance services.



LIVE SHEEP VALUE CHAIN

Indicative value chains for the live sheep export industry in Australia to arrival at port destination were analysed to understand and quantify where the value of revenue is retained across the supply chain. The estimated costs of various components of the live export value chain have been weighted and calculated as a proportion of total value chain costs on a per head basis for Western Australia and the south eastern region (NSW, VIC, SA and TAS).

The value chain analysis shows that the majority of revenue from live sheep export is retained by the producer, ranging 44-49%. This equates to an estimated \$100 million of revenue retained by Australian sheep farmers. Shipping operators retain the second largest share at 18% and fodder suppliers take the third largest share at 12%.

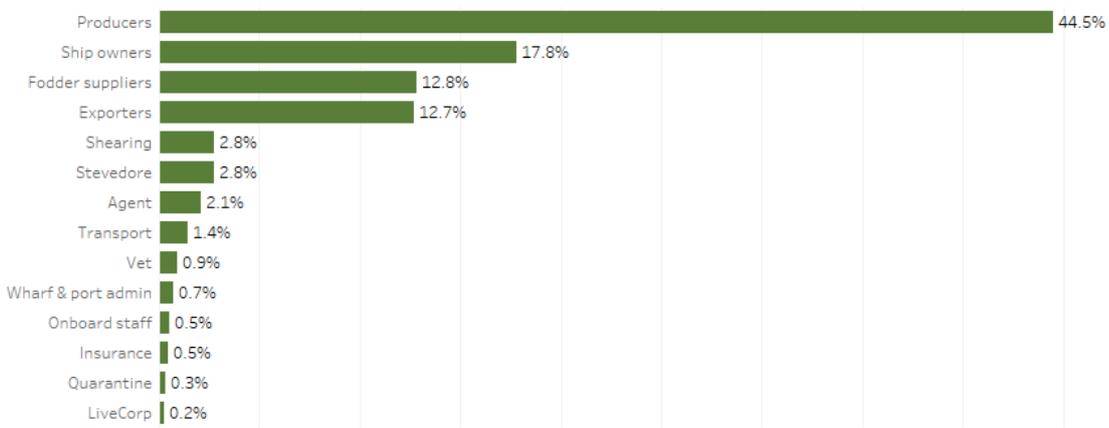
Other value chain participants, such as livestock agents, shearers, veterinarians, port workers and transport operators take a much smaller slice of the value chain. However, in some key regions, particularly in Western Australia's Central and South Wheat Belt, for some of these participants located in more remote areas their relatively small piece of the value chain can still represent a significant proportion of their overall annual revenue.

44-49%
of value chain revenue retained by Australian sheep farmers

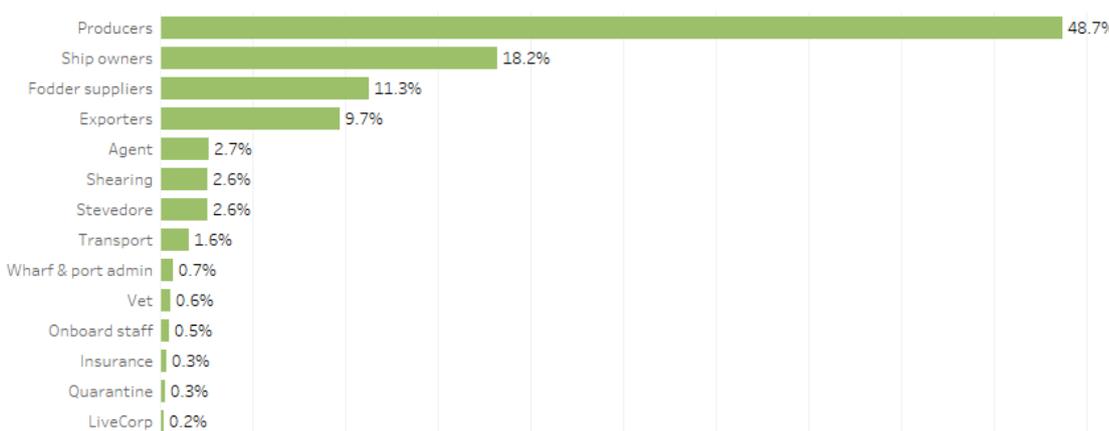
“The absolute value of the live trade will keep our family and workers, surrounding sheep farmers, local businesses and livestock agencies right across the board in jobs. Live trade is a necessity to being able to sell stock outside of Australia so that the local markets are not overwhelmed and the high prices are maintained”

- Sheep farmer, WA Central and South Wheat Belt

Western Australia live export value chain participants by proportion of revenue



South eastern region sheep live export value chain participants by proportion of revenue



A photograph showing two men in a woolshed shearing sheep. The man in the foreground is using a shearer's tool to remove wool from a sheep. The background shows another man shearing a sheep, and the floor is covered with piles of wool. A large industrial fan is visible on the left.

**In WA, the live sheep
trade underpins the
operation of many
businesses**



HOW MUCH DO PARTICIPANTS RELY ON THE TRADE?

Results from the survey¹ show that Western Australian participants in the live sheep export value chain derive a higher proportion of their business revenue from the live sheep export industry compared to participants from the remaining states.

In Western Australia, the live sheep export trade underpins the operation and profitability of many businesses. In south eastern regions, diversity of industries and marketing opportunities means participants are less reliant on the live sheep industry, while for some in Western Australia, there are no viable alternative avenues of revenue.

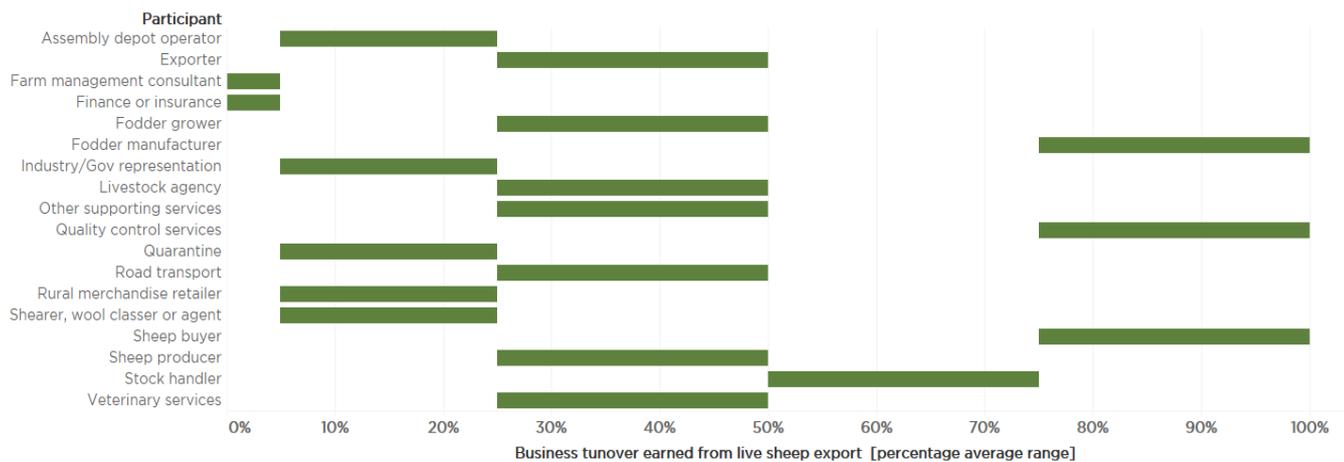
For example, veterinarians that are part of the live sheep export value chain in Western Australia derive an estimated 25-50% of their business revenue from activities related to the live sheep export trade, while in the south eastern region, it is <5% of revenue.

In Western Australia, fodder manufacturers, quality control service providers and sheep buyers are most reliant on the live sheep export industry, deriving 75-100% of their business turnover from the trade.

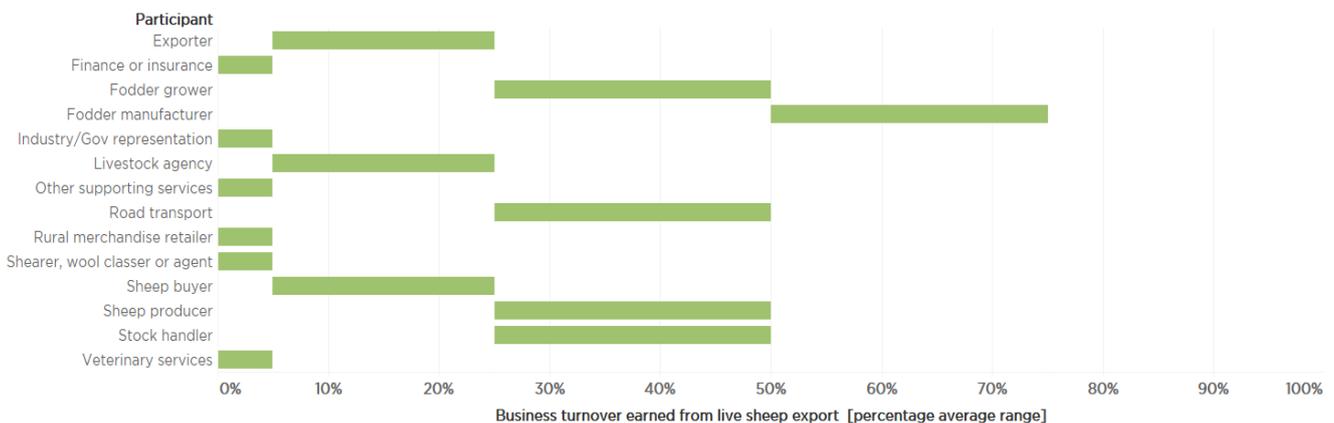
Fodder manufacturers are also most reliant on the live sheep export industry of all the participants in the south eastern region, although they derive a smaller proportion of their revenue from the live sheep trade at 50-75%.

Participants in the west that make up a relatively small proportion of the value chain, report that a high percentage of their annual revenue is reliant upon the live sheep export trade. These participants include livestock agents, handlers and buyers, veterinarians and quality control service providers.

Western Australia value chain participants' reliance on live sheep exports indicated as a percentage of business turnover.



South eastern region value chain participants' reliance on live sheep exports indicated as a percentage of business turnover.



1. Survey sample size of 139. Note, the survey captured reliance on the live sheep export trade, thus exporters that also export live cattle have a combined reliance of 100% on live exports.

ABOUT MECARDO

Mecardo (A Ruralco Business) is an independent, specialist agricultural strategy and marketing advisory business.

Mecardo is recognised throughout the Australian rural sector for innovative thinking, data driven analysis and consultation and the capacity to design “disruptive technology and thinking” that challenges the status quo.

Supply chain management and collaborative marketing and implementation are areas of experience gained over a long time of analysing and understanding markets and applying this knowledge to the farming and agribusiness sector.

We provide bespoke market analysis and reporting to a range of clients including farmers, commodity consumers, banks, government, rural industry bodies and investment firms. We utilise data in conjunction with our own experience to create meaningful analysis, which is digestible by all stakeholders.

Our qualities and initiatives result in continued demand for our services in the Agricultural sector.

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