

Socio-economic benefit of red meat processing

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1.0 Executive Summary

The purpose of this Project is to provide updated analysis relating to the socio-economic impact of the red meat processing industry nationally and by State for 2020-21 and the calendar year of 2021. It identifies the contribution made, both directly and flow-on, in terms of industry value added, household income and full-time equivalent (FTE) employment. For 2021 it also identifies the total employment underpinned by the sector representing individual jobs, both full-time and part-time, in aggregate.

In undertaking the analysis a questionnaire was distributed by AMPC to its membership seeking data on various aspects of expenditure and employment for 2020-21 as well as slaughter numbers and meat production by animal type. The data provided by processors was analysed in conjunction with publicly available information to provide estimates of the total expenditure by category, including wages and salaries, total FTE employment and income by State and nationally for 2020-21. The resultant estimates were applied to input output tables constructed for each State and Australia as a whole for the same financial year.

This was then used to provide estimates of the economic contribution by the red meat processing industry in terms of industry value added, household income and employment, measured as full-time equivalent (FTE) positions. Each metric was measured as the direct impact of the red meat processing sector and flow-on impacts on upstream industries, in absolute terms (\$ values for industry value added and household income, FTE positions for employment) and as a percentage of the relevant economy.

Subsequently, estimates were prepared for the calendar year 2021 using slaughter numbers updated to December 2021. With the exception of expenditure on livestock, it assumes that the other expenditure and employment per head slaughtered remained proportional to slaughter numbers in the last six months of 2021 when compared with 2020-21.

Key data on slaughter numbers is summarised below.

Table 1: Slaughter numbers, meat production and average weight, Australia 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	8,171	6,280	6,003	-23%	-4%	-27%
Beef produced (tonnes)	2,327,853	1,917,511	1,876,726	-18%	-2%	-19%
Average weight (kg)	284.9	305.3	312.6	7%	2%	10%
Calves slaughtered ('000)	533	341	285	-36%	-16%	-46%
Veal produced (tonnes)	23,940	15,087	11,583	-37%	-23%	-52%
Average weight (kg)	44.9	44.2	40.6	-2%	-8%	-10%
Sheep slaughtered ('000)	9,730	4,997	5,804	-49%	16%	-40%
Mutton produced (tonnes)	230,488	129,857	154,885	-44%	19%	-33%
Average weight (kg)	23.7	26.0	26.7	10%	3%	13%
Lamb slaughtered ('000)	22,085	20,175	20,797	-9%	3%	-6%
Lamb produced (tonnes)	501,348	499,192	508,262	0%	2%	1%
Average weight (kg)	22.7	24.7	24.4	9%	-1%	8%

Between 2018-19 and 2020-21, slaughter numbers fell across all types of livestock. The calendar year 2021 saw a further minimal fall in the number of cattle slaughtered, although sheep and lamb slaughter numbers increased when compared with the financial year. Similar trends were experienced in the individual States, although the magnitude of increases and decreases varied.

Not unexpectedly, these decreases in slaughter numbers had a detrimental impact on the key metrics of economic contribution, namely industry value added, household income and employment (measured as full-time equivalent (FTE) jobs). These have been measured as direct impact and flow-on impact in absolute values and as a percentage of the relevant economy. The overall national impacts between 2018-19 and the calendar year 2021 are summarised below.

Table 2: Economic impact, red meat production, Australia, 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	5,501.0	3,473.4	3,412.3	-36.9%	-1.8%	-38.0%
	Flow-on	22,141.5	16,279.9	17,610.6	-26.5%	8.2%	-20.5%
	Total	27,642.5	19,753.3	21,022.9	-28.5%	6.4%	-23.9%
	% of Australia	1.50%	1.00%	1.06%	-33.5%	6.4%	-29.2%
Household income (\$ million)	Direct	2,142.4	1,882.3	1,849.6	-12.1%	-1.7%	-13.7%
	Flow-on	8,522.0	5,050.6	5,817.9	-40.7%	15.2%	-31.7%
	Total	10,664.4	6,932.9	7,667.5	-35.0%	10.6%	-28.1%
	% of Australia	1.17%	0.73%	0.80%	-37.8%	10.6%	-31.3%
Employment (FTE)	Direct	32,134	28,257	27,742	-12.1%	-1.8%	-13.7%
	Flow-on	133,725	102,067	110,475	-23.7%	8.2%	-17.4%
	Total	165,859	130,324	138,217	-21.4%	6.1%	-16.7%
	% of Australia	1.53%	1.18%	1.25%	-22.5%	6.1%	-17.8%
Cattle/calves slaughtered (‘000)	8,703	6,621	6,289	-23.9%	-5.0%	-27.7%	
Sheep/lambs slaughtered (‘000)	31,815	25,173	26,601	-20.9%	5.7%	-16.4%	

Between 2018-19 and 2020-21, direct industry value added by the red meat processing sector fell by almost 37 percent from \$5.5 billion to approximately \$3.5 billion. Over the same period the flow-on impact fell by almost 27 percent, with the impact of the decrease in slaughter numbers being somewhat reduced by increased average prices paid for livestock. The contribution to Australia’s total industry value added fell from 1.5 percent to 1.0 percent in 2020-21. In the calendar year 2021, the direct impact was estimated to experience a further minor decrease although the flow-on impact grew by 8.2 percent.

Similar trends were found for household income and FTE employment although the decline in flow-on impact between 2018-19 and 2020-21 was greater than that for the direct impact. When examined by State, analogous changes were found although the magnitude of these were influenced by the relative changes in slaughter numbers and the mix of livestock type.

The red meat processing sector has been faced with an extraordinary set of challenges in the period for which data has been analysed in this project. There are some signs that the situation of drastic falls in value added, household income and employment generated by the sector is reversing.

However, this in turn will create new challenges for the sector. Whilst the increase in numbers and slaughtering should ameliorate the cost and capacity utilisation pressures currently facing the industry, the labour supply pressures have experienced little sign of abating. COVID-based restrictions on close contacts have disrupted availability of labour and unless these are reduced, and international sources of labour are re-opened through expanded provision of worker visas, the sector will face challenges in being able to process the increasing numbers of animals likely to be sent to slaughter as the herd rebuilding cycle matures.

Continuing labour pressures make it incumbent on the sector to find ways of substituting capital for labour through the use of technology. The sector will need to make substantial investments in research and development and in broader technology development to facilitate this. In addition, the current workforce needs continual productivity improvement through training and new recruits to the sector need to be attracted by educational and training opportunities and competitive remuneration.

Processors and livestock producers both need to make more steady, sustainable profits to justify the investment required for future strong growth. This prospect is made much more difficult by the cycles of boom and bust which have characterised the past. One mechanism for smoothing out these cycles is likely to be through increased compound feeding of animals, which increases the predictability of output and, through increased weight, improve capacity utilisation and unit costs of processing. Another factor is likely to be the increased scale of operation of processors, and the likely further rationalisation of the sector.

The key areas for action in improving the long-term stability and sustainability of the processing industry will rest with processors. There is, however, a broader role for Government in underpinning the growth of the sector that will entail a 'bigger picture' vision of what is required. A plan for infrastructure development in water, transport and digitalisation is required to enable a matching of where livestock are best raised and fed and where they are best processed, for the benefit of the entire value chain.

In terms of the implications for AMPC, the following perspectives may be relevant:

- The need for a more balanced growth path for the sector implies a very high degree of mutual understanding and exchange of information about industry prospects. A collaborative approach to forecasting and projections, underpinned by AMPC research, could play a positive role in this regard.
- The likely need for more lot feeding of livestock as a solution to the seasonal and cyclical challenges faced by the industry also implies a highly collaborative approach to R&D, industry planning and policy development entailing collaboration with the feedlot and livestock production sectors. AMPC would have an important role to play in supporting the development of the bigger picture role for Government in achieving what is required.
- The fundamental importance of cost competitiveness for processing must be remembered. Red meat trades globally and Australian processors face cost competitiveness pressures that are global in origin. Areas outside the control of the sector such as government taxes and charges must reflect these competitive imperatives. As an example, Government export inspection charges remain uncompetitive in Australia after literally decades of the industry's efforts to encourage change. AMPC needs to underpin the need for Government to address competitive constraints through appropriate research and policy analysis in support of processors and ultimately for the benefit of the whole supply chain.
- Trade disruption is becoming endemic in the red meat industry, and this has major implications for processors, and for all others along the supply chain. The new reality of fractured globalisation and aggressive strategic trade policy needs to result in an appropriate new strategic pathway for the sector. AMPC has a key role to play in facilitating the development of this pathway.

2.0 Introduction

The purpose of this Project is to provide updated analysis previously provided in the 2016 report (AMPC 2016-1031 - Evaluating the socio-economic benefit of the red meat processing industry in regional Australia - prepared by SG Hejibron Economic & Policy Consulting, 2016) and subsequently updated in 2020 (AMPC 2020-1067). This Project identifies employment, value added and household income generated by the industry nationally and at the State level both directly and with flow-on impacts for 2020-21, as well as provide additional detail on employment type and results for the calendar year 2021. In addition to identifying key economic data and its flow-on impacts, this Project also provides additional insights and commentary on what the data means for the sector, how it compares to 2020-1067 data and also maps out any implications for the sector.

3.0 Project Objectives

The key objectives of the Project are as follows:

- Update the analysis previously provided in the 2016 and 2020 reports;
- Produce data nationally and for States and assess Full Time Equivalent (FTE) employment and its individual components. This includes analysis of total jobs underpinned by the industry, disaggregated to full-time and part-time by industry sector and geographical location. This was undertaken for the financial year ending June 2021;
- After release of publicly available data by the ABS and other sources, estimates of the impact for calendar year end December 2021 were prepared;
- Enable the red meat industry to provide updated information to stakeholders on its contribution to the national and State economies (information that has already been requested); and
- Provide commentary, analysis and insights which helps to improve the understanding of stakeholders of the industry's contribution and facilitate a consumer and policy environment that is supportive of the industry.

4.0 Methodology

4.1 Construction of base input output tables

The base table for Australia was derived from the latest national input output table (2018-19), updated to 2020-21 using a range of more recent statistics including National Accounts¹ and data from the labour force survey².

State tables were constructed using Generation of Regional Input Output Tables (GRIT) files incorporated in the IO9 software used for this analysis. The GRIT technique, developed by Professors West and Jensen of the University of Queensland, uses allocation methods and location quotients as well as superior data. It is the most widely used method of constructing input output tables in Australia. It is also commonly employed in Europe and America. The construction of the State tables incorporated a range of data derived from the State Accounts³, labour force survey

¹ ABS Cat. No. 5204.0. Australian System of National Accounts, 2020-21

² ABS Cat. No. 6291.0.55.003. Labour Force, Australia, Detailed, Quarterly, February 2020

³ ABS Cat. No. 5220.0. Australian National Accounts: State Accounts, 2020-21

and population estimates⁴ for 2020-21. The resultant tables were compared with data from the State Accounts for the relevant State, including Gross State Product and industry value added at ANZSIC Level 1, as a validity check.

4.2 Estimating the economic impact

A questionnaire was developed in Microsoft Excel, designed to gather information from processing facilities relating to on-going operational expenditure; employment by category and hours worked, wages and salaries, throughput by species and volume of production (measured as kg HSCW), all assessed for 2020-21 (or the closest equivalent financial year for processors not utilising a year end June financial year). A copy of the pro-forma questionnaire is provided at Appendix 1.

Key factors to note about the data collection include:

- The categories incorporated in the section designed to capture information were based on accounting classifications generally understood by the industry. These do not necessarily conform to the classifications utilised in the input output tables but were used to simplify data collection at the plant level. The data was then converted by the Consultants to reflect the relevant input output categories. It should be noted that the overall categories were reduced when compared with the questionnaire utilised in an earlier AMPC Project estimating the economic impact of the industry⁵. This was done to minimise the workload for processors dealing with various issues currently affecting the industry including drought, the aftermath of bushfires, restrictions imposed by importing countries and the current COVID-19 pandemic. Issues faced during this Project included:
 - The timing of distribution of the survey instrument in mid-December 2021 when many key staff were on leave;
 - Several processing facilities were facing issues associated with Covid-19, including staff shortages, which in some extreme cases had resulted in temporary closure of the facility.

Notwithstanding these issues, those processors who provided data in whole or in part accounted for approximately 60 percent of cattle and 30 percent of sheep slaughtered in the period under examination. This coverage is similar to that of previous years, and given the conditions described above, is a testament to the support provided by processors for this project.

- In addition, processors were not asked to provide income-related data as this, when combined with expenditure data, enables the calculation of the metric which red meat processors (and other industry sectors) are most sensitive about at the individual level.
- The expenditure data was collected in total for each category. However, the individual responsible for supplying the data was asked to estimate the proportion spent within the relevant State and the proportion spent elsewhere. Measuring the State impact of an individual processing plant only incorporates that expenditure made within that State, with all other expenditure being treated as an import.

After assessing the expenditure made within the region and converting it to the classifications used in the input output tables, the data was then converted to Basic prices. Expenditure data provided by processing plants is measured in Purchasers prices i.e. what the processor actually pays. Conversion to Basic prices involves the reallocation of various margins to reflect what the supplier actually receives and by convention, is the measure used in input output tables.

⁴ ABS Cat. No. 3218.0. Regional Population Growth, Australia 2018-19

⁵ AMPC 2016-1031. *Evaluating the socio-economic benefit of the red meat processing industry in regional Australia*. S.G. Heilbron Pty. Ltd. July 2016.

The resultant aggregate data was then applied to the relevant State table. This involved inserting a new row and column into the input output table to reflect the red meat processing sector. This was then subtracted from the relevant parent sector, in this case food & beverage manufacturing, to maintain the integrity of the table, and ensure that there is no double-counting. The tables were then rebalanced and the various measures of economic activity calculated, namely employment (measured as full-time equivalent positions), household income and industry value added.

4.3 Estimating the State and national impact

In assessing the impact on the economies of the relevant State and Australia as a whole, data on the number of livestock slaughtered in 2020-21⁶ was analysed. The weighted average of data supplied by individual red meat processing plants was utilised to estimate overall expenditure by category, total employment and associated wages and salaries. In collecting private data in this Project, a number of plants provided complete data for 2020-21 whilst others provided only partial data. For those that only provided partial data (primarily impacted by time and other constraints), the State and national data were updated using data previously held by the Consultants and applying changes experienced over the time period.

Subsequently, estimates were prepared for the calendar year 2021 using slaughter numbers updated to December 2021. With the exception of expenditure on livestock, it assumes that the other expenditure and employment per head slaughtered remained proportional to slaughter numbers in the last six months of 2021 when compared with 2020-21.

4.4 Interpretation of results

The measurements provided in this report indicate the economic contribution made by the red meat processing sector to the national and state economies. They measure this economic contribution in various ways – namely, in terms of industry value added, employment and household income. These metrics are defined as follows:

- Industry value added is defined as the value of output at basic prices minus the value of intermediate consumption at purchasers' prices. The term is used to describe gross product by industry and by sector.
- Household income equates to total compensation of employees which is the total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the employee during the accounting period. It is further classified into two sub-components: wages and salaries; and employers' social contributions.
- Employment is measured as full-time equivalent (FTE) jobs whereby the number of people employed in part-time positions are converted to full-time positions, using the Australian Bureau of Statistics convention that two part-time positions equates to one full-time position. However, for the calendar year 2021, the total number of jobs underpinned by the red meat processing sector is also provided i.e. the aggregate of full-time and part-time jobs. This is dependent upon the relative importance of each industry sector in contributing to flow-on employment, as the proportion of full-time and part-time positions in the workforce differs between industry sectors.

These are also measured in terms of their direct impact and the flow-on effects of those direct impacts. The flow-on impacts are measured upstream in the supply chain – that is, they measure the upstream inputs into the direct inputs measured.

⁶ ABS Cat. No. 7218.0.55.001. Livestock and Meat, Australia, January 2020.

The measurements provided in this report thus incorporate flow-on or multiplier effects which include not only the direct impact of the red meat processing sector but also the economic indicators across the remainder of the economy that are underpinned or supported by the sector. These will vary depending upon the structure of the relevant economy as well as the degree of expenditure in the individual sectors that is made locally. For example, red meat processing facilities which purchase livestock primarily outside the State will have minimal flow-on impacts on the *Agriculture, forestry & fishing* sector in that region. At the same time, if a State has a significant proportion of the working population employed in, for example, *Health care & social assistance*, the flow-on impacts will impact on that sector as a result of both indirect and induced impacts.

By convention, the impact of employment, wages & salaries and gross operating surplus is applied to the State in which the individual facility operates. Consequently, that analysis does not differ at the State or national level. However, as all other expenditure was disaggregated into that spent in the State where the facility is located, the national impact is greater than the aggregation of the individual State impacts.

5.0 Project Outcomes

The comparison of the economic impact of the red meat processing sector by State and nationally for 2018-19, 2020-21 and the calendar year 2020 is provided below. Key factors contributing to changes in the economic impact by State are provided in Section 6 of this report.

5.1 New South Wales

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in New South Wales. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.1.1.

Table 5.1.1: Slaughter numbers, meat production and average weight, New South Wales 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	1,824	1,293	1,222	-29%	-6%	-33%
Beef produced (tonnes)	524,846	393,952	377,473	-25%	-4%	-28%
Average weight (kg)	287.7	304.7	309.0	6%	1%	7%
Calves slaughtered ('000)	86	63	52	-27%	-18%	-40%
Veal produced (tonnes)	10,692	7,965	6,478	-26%	-19%	-39%
Average weight (kg)	124.2	126.4	125.3	2%	-1%	1%
Sheep slaughtered ('000)	2,740	1,213	1,895	-56%	56%	-31%
Mutton produced (tonnes)	68,190	34,635	55,383	-49%	60%	-19%
Average weight (kg)	24.9	28.6	29.2	15%	2%	17%
Lamb slaughtered ('000)	4,890	5,092	5,179	4%	2%	6%
Lamb produced (tonnes)	119,346	132,302	132,462	11%	0%	11%
Average weight (kg)	24.4	26.0	25.6	6%	-2%	5%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 1.8 million cattle were slaughtered in New South Wales at an average weight of almost 288 kg per head. By 2020-21, slaughter numbers had fallen by almost 30 percent to less than 1.3 million head. A marginal increase in average weight per head meant that total meat production fell by 25

percent. Cattle slaughter numbers fell by a further 6 percent in 2021, resulting in slaughter numbers in 2021 being approximately 33 percent lower than in 2018-19.

- Calves – whilst forming a relatively small proportion of the throughput in the red meat processing sector in New South Wales, the number of calves slaughter in 2020-21 was approximately 27 percent lower than in 2018-19. A further decrease was experienced in 2021, resulting in slaughter numbers in 2021 being approximately 40 percent lower than in 2018-19.
- Sheep – in 2018-19 more than 2.7 million sheep were slaughtered in New South Wales at an average weight of almost 25 kg per head. By 2020-21, slaughter numbers had fallen by approximately 56 percent to just over 1.2 million head. An increase in average weight per head meant that total meat production fell by 49 percent. In 2021, sheep slaughter numbers increased to almost 1.9 million head resulting in slaughter numbers in 2021 being approximately 31 percent lower than in 2018-19.
- Lambs – in 2018-19, almost 4.9 million lambs were slaughtered in New South Wales, at an average weight of 24.4 kg per head. In 2020-21, the number of lambs slaughtered increased by approximately 4 percent and lamb meat production increased by 11 percent. Further marginal increases in slaughter numbers were experienced in 2021, resulting in lamb slaughter numbers being approximately 6 percent higher than in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in New South Wales are shown in Table 5.1.2.

Table 5.1.2: Economic impact, red meat production, New South Wales 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	Change		
					2018-19 to 2020-21	2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	1,256.0	996.7	989.3	-20.6%	-0.7%	-21.2%
	Flow-on	3,599.6	3,850.1	4,208.5	7.0%	9.3%	16.9%
	Total	4,855.5	4,846.8	5,197.8	-0.2%	7.2%	7.0%
	% of NSW	0.82%	0.79%	0.85%	-4.2%	7.2%	2.7%
Household income (\$ million)	Direct	496.1	570.9	565.1	15.1%	-1.0%	13.9%
	Flow-on	1,409.9	1,274.3	1,385.7	-9.6%	8.7%	-1.7%
	Total	1,906.0	1,845.2	1,950.8	-3.2%	5.7%	2.4%
	% of NSW	0.63%	0.59%	0.63%	-5.7%	5.7%	-0.3%
Employment (FTE)	Direct	7,868	7,084	7,018	-10.0%	-0.9%	-10.8%
	Flow-on	22,226	24,922	27,278	12.1%	9.5%	22.7%
	Total	30,095	32,005	34,296	6.3%	7.2%	14.0%
	% of NSW	0.87%	0.92%	0.99%	6.5%	7.2%	14.2%
Cattle/calves slaughtered ('000)		1,910	1,356	1,273	-29.0%	-6.1%	-33.3%
Sheep/lambs slaughtered ('000)		7,630	6,305	7,074	-17.4%	12.2%	-7.3%

It is estimated that the red meat processing industry generated nearly \$1 billion in direct value added and over \$4.2 billion in flow-on value added, totalling almost \$5.2 billion in industry value added in New South Wales in 2021. This is approximately 7 percent higher than in the financial year ending June 2021, primarily as a result of increased slaughter numbers for sheep and lambs and increased average expenditure per head across all types of livestock. However, direct value added in both 2021 and 2020-21 were lower than in 2018-19 (almost \$1.3 billion). Flow-on industry value added increased steadily across the time period, resulting in total industry value added generated by the red meat processing sector in New South Wales in 2021 being approximately 7 percent higher than that in 2018-

19 in nominal values. Overall, the red meat processing industry contributed approximately 0.85 percent of the State's industry value added in 2021, marginally higher than that found in 2018-19 (0.82 percent).

Between 2018-19 and 2020-21, the direct contribution to household income increased by approximately 15 percent although the flow-on impact actually decreased by just under 10 percent. In 2021, the direct contribution to household income decreased marginally whereas the flow-on impact increased by almost 9 percent compared with 2020-21. Overall, since 2018-19, the direct contribution made by the red meat processing sector in New South Wales increased by almost 14 percent whilst the flow-on impact reduced by just under 2 percent. In 2021, the sector contributed approximately 0.63 percent of the State's household income, similar to that found in 2018-19.

Direct FTE employment in the red meat processing sector fell by 10 percent between 2018-19 and 2020-21 and a further almost 1 percent between 2020-21 and the full calendar year of 2021. However, flow-on FTE employment rose steadily across the time period examined. This resulted in the red meat processing sector's total contribution to FTE employment in New South Wales increasing from 0.87 percent in 2018-19 to 0.99 percent in 2021. In 2021, it is estimated that red meat processing underpinned approximately 34,300 FTE jobs which in turn equated to more than 42,000 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Professional, scientific & technical services;
- Transport, postal & warehousing;
- Financial & insurance services; and
- Administrative services.

5.2 Queensland

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in Queensland. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.2.1.

Table 5.2.1: Slaughter numbers, meat production and average weight, Queensland 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	3,717	2,924	2,895	-21%	-1%	-22%
Beef produced (tonnes)	1,105,251	920,962	935,126	-17%	2%	-15%
Average weight (kg)	297.3	315.0	323.1	6%	3%	9%
Calves slaughtered ('000)	53	20	8	-62%	-58%	-84%
Veal produced (tonnes)	5,565	2,169	829	-61%	-62%	-85%
Average weight (kg)	105.2	109.0	98.7	4%	-9%	-6%
Sheep slaughtered ('000)	146	50	59	-66%	18%	-60%
Mutton produced (tonnes)	2,946	1,178	1,446	-60%	23%	-51%
Average weight (kg)	20.1	23.7	24.6	18%	4%	22%
Lamb slaughtered ('000)	75	80	79	7%	-1%	6%
Lamb produced (tonnes)	1,520	1,793	1,792	18%	0%	18%
Average weight (kg)	20.4	22.5	22.7	10%	1%	11%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 3.7 million cattle were slaughtered in Queensland at an average weight of just over 297 kg per head. By 2020-21, slaughter numbers had fallen by almost 21 percent to just over 2.9 million head. A marginal increase in average weight per head meant that total meat production fell by 17 percent. Cattle slaughter numbers fell by a further 1 percent in 2021, resulting in slaughter numbers in 2021 being approximately 22 percent lower than in 2018-19.
- Calves – whilst forming only a small proportion of the throughput in the red meat processing sector in Queensland, the number of calves slaughtered in 2020-21 was approximately 62 percent lower than in 2018-19. A further decrease was experienced in 2021, resulting in slaughter numbers in 2021 being only 16 percent of that recorded in 2018-19.
- Sheep – in 2018-19 approximately 146,000 sheep were slaughtered in Queensland at an average weight of just over 20 kg per head. By 2020-21, slaughter numbers had fallen by approximately 66 percent to 50,000 head. An increase in average weight per head meant that total meat production fell by 60 percent. In 2021, sheep slaughter numbers increased to 59,000 head resulting in slaughter numbers in 2021 being approximately 60 percent lower than in 2018-19.
- Lambs – in 2018-19, almost 75,000 lambs were slaughtered in Queensland, at an average weight of 20.4 kg per head. In 2020-21, the number of lambs slaughtered increased by approximately 7 percent and lamb meat production increased by 18 percent. Little change in slaughter numbers were experienced in 2021, resulting in lamb slaughter numbers being approximately 6 percent higher than in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in Queensland are shown in Table 5.2.2.

Table 5.2.2: Economic impact, red meat production, Queensland 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	2,038.1	1,038.6	1,024.3	-49.0%	-1.4%	-49.7%
	Flow-on	6,712.1	4,996.7	5,424.2	-25.6%	8.6%	-19.2%
	Total	8,750.2	6,035.3	6,448.5	-31.0%	6.8%	58.2%
	% of QLD	2.51%	1.73%	1.84%	-31.1%	6.8%	58.0%
Household income (\$ million)	Direct	738.8	567.8	560.0	-23.1%	-1.4%	-24.2%
	Flow-on	2,501.0	2,127.6	1,689.5	-14.9%	-20.6%	-32.4%
	Total	3,239.8	2,695.5	2,249.5	-16.8%	-16.5%	-30.6%
	% of QLD	1.88%	1.49%	1.24%	-20.9%	-16.5%	-34.0%
Employment (FTE)	Direct	10,567	10,157	10,017	-3.9%	-1.4%	-5.2%
	Flow-on	43,386	34,561	37,531	-20.3%	8.6%	-13.5%
	Total	53,953	44,718	47,549	-17.1%	6.3%	-11.9%
	% of QLD	2.54%	2.04%	2.17%	-19.5%	6.3%	-14.4%
Cattle/calves slaughtered ('000)		3,770	2,944	2,903	-21.9%	-1.4%	-23.0%
Sheep/lambs slaughtered ('000)		221	130	138	-41.4%	6.5%	-37.6%

It is estimated that the red meat processing industry generated more than \$1 billion in direct value added and over \$5.4 billion in flow-on value added, totalling almost \$6.5 billion in industry value added in Queensland in 2021. This is approximately 7 percent higher than in the financial year ending June 2021, primarily as a result of increased average expenditure per head across all types of livestock. However, direct value added in both 2021 and 2020-21 were substantially lower than in 2018-19 (just over \$2.0 billion). Flow-on industry value added in 2020-21 also decreased significantly compared with 2018-19, although increased again in 2021. These impacts combined meant

that total industry value added generated by the red meat processing sector in Queensland in 2021 being approximately 58 percent of that in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 1.84 percent of the State's industry value added in 2021, substantially lower than that found in 2018-19 (2.51 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by approximately 23 percent while the flow-on impact decreased by almost 15 percent. In 2021, the direct contribution to household income decreased marginally whereas the flow-on impact decreased by almost 21 percent compared with 2020-21. Overall, since 2018-19, the direct contribution made by the red meat processing sector in Queensland decreased by just over 24 percent whilst the flow-on impact reduced by more than 32 percent. In 2021, the sector contributed approximately 1.24 percent of the State's household income, considerably lower than that found in 2018-19 (1.88 percent).

Direct FTE employment in the red meat processing sector fell by 4 percent between 2018-19 and 2020-21 and a further 1 percent between 2020-21 and the full calendar year of 2021. However, while flow-on FTE employment decreased between 2018-19 and 2020-21, it increased in 2021. This resulted in the red meat processing sector's total contribution to FTE employment in Queensland falling from 2.54 percent in 2018-19 to 2.17 percent in 2021. In 2021, it is estimated that red meat processing underpinned approximately 47,500 FTE jobs which in turn equated to more than 58,000 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Professional, scientific & technical services;
- Transport, postal & warehousing;
- Construction; and
- Wholesale trade.

5.3 South Australia

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in South Australia. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.3.1.

Table 5.3.1: Slaughter numbers, meat production and average weight, South Australia 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	220	166	166	-25%	0%	-25%
Beef produced (tonnes)	63,067	47,372	42,789	-25%	-10%	-32%
Average weight (kg)	286.8	285.7	258.1	0%	-10%	-10%
Calves slaughtered ('000)	0.3	0.4	0.4	33%	0%	33%
Veal produced (tonnes)	7	8	7	14%	-13%	0%
Average weight (kg)	23.3	20.0	17.5	-14%	-13%	-25%
Sheep slaughtered ('000)	1,056	216	222	-80%	3%	-79%
Mutton produced (tonnes)	25,898	5,255	5,449	-80%	4%	-79%
Average weight (kg)	24.5	24.3	24.6	-1%	1%	0%
Lamb slaughtered ('000)	2,479	2,584	2,471	4%	-4%	0%
Lamb produced (tonnes)	60,830	66,174	62,323	9%	-6%	2%
Average weight (kg)	24.5	25.6	25.2	4%	-1%	3%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 220,000 cattle were slaughtered in South Australia at an average weight of just under 287 kg per head. By 2020-21, slaughter numbers had fallen by almost 25 percent to 166,000 head. Minimal change in average weight per head meant that total meat production also fell by 25 percent. Cattle slaughter numbers remained stable in 2021, resulting in slaughter numbers in 2021 being approximately 25 percent lower than in 2018-19.
- Calves – whilst forming only a small proportion of the throughput in the red meat processing sector in South Australia, the number of calves slaughtered in 2020-21 was approximately 33 percent higher than in 2018-19. Slaughter numbers remained stable in 2021, resulting in slaughter numbers in 2021 being only 33 percent higher than that recorded in 2018-19. However, as a result of decreasing slaughter weight, veal production fell by 25 percent between 2018-19 and 2021.
- Sheep – in 2018-19 more than one million sheep were slaughtered in South Australia at an average weight of almost 25 kg per head. By 2020-21, slaughter numbers had fallen by approximately 80 percent to 216,000 head. In 2021, sheep slaughter numbers increased marginally resulting in slaughter numbers in 2021 being approximately 79 percent lower than in 2018-19.
- Lambs – in 2018-19, almost 2.5 million lambs were slaughtered in South Australia, at an average weight of 25 kg per head. In 2020-21, the number of lambs slaughtered increased by approximately 4 percent and lamb meat production increased by 9 percent. However, slaughter numbers fell by 4 percent in 2021, resulting in lamb slaughter numbers being very similar to that found in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in South Australia are shown in Table 5.3.2.

Table 5.3.2: Economic impact, red meat production, South Australia 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	Change		
					2018-19 to 2020-21	2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	226.0	218.3	212.8	-3.4%	-2.5%	-5.8%
	Flow-on	1,437.0	800.4	792.3	-44.3%	-1.0%	-44.9%
	Total	1,663.0	1,018.7	1,005.1	-38.7%	-1.3%	-39.6%
	% of SA	1.61%	0.91%	0.90%	-43.5%	-1.3%	-44.2%
Household income (\$ million)	Direct	113.1	106.8	104.1	-5.5%	-2.6%	-8.0%
	Flow-on	540.3	211.0	208.6	-61.0%	-1.1%	-61.4%
	Total	653.4	317.8	312.7	-51.4%	-1.6%	-52.1%
	% of SA	1.19%	0.56%	0.55%	-53.2%	-1.6%	-53.9%
Employment (FTE)	Direct	1,763	1,523	1,483	-13.6%	-2.7%	-15.9%
	Flow-on	8,842	4,650	4,602	-47.4%	-1.0%	-48.0%
	Total	10,605	6,173	6,085	-41.8%	-1.4%	-42.6%
	% of SA	1.51%	0.87%	0.85%	-42.6%	-1.4%	-43.5%
Cattle/calves slaughtered ('000)		220	166	146	-24.5%	-12.5%	-33.9%
Sheep/lambs slaughtered ('000)		3,536	2,800	2,692	-20.8%	-3.9%	-23.9%

It is estimated that the red meat processing industry generated more than \$0.2 billion in direct value added and almost \$0.8 billion in flow-on value added, totalling just over \$1 billion in industry value added in South Australia in 2021. This is approximately 1 percent lower than in the financial year ending June 2021, primarily as a result of decreased slaughter numbers for cattle in particular. Direct value added in both 2021 and 2020-21 were somewhat

lower than in 2018-19. Flow-on industry value added also decreased steadily across the time period, resulting in total industry value added generated by the red meat processing sector in South Australia in 2021 being only approximately 40 percent of that found in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 0.90 percent of the State's industry value added in 2021, significantly lower than that found in 2018-19 (1.61 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by approximately 6 percent while the flow-on impact fell to less than half the 2018-19 level. In 2021, the both the direct and flow-on contribution to household income decreased marginally. Overall, since 2018-19, the direct contribution made by the red meat processing sector in South Australia decreased by 8 percent whilst the flow-on impact reduced by more than 60 percent. In 2021, the sector contributed approximately 0.55 percent of the State's household income, significantly lower than that found in 2018-19 (1.19 percent).

Direct FTE employment in the red meat processing sector fell by almost 14 percent between 2018-19 and 2020-21 and a further almost 3 percent between 2020-21 and the full calendar year of 2021. Flow-on FTE employment also decreased substantially across the time period examined. This resulted in the red meat processing sector's total contribution to FTE employment in South Australia decreasing from 1.51 percent in 2018-19 to 0.85 percent in 2021. In 2021, it is estimated that red meat processing underpinned almost 6,100 FTE jobs which in turn equated to more than 7,400 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Professional, scientific & technical services;
- Transport, postal & warehousing;
- Wholesale trade; and
- Administrative services.

5.4 Tasmania

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in Tasmania. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.4.1.

Table 5.4.1: Slaughter numbers, meat production and average weight, Tasmania 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	232	209	194	-10%	-7%	-16%
Beef produced (tonnes)	66,501	63,479	59,119	-5%	-7%	-11%
Average weight (kg)	286.6	303.9	305.1	6%	0%	6%
Calves slaughtered ('000)	48	38	36	-22%	-3%	-24%
Veal produced (tonnes)	906	709	683	-22%	-4%	-25%
Average weight (kg)	19.0	18.9	18.8	0%	-1%	-1%
Sheep slaughtered ('000)	115	58	82	-49%	40%	-29%
Mutton produced (tonnes)	2,258	1,249	1,770	-45%	42%	-22%
Average weight (kg)	19.7	21.4	21.6	9%	1%	10%
Lamb slaughtered ('000)	336	259	278	-23%	8%	-17%
Lamb produced (tonnes)	6,788	5,477	5,878	-19%	7%	-13%
Average weight (kg)	20.2	21.2	21.1	5%	0%	5%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 230,000 cattle were slaughtered in Tasmania at an average weight of just under 287 kg per head. By 2020-21, slaughter numbers had fallen by approximately 10 percent to 209,000 head. However, increases in average weight per head meant that total meat production only fell by 5 percent. Cattle slaughter numbers decreased further in 2021, resulting in slaughter numbers in 2021 being approximately 16 percent lower than in 2018-19.
- Calves – whilst forming only a small proportion of the throughput in the red meat processing sector in Tasmania, the number of calves slaughtered in 2020-21 was approximately 22 percent lower than in 2018-19. Slaughter numbers remained fairly stable in 2021, resulting in slaughter numbers in 2021 being 24 percent lower than that recorded in 2018-19 while veal production fell by 25 percent between 2018-19 and 2021.
- Sheep – in 2018-19 approximately 115,000 sheep were slaughtered in Tasmania at an average weight of almost 20 kg per head. By 2020-21, slaughter numbers had almost halved to 58,000 head. In 2021, sheep slaughter numbers increased significantly compared with the financial year, resulting in slaughter numbers in 2021 being approximately 29 percent lower than in 2018-19.
- Lambs – in 2018-19, almost 336,000 lambs were slaughtered in Tasmania, at an average weight of 20 kg per head. In 2020-21, the number of lambs slaughtered decreased by approximately 23 percent and lamb meat production decreased by 19 percent. However, slaughter numbers increased by 8 percent in 2021, resulting in lamb slaughter numbers being approximately 17 percent lower than that found in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in Tasmania are shown in Table 5.4.2.

Table 5.4.2: Economic impact, red meat production, Tasmania 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	Change		
					2018-19 to 2020-21	2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	99.8	122.4	120.4	22.7%	-1.7%	20.6%
	Flow-on	538.1	490.4	501.1	-8.9%	2.2%	-6.9%
	Total	637.9	612.8	621.5	-3.9%	1.4%	-2.6%
	% of TAS	2.08%	1.85%	1.87%	-11.3%	1.4%	-10.0%
Household income (\$ million)	Direct	69.4	68.0	68.2	-2.0%	0.2%	-1.8%
	Flow-on	178.9	115.9	117.4	-35.2%	1.2%	-34.4%
	Total	248.3	184.0	185.5	-25.9%	0.8%	-25.3%
	% of TAS	1.71%	1.12%	1.13%	-34.6%	0.8%	-34.1%
Employment (FTE)	Direct	1,039	907	909	-12.7%	0.2%	-12.5%
	Flow-on	2,712	2,514	2,561	-7.3%	1.9%	-5.5%
	Total	3,751	3,421	3,470	-8.8%	1.4%	-7.5%
	% of TAS	1.88%	1.66%	1.68%	-12.1%	1.4%	-10.9%
Cattle/calves slaughtered ('000)		280	246	230	-11.9%	-6.6%	-17.7%
Sheep/lambs slaughtered ('000)		451	317	360	-29.8%	13.7%	-20.2%

It is estimated that the red meat processing industry generated more than \$0.1 billion in direct value added and \$0.5 billion in flow-on value added, totalling just over \$0.62 billion in industry value added in Tasmania in 2021. This is approximately 1.4 percent higher than in the financial year ending June 2021, primarily as a result of increased slaughter numbers for sheep and lambs and increased average expenditure per head on livestock. Direct value

added in both 2021 and 2020-21 were somewhat higher than in 2018-19. Flow-on industry value added however had decreased across the time period, resulting in total industry value added generated by the red meat processing sector in Tasmania in 2021 being only approximately 2.6 percent lower than that found in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 1.87 percent of the State's industry value added in 2021, somewhat lower than that found in 2018-19 (2.08 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by approximately 2 percent while the flow-on impact fell by more than one-third compared with the 2018-19 level. In 2021, the both the direct and flow-on contribution to household income increased marginally. Overall, since 2018-19, the direct contribution made by the red meat processing sector in Tasmania decreased by almost 2 percent whilst the flow-on impact reduced by more than 34 percent. In 2021, the sector contributed approximately 1.13 percent of the State's household income, significantly lower than that found in 2018-19 (1.71 percent).

Direct FTE employment in the red meat processing sector fell by almost 13 percent between 2018-19 and 2020-21 although it increased marginally between 2020-21 and the full calendar year of 2021. Flow-on FTE employment also decreased between 2018-19 and 2020-21 although picked up slightly in 2021. This resulted in the red meat processing sector's total contribution to FTE employment in Tasmania decreasing from 1.88 percent in 2018-19 to 1.68 percent in 2021. In 2021, it is estimated that red meat processing underpinned approximately 3,470 FTE jobs which in turn equated to more than 4,200 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Transport, postal & warehousing;
- Professional, scientific & technical services;
- Repairs & maintenance services; and
- Wholesale trade.

5.5 Victoria

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in Victoria. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.5.1.

Table 5.5.1: Slaughter numbers, meat production and average weight, Victoria 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	1,754	1,296	1,218	-26%	-6%	-31%
Beef produced (tonnes)	457,840	385,657	370,076	-16%	-4%	-19%
Average weight (kg)	261.1	297.7	303.8	14%	2%	16%
Calves slaughtered ('000)	344	219	188	-36%	-14%	-45%
Veal produced (tonnes)	6,693	4,131	3,519	-38%	-15%	-47%
Average weight (kg)	19.5	18.8	18.7	-3%	-1%	-4%
Sheep slaughtered ('000)	4,277	2,080	2,399	-51%	15%	-44%
Mutton produced (tonnes)	96,077	52,777	60,075	-45%	14%	-37%
Average weight (kg)	22.5	25.4	25.0	13%	-1%	11%
Lamb slaughtered ('000)	11,615	9,866	10,264	-15%	4%	-12%
Lamb produced (tonnes)	256,704	241,491	247,983	-6%	3%	-3%
Average weight (kg)	22.1	24.5	24.2	11%	-1%	9%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 1.75 million cattle were slaughtered in Victoria at an average weight of just over 261 kg per head. By 2020-21, slaughter numbers had fallen by approximately 26 percent to just under 1.3 million head. However, increases in average weight per head meant that total meat production only fell by 16 percent. Cattle slaughter numbers decreased further in 2021, resulting in slaughter numbers in 2021 being approximately 31 percent lower than in 2018-19. However, the increases in average weight per head meant that beef production fell by 19 percent between 2018-19 and 2021.
- Calves – whilst forming only a small proportion of the throughput in the red meat processing sector in Victoria, the number of calves slaughtered in 2020-21 was approximately 36 percent lower than in 2018-19. Slaughter numbers declined further in 2021, resulting in slaughter numbers in 2021 being 45 percent lower than that recorded in 2018-19 while veal production fell by 47 percent between 2018-19 and 2021.
- Sheep – in 2018-19 almost 4.3 million sheep were slaughtered in Victoria at an average weight of almost 23 kg per head. By 2020-21, slaughter numbers had more than halved to just under 2.1 million head. In 2021, sheep slaughter numbers increased significantly compared with the financial year, resulting in slaughter numbers in 2021 being approximately 44 percent lower than in 2018-19. Mutton production in 2021 was approximately 37 percent lower than in 2018-19.
- Lambs – in 2018-19, just over 11.6 million lambs were slaughtered in Victoria, at an average weight of 22 kg per head. In 2020-21, the number of lambs slaughtered decreased by approximately 15 percent although lamb meat production decreased by only 6 percent as a result of increases in average weight per head. However, slaughter numbers increased by 4 percent in 2021, resulting in lamb slaughter numbers being approximately 12 percent lower than that found in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in Victoria are shown in Table 5.5.2.

Table 5.5.2: Economic impact, red meat production, Victoria 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	1,299.4	787.7	780.2	-39.4%	-0.9%	-40.0%
	Flow-on	3,881.9	4,414.9	4,869.3	13.7%	10.3%	25.4%
	Total	5,181.3	5,202.5	5,649.5	0.4%	8.6%	9.0%
	% of VIC	1.22%	1.15%	1.25%	-6.1%	8.6%	2.0%
Household income (\$ million)	Direct	510.0	375.7	373.7	-26.3%	-0.5%	-26.7%
	Flow-on	1,650.2	1,529.9	1,678.5	-7.3%	9.7%	1.7%
	Total	2,160.2	1,905.6	2,052.2	-11.8%	7.7%	-5.0%
	% of VIC	0.97%	0.82%	0.88%	-15.6%	7.7%	-9.1%
Employment (FTE)	Direct	7,603	5,588	5,515	-26.5%	-1.3%	-27.5%
	Flow-on	25,373	30,205	33,352	19.0%	10.4%	31.4%
	Total	32,976	35,793	38,867	8.5%	8.6%	17.9%
	% of VIC	1.16%	1.24%	1.35%	7.0%	8.6%	16.2%
Cattle/calves slaughtered ('000)		2,098	1,515	1,406	-27.8%	-7.2%	-33.0%
Sheep/lambs slaughtered ('000)		15,891	11,946	12,664	-24.8%	6.0%	-20.3%

It is estimated that the red meat processing industry generated almost \$0.8 billion in direct value added and almost \$4.9 billion in flow-on value added, totalling over \$5.6 billion in industry value added in Victoria in 2021. This is

approximately 8.6 percent higher than in the financial year ending June 2021, primarily as a result of increased slaughter numbers for sheep and lambs and increased average expenditure per head on livestock. Direct value added in both 2021 and 2020-21 were somewhat lower than in 2018-19. Flow-on industry value added however had increased steadily across the time period, resulting in total industry value added generated by the red meat processing sector in Victoria in 2021 being approximately 9 percent higher than that found in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 1.25 percent of the State's industry value added in 2021, marginally higher than that found in 2018-19 (1.22 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by more than 26 percent while the flow-on impact fell by just over 7 percent. In 2021, the direct contribution to household income increased marginally while the flow-on impact increased by more than 10 percent. Overall, since 2018-19, the direct contribution made by the red meat processing sector in Victoria decreased by almost 27 percent whilst the flow-on impact grew by a modest 1.7 percent. In 2021, the sector contributed approximately 0.88 percent of the State's household income, somewhat lower than that found in 2018-19 (0.97 percent).

Direct FTE employment in the red meat processing sector fell by more than 26 percent between 2018-19 and 2020-21 with a further small reduction between 2020-21 and the full calendar year of 2021. Flow-on FTE employment however increased between 2018-19 and 2020-21 and again in the calendar year 2021. This resulted in the red meat processing sector's total contribution to FTE employment in Victoria increasing from 1.16 percent in 2018-19 to 1.35 percent in 2021. In 2021, it is estimated that red meat processing underpinned almost 39,000 FTE jobs which in turn equated to more than 48,000 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Professional, scientific & technical services;
- Transport, postal & warehousing;
- Financial & insurance services; and
- Construction.

5.6 Western Australia

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in Western Australia. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.6.1.

Table 5.6.1: Slaughter numbers, meat production and average weight, Western Australia 2018-19, 2020-21 & 2021

	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	424	393	330	-7%	-16%	-22%
Beef produced (tonnes)	110,346	106,089	92,146	-4%	-13%	-16%
Average weight (kg)	260.5	269.7	279.4	4%	4%	7%
Calves slaughtered ('000)	2	1	1	-39%	-27%	-56%
Veal produced (tonnes)	75	105	66	40%	-37%	-12%
Average weight (kg)	41.7	95.5	82.5	129%	-14%	98%
Sheep slaughtered ('000)	1,396	1,381	1,147	-1%	-17%	-18%
Mutton produced (tonnes)	35,121	34,763	30,765	-1%	-12%	-12%
Average weight (kg)	25.2	25.2	26.8	0%	6%	7%
Lamb slaughtered ('000)	2,691	2,296	2,526	-15%	10%	-6%
Lamb produced (tonnes)	56,160	51,956	57,822	-7%	11%	3%

Average weight (kg)	20.9	22.6	22.9	8%	1%	10%
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The changes by livestock type are summarised below.

- Cattle – in 2018-19 more than 420,000 cattle were slaughtered in Western Australia at an average weight of just over 260 kg per head. By 2020-21, slaughter numbers had fallen by approximately 7 percent. However, increases in average weight per head meant that total meat production only fell by 4 percent. Cattle slaughter numbers decreased further in 2021, resulting in slaughter numbers in 2021 being approximately 22 percent lower than in 2018-19. However, the increases in average weight per head meant that beef production fell by 16 percent between 2018-19 and 2021.
- Calves – whilst forming only a very small proportion of the throughput in the red meat processing sector in Western Australia, the number of calves slaughtered in 2020-21 was approximately 39 percent lower than in 2018-19. However, calves were being slaughtered at a much higher average weight meaning that veal production increased. Slaughter numbers declined further in 2021, resulting in slaughter numbers in 2021 being 56 percent lower than that recorded in 2018-19 while veal production fell by 12 percent between 2018-19 and 2021.
- Sheep – in 2018-19 almost 1.4 million sheep were slaughtered in Western Australia at an average weight of just over 25 kg per head. By 2020-21, slaughter numbers had decreased by 1 percent. In 2021, sheep slaughter numbers decreased significantly compared with the financial year (17 percent lower), resulting in slaughter numbers in 2021 being approximately 18 percent lower than in 2018-19. Mutton production in 2021 was approximately 12 percent lower than in 2018-19.
- Lambs – in 2018-19, almost 2.7 million lambs were slaughtered in Western Australia, at an average weight of 21 kg per head. In 2020-21, the number of lambs slaughtered decreased by approximately 15 percent although lamb meat production decreased by only 7 percent as a result of increases in average weight per head. However, slaughter numbers increased by 10 percent in 2021, resulting in lamb slaughter numbers being approximately 6 percent lower than that found in 2018-19.

The key metrics in terms of economic contribution of the red meat processing industry in Western Australia are shown in Table 5.6.2.

Table 5.6.2: Economic impact, red meat production, Western Australia 2018-19, 2020-21 & 2021

		2018-19	2020-21	2021	Change 2018-19 to 2020-21	Change 2020-21 to 2021	Change 2018-19 to 2021
Industry value added (\$ million)	Direct	547.5	309.7	285.3	-43.4%	-7.9%	-47.9%
	Flow-on	1,124.1	1,068.0	1,109.1	-5.0%	3.8%	-1.3%
	Total	1,671.6	1,377.7	1,394.4	-17.6%	1.2%	-16.6%
	% of WA	0.61%	0.39%	0.40%	-35.5%	1.2%	-34.7%
Household income (\$ million)	Direct	201.5	192.9	178.5	-4.2%	-7.5%	-11.4%
	Flow-on	361.5	284.1	292.2	-21.4%	2.8%	-19.2%
	Total	562.9	477.0	470.7	-15.3%	-1.3%	-16.4%
	% of WA	0.53%	0.41%	0.40%	-22.9%	-1.3%	-23.9%
Employment (FTE)	Direct	3,293	2,998	2,800	-8.9%	-6.6%	-14.9%
	Flow-on	5,717	5,241	5,653	-8.3%	7.9%	-1.1%
	Total	9,009	8,239	8,453	-8.5%	2.6%	-6.2%
	% of WA	0.78%	0.70%	0.71%	-10.9%	2.6%	-8.6%

Cattle/calves slaughtered ('000)	425	395	331	-7.3%	-16.2%	-22.3%
Sheep/lambs slaughtered ('000)	4,086	3,676	3,673	-10.0%	-0.1%	-10.1%

It is estimated that the red meat processing industry generated almost \$0.3 billion in direct value added and more than \$1.1 billion in flow-on value added, totalling almost \$1.4 billion in industry value added in Western Australia in 2021. This is approximately 1.2 percent higher than in the financial year ending June 2021, primarily as a result of increased average expenditure per head on livestock. Direct value added in both 2021 and 2020-21 were significantly lower than in 2018-19. Flow-on industry value added was also lower, resulting in total industry value added generated by the red meat processing sector in Western Australia in 2021 being approximately 17 percent lower than that found in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 0.40 percent of the State's industry value added in 2021, somewhat lower than that found in 2018-19 (0.61 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by approximately 4 percent while the flow-on impact fell by just over 21 percent. In 2021, the direct contribution to household income decreased by a further 7 percent while the flow-on impact increased by almost 3 percent. Overall, since 2018-19, the direct contribution made by the red meat processing sector in Western Australia decreased by more than 11 percent whilst the flow-on impact fell by a modest 19 percent. In 2021, the sector contributed approximately 0.40 percent of the State's household income, somewhat lower than that found in 2018-19 (0.53 percent).

Direct FTE employment in the red meat processing sector fell by almost 9 percent between 2018-19 and 2020-21 with a further reduction between 2020-21 and the full calendar year of 2021. Flow-on FTE employment decreased between 2018-19 and 2020-21 but rose in the calendar year 2021. This resulted in the red meat processing sector's total contribution to FTE employment in Western Australia decreasing from 0.78 percent in 2018-19 to 0.71 percent in 2021. In 2021, it is estimated that red meat processing underpinned almost 8,500 FTE jobs which in turn equated to more than 10,200 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Food services;
- Professional, scientific & technical services;
- Transport, postal & warehousing; and
- Other manufacturing.

5.7 Australia

The following section provides a comparison of slaughter numbers and the economic impact of the red meat processing sector in Australia. A comparison of slaughter numbers, meat production and average weight by type of livestock for 2018-19, 2020-21 and 2021 is shown in Table 5.7.1.

Table 5.7.1: Slaughter numbers, meat production and average weight, Australia 2018-19, 2020-21 & 2021

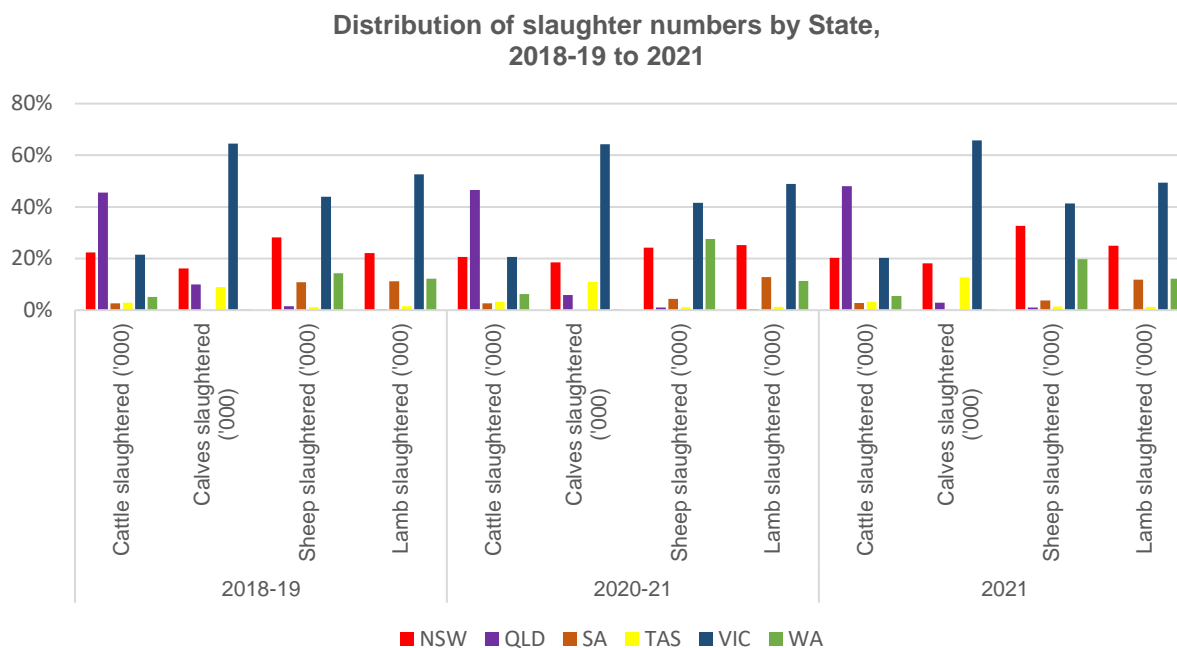
	2018-19	2020-21	2021	2018-19 to 2020-21	Change 2020-21 to 2021	2018-19 to 2021
Cattle slaughtered ('000)	8,171	6,280	6,003	-23%	-4%	-27%
Beef produced (tonnes)	2,327,853	1,917,511	1,876,726	-18%	-2%	-19%
Average weight (kg)	284.9	305.3	312.6	7%	2%	10%
Calves slaughtered ('000)	533	341	285	-36%	-16%	-46%
Veal produced (tonnes)	23,940	15,087	11,583	-37%	-23%	-52%
Average weight (kg)	44.9	44.2	40.6	-2%	-8%	-10%
Sheep slaughtered ('000)	9,730	4,997	5,804	-49%	16%	-40%
Mutton produced (tonnes)	230,488	129,857	154,885	-44%	19%	-33%
Average weight (kg)	23.7	26.0	26.7	10%	3%	13%
Lamb slaughtered ('000)	22,085	20,175	20,797	-9%	3%	-6%
Lamb produced (tonnes)	501,348	499,192	508,262	0%	2%	1%
Average weight (kg)	22.7	24.7	24.4	9%	-1%	8%

The changes by livestock type are summarised below.

- Cattle – in 2018-19 almost 8.2 million cattle were slaughtered in Australia at an average weight of almost 285 kg per head. By 2020-21, slaughter numbers had fallen by approximately 23 percent. However, increases in average weight per head meant that total meat production only fell by 18 percent. Cattle slaughter numbers decreased further in 2021, resulting in slaughter numbers in 2021 being approximately 27 percent lower than in 2018-19. However, the increases in average weight per head meant that beef production fell by 19 percent between 2018-19 and 2021.
- Calves – whilst forming only a small proportion of the throughput in the red meat processing sector nationally, the number of calves slaughtered in 2020-21 was approximately 36 percent lower than in 2018-19. Slaughter numbers declined further in 2021, resulting in slaughter numbers in 2021 being 46 percent lower than that recorded in 2018-19 while veal production fell by 52 percent between 2018-19 and 2021.
- Sheep – in 2018-19 more than 9.7 million sheep were slaughtered across Australia at an average weight of just under 24 kg per head. By 2020-21, slaughter numbers had decreased by 49 percent. In 2021, sheep slaughter numbers increased compared with the financial year (16 percent higher), resulting in slaughter numbers in 2021 being approximately 40 percent lower than in 2018-19. Mutton production in 2021 was approximately 33 percent lower than in 2018-19.
- Lambs – in 2018-19, more than 22 million lambs were slaughtered in Australia, at an average weight of almost 23 kg per head. In 2020-21, the number of lambs slaughtered decreased by approximately 10 percent although lamb meat production remained stable as a result of increases in average weight per head. Slaughter numbers increased by 3 percent in 2021, resulting in lamb slaughter numbers being approximately 6 percent lower than that found in 2018-19.

Variations in the change in slaughter numbers by animal type and by State have impacted on the distribution of total animal slaughter between 2018-19 and 2021 as illustrated in Figure 5.7.1.

Figure 5.7.1: Distribution of slaughter numbers by State, Australia 2018-19, 2020-21 & 2021



In 2018-19, Queensland accounted for approximately 45 percent of all cattle slaughtered nationally. By 2021, this proportion had risen to 48 percent as a result of a decrease in national cattle slaughtering of 27 percent whereas the number in Queensland fell by 22 percent. Over the same period, the number of cattle slaughter in New South Wales declined from 22 percent of the national total to 20 percent in 2021. Victoria, the third most significant State in terms of cattle slaughtered, saw its proportion of the national total fall from 21 percent to 20 percent.

Slaughtering of calves is of greatest significance in Victoria due to that State's concentration of dairy farming. Between 2018-19 and 2021, the proportion of calves slaughtered in Victoria as a percentage of the national total increased from 65 percent to 66 percent while in Tasmania the proportion rose from 9 percent to 13 percent. However, the total number of calves slaughtered across Australia decreased by 46 percent between 2018-19 and 2021.

Victoria is the predominant State for slaughtering sheep, but the proportion of total sheep slaughtered in Victoria fell from 44 percent in 2018-19 to 41 percent in 2021. Over the same period the proportion of national sheep slaughter numbers in Western Australia increased from 14 percent to 20 percent while in New South Wales the proportion rose from 28 percent to 33 percent. However, the total number of sheep slaughtered across Australia decreased by 40 percent between 2018-19 and 2021.

Victoria is also responsible for the largest contribution to slaughter of lambs in Australia, accounting for 53 percent in 2018-19 although falling to 49 percent in 2021. Over the same period, the proportion of lambs slaughtered in New South Wales increased from 22 percent to 25 percent. The total number of lambs slaughtered across Australia decreased by 6 percent between 2018-19 and 2021.

The key metrics in terms of economic contribution of the red meat processing industry across Australia are shown in Table 5.7.2.

Table 5.7.2: Economic impact, red meat production, Australia 2018-19, 2020-21 & 2021

		Change					
		2018-19	2020-21	2021	2018-19 to 2020-21	2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	5,501.0	3,473.4	3,412.3	-36.9%	-1.8%	-38.0%
	Flow-on	22,141.5	16,279.9	17,610.6	-26.5%	8.2%	-20.5%
	Total	27,642.5	19,753.3	21,022.9	-28.5%	6.4%	-23.9%
	% of Australia	1.50%	1.00%	1.06%	-33.5%	6.4%	-29.2%
Household income (\$ million)	Direct	2,142.4	1,882.3	1,849.6	-12.1%	-1.7%	-13.7%
	Flow-on	8,522.0	5,050.6	5,817.9	-40.7%	15.2%	-31.7%
	Total	10,664.4	6,932.9	7,667.5	-35.0%	10.6%	-28.1%
	% of Australia	1.17%	0.73%	0.80%	-37.8%	10.6%	-31.3%
Employment (FTE)	Direct	32,134	28,257	27,742	-12.1%	-1.8%	-13.7%
	Flow-on	133,725	102,067	110,475	-23.7%	8.2%	-17.4%
	Total	165,859	130,324	138,217	-21.4%	6.1%	-16.7%
	% of Australia	1.53%	1.18%	1.25%	-22.5%	6.1%	-17.8%
Cattle/calves slaughtered ('000)		8,703	6,621	6,289	-23.9%	-5.0%	-27.7%
Sheep/lambs slaughtered ('000)		31,815	25,173	26,601	-20.9%	5.7%	-16.4%

It is estimated that the red meat processing industry generated more than \$3.4 billion in direct value added and more than \$17.6 billion in flow-on value added, totalling in excess of \$21 billion in industry value added in Australia in 2021. This is approximately 6.4 percent higher than in the financial year ending June 2021, primarily as a result of increased average expenditure per head on livestock and growth in the number of sheep and lambs slaughtered. Direct value added in both 2021 and 2020-21 were significantly lower than in 2018-19. Flow-on industry value added was also lower, resulting in total industry value added generated by the red meat processing sector in Australia in 2021 being approximately 24 percent lower than that found in 2018-19 in nominal values. Overall, the red meat processing industry contributed approximately 1.06 percent of the national industry value added in 2021, somewhat lower than that found in 2018-19 (1.50 percent).

Between 2018-19 and 2020-21, the direct contribution to household income decreased by approximately 12 percent while the flow-on impact fell by just over 40 percent. In 2021, the direct contribution to household income decreased by a further almost 2 percent although the flow-on impact increased by 15 percent. Overall, since 2018-19, the direct contribution made by the red meat processing sector in Australia decreased by almost 14 percent whilst the flow-on impact fell by almost 32 percent. In 2021, the sector contributed approximately 0.80 percent of the national household income, somewhat lower than that found in 2018-19 (1.17percent).

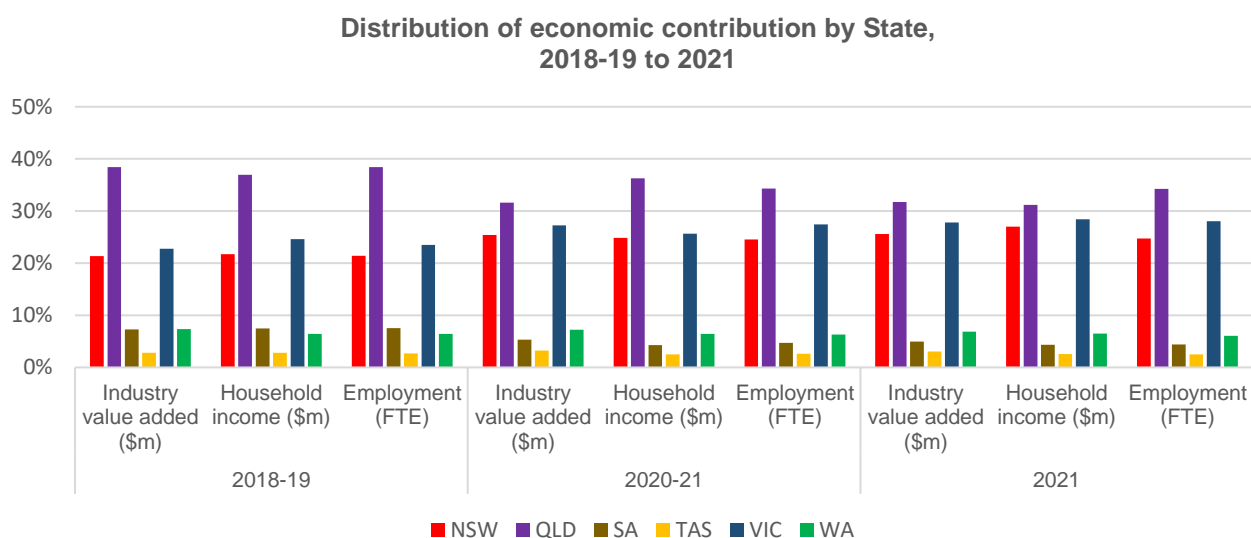
Direct FTE employment in the red meat processing sector fell by 12 percent between 2018-19 and 2020-21 with a further reduction between 2020-21 and the full calendar year of 2021. Flow-on FTE employment decreased between 2018-19 and 2020-21 but rose in the calendar year 2021. This resulted in the red meat processing sector's total contribution to FTE employment in Australia decreasing from 1.53 percent in 2018-19 to 1.25 percent in 2021. In 2021, it is estimated that red meat processing underpinned more than 138,000 FTE jobs which in turn equated to almost 170,000 employment positions. The key industry sectors impacted by flow-on FTE employment, in descending order, in 2021 are as follows:

- Agriculture, forestry & fishing;
- Professional, scientific & technical services;

- Transport, postal & warehousing;
- Financial & insurance services; and
- Construction.

Variations in the change in slaughter numbers by animal type and by State have impacted on the distribution of total economic contribution between 2018-19 and 2021 as illustrated in Figure 5.7.2.

Figure 5.7.2: Distribution of economic contribution by State, Australia 2018-19, 2020-21 & 2021



In 2018-19, Queensland was the single biggest contributor to industry value added by the red meat processing sector, accounting for 38 percent of the total. Although remaining the largest contributor in 2021, its proportion had fallen to 32 percent. While total industry value added generated by red meat processing fell by almost 24 percent between 2018-19 and 2021, the decrease experienced in Queensland was greater at more than 26 percent, partly resulting from the State's almost total reliance on cattle processing. Only New South Wales and Victoria experienced growth in industry value added between 2018-19 and 2021 (7 and 9 percent growth respectively) and consequently had growing shares of total industry value added.

Similar changes were found with household income and FTE employment. Only New South Wales experienced growth in total household income between 2018-19 and 2021 at just over 2 percent. Nationally, total household income generated by red meat processing fell by 28 percent. Total FTE employment grew in both New South Wales and Victoria between 2018-19 and 2021 (14 and 18 percent respectively) although nationally, numbers fell by almost 17 percent.

6.0 Discussion

The results of the analyses by State have been described in the preceding Section 5 of this report. Key factors impacting on the interpretation of these results are described below.

6.1 Industry value added

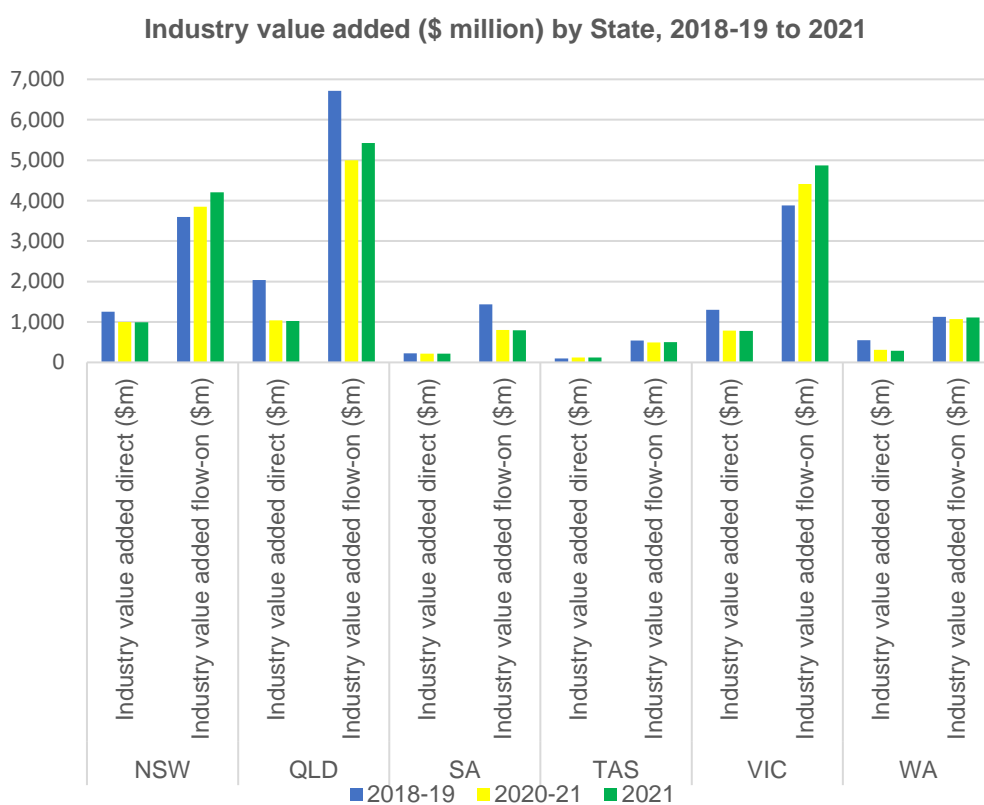
In 2018-19, the red meat processing sector nationally made a direct contribution of \$5.5 billion in industry value added and a further \$22 billion in flow-on contribution. By 2020-21, the direct contribution had fallen by 37 percent to

just under \$3.5 billion whereas the flow-on impact had fallen by approximately 27 percent to just over \$16 billion. The fall in direct contribution resulted from significant decreases in slaughter numbers across all animal types. However, with the flow-on contribution this was counteracted to some extent by increased average expenditure per head. In 2018-19, the flow-on multiplier in the *Agriculture, forestry & fishing* sector was 1.44. By 2020-21, this had increased to 2.61. In the calendar year 2021, the direct contribution to industry value added again fell marginally, although the flow-on contribution grew by just over 8 percent when compared with 2020-21. The flow-on multiplier in the *Agriculture, forestry & fishing* sector increased to 2.90.

Similar effects were seen by State where, with the exception of Tasmania, direct contribution to industry value added fell between 2018-19 and 2020-21. The indirect contribution also fell in all States, with the exception of New South Wales and Victoria. In the calendar year 2021, the direct contribution was lower than in 2020-21 across all States but the indirect or flow-on contribution increased, with the exception of South Australia.

The overall impact of changes in industry value added is illustrated in Figure 6.1.

Figure 6.1: Industry value added by State, Australia 2018-19, 2020-21 & 2021



6.2 Household income

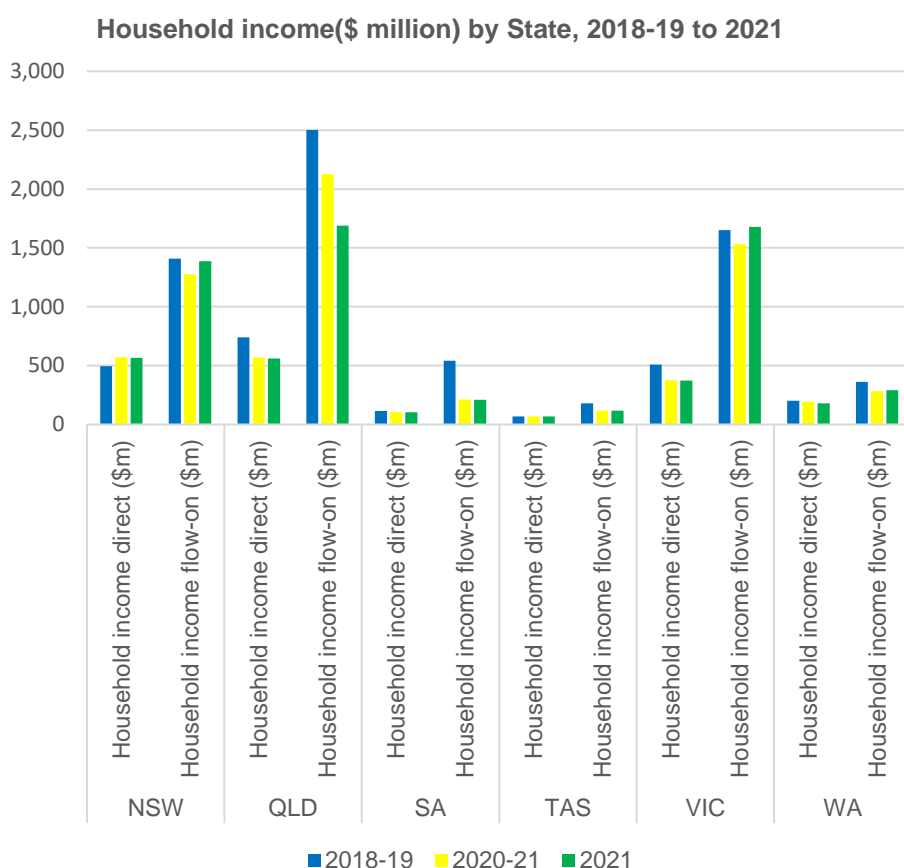
In 2018-19, the red meat processing sector nationally made a direct contribution of \$2.1 billion in household income and a further \$8.5 billion in flow-on contribution. By 2020-21, the direct contribution had fallen by 12 percent to just under \$1.9 billion whereas the flow-on impact had fallen by approximately 41 percent to just over \$5 billion. Again, the fall in direct contribution resulted from significant decreases in slaughter numbers across all animal types. The decrease in the flow-on impact results from apparent below average wages and salaries in the *Agriculture, forestry & fishing* sector. It should be noted however that while many individuals working in the *Agriculture* sub-sector in particular are reported as being unpaid family members and farm owners and managers report relatively low

remuneration, this does not necessarily reflect the true picture. Farm owners, managers and their families may draw income from the farm business which is not reflected in the standard published wages and salaries data.

Similar effects were seen by State where, with the exception of New South Wales, direct contribution to household income fell between 2018-19 and 2020-21. The indirect contribution also fell in all States. In the calendar year 2021, the direct contribution to household income was lower than in 2020-21 across all States but the indirect or flow-on contribution increased, with the exception of South Queensland.

The overall impact of changes in household income is illustrated in Figure 6.2.

Figure 6.2: Household income by State, Australia 2018-19, 2020-21 & 2021



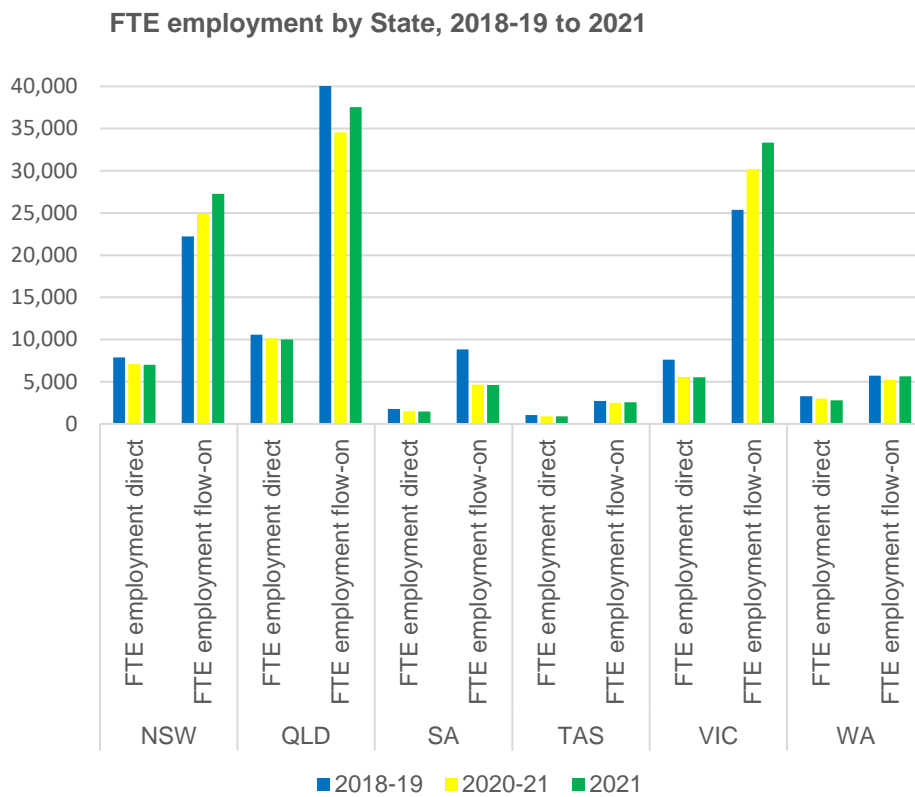
6.3 Employment

In 2018-19, the red meat processing sector nationally made a direct contribution of just over 32,000 in FTE jobs and a further almost 134,000 FTE jobs in flow-on contribution. By 2020-21, the direct contribution had fallen by 12 percent to just over 28,000 FTE positions while flow-on FTE jobs fell by almost 24 percent to 102,000 positions. In the calendar year 2021, the direct contribution fell by a further almost 2 percent although the flow-on impact increased by just over 8 percent to over 110,000 FTE jobs. In 2018-19, the flow-on FTE employment multiplier in the *Agriculture, forestry & fishing* sector was 1.69. By 2020-21, this had increased to 2.23, with a further increase to 2.48 in the calendar year 2021.

Between 2018-19 and the calendar year 2021, direct FTE employment fell across all States. In 2020-21, flow-on FTE employment also fell across all States with the exception of New South Wales and Victoria. However, in the calendar year 2021, flow-on employment generally increased with the exception of South Australia.

The overall impact of changes in household income is illustrated in Figure 6.3.

Figure 6.3: FTE employment by State, Australia 2018-19, 2020-21 & 2021



7.0 Conclusions / Recommendations

7.1 Changes in results

The key changes in the results for economic impact of the red meat processing sector from 2018-19 to 2020-21 and for 2021 are indicate in Table 7.1 below.

Table 7.1: Economic impact, red meat production, Australia 2018-19, 2020-21 & 2021

		Change					
		2018-19	2020-21	2021	2018-19 to 2020-21	2020-21 to 2021	2018-19 to 2021
Industry value added (\$ million)	Direct	5,501.0	3,473.4	3,412.3	-36.9%	-1.8%	-38.0%
	Flow-on	22,141.5	16,279.9	17,610.6	-26.5%	8.2%	-20.5%
	Total	27,642.5	19,753.3	21,022.9	-28.5%	6.4%	-23.9%
	% of Australia	1.50%	1.00%	1.06%	-33.5%	6.4%	-29.2%
Household income (\$ million)	Direct	2,142.4	1,882.3	1,849.6	-12.1%	-1.7%	-13.7%
	Flow-on	8,522.0	5,050.6	5,817.9	-40.7%	15.2%	-31.7%
	Total	10,664.4	6,932.9	7,667.5	-35.0%	10.6%	-28.1%
	% of Australia	1.17%	0.73%	0.80%	-37.8%	10.6%	-31.3%
Employment (FTE)	Direct	32,134	28,257	27,742	-12.1%	-1.8%	-13.7%
	Flow-on	133,725	102,067	110,475	-23.7%	8.2%	-17.4%
	Total	165,859	130,324	138,217	-21.4%	6.1%	-16.7%
	% of Australia	1.53%	1.18%	1.25%	-22.5%	6.1%	-17.8%
Cattle/calves slaughtered ('000)		8,703	6,621	6,289	-23.9%	-5.0%	-27.7%
Sheep/lambs slaughtered ('000)		31,815	25,173	26,601	-20.9%	5.7%	-16.4%

The above table illustrates two key features of the red meat processing sector:

1. The interdependence of the value added generated by the sector and its upstream supplying industries, notably the livestock production sector, reflected in the fact that flow-on value added is 4 to 5 times the direct value added generated
2. The very significant flow on impact of the sector with the regional economy, reflected in the fact that whilst direct employment fell by around 5,000 workers over the full period analysed nearly 23,000 FTE jobs were lost in flow-on impacts.

Some notable aspects of the above changes are as follows:

- The sector has experienced a dramatic fall in the value added generated, with the total value falling from \$27.6 billion in 2018-019 to \$19.7 billion in 2020-21, a fall of 28.5 per cent. Value added then increased by 6.4 per cent to \$21.0 billion in 2021 compared with 2020-21. From 2018-19 to 2021 the decline in value added was fully 23.9 per cent, an extreme decline from any perspective.
- The fall in value added over any of the periods calculated was more severe for direct impacts than the flow-on impacts. For example, direct value added fell 38 per cent over 2018-19 to 2021 but flow-on fell only 20.5 per cent. Moreover, the ratio of flow on to direct value added was 4 in 2018-19 (i.e., flow on value added was 4 times the direct figure), but in 2021 the ratio had increased to 5.2.
- The declines in value added generated by red meat processing were far more severe directly than in flow-on terms. Flow-on value added represents the value added in industries generated by purchases of red meat processing, and the major one of these by far is livestock production. Indeed, in the period 2020-21 to 2021 flow-on value added generated by red meat processing increased measurably while direct value added continued to decline.
- A somewhat similar pattern over time is indicated with respect to household income, where the sector generated \$10.7 billion in total household income in 2018-19 but this fell to \$7.8 billion in 2021. This decline of 28.1 per cent is bigger decline than occurred for value added. However, in a similar fashion, the decline

was much less from 2020-21 to 2021 than in the earlier period, and indeed income increased in total. But the decline in flow-on household income was much larger than the case for direct impact, at least in the earlier period. From 2020-21 to 2021 the decline in flow-on income reversed and it grew significantly.

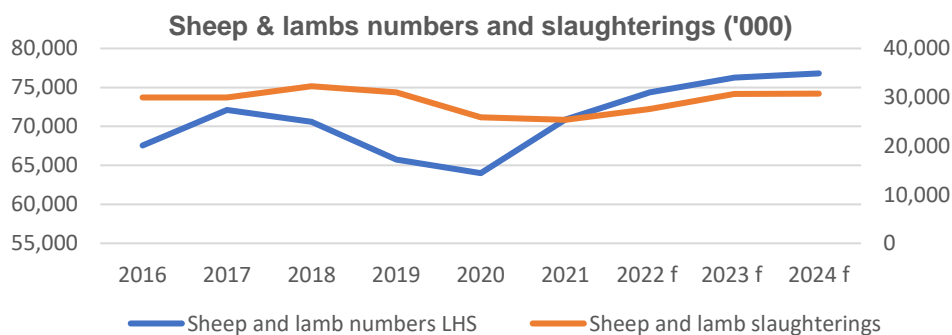
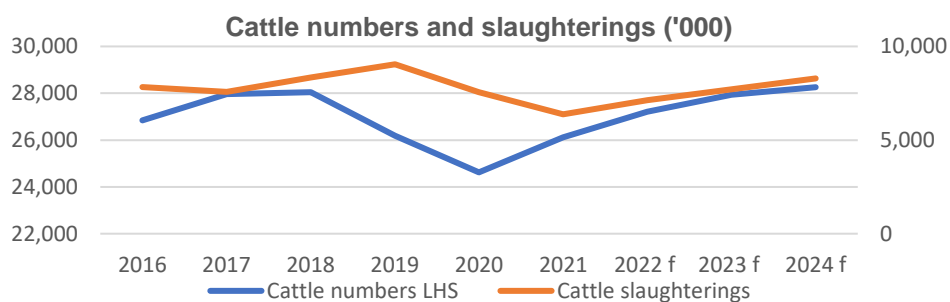
- The sector generated a total of 166,589 FTE jobs in 2018-19 but this fell to 130,324 in 2020-21 before rising slightly to 138,217 in 2021. The pattern of FTE employment generated is similar to that for value added. Direct employment fell 16.7 per cent in total from 2018-19 to 2021, a smaller decline than for value added. Employment, like value added, continued to decline in direct terms in the latest period from 2020-21 to 2021, but at a slower rate, and flow-on employment growth turned positive in that period.
- A major feature of the results is the significant declines in animals slaughtered over the period concerned. Cattle and calves declined by 27.7 per cent from 2018-19 to 2021 with a bigger decline in the period 2018-19 to 2020-21 (nearly 24 per cent) followed by a smaller decline (5 per cent) in 2020-21 to 2021. For sheep the decline over the whole period was 16.4 per cent with positive growth in the latest period.

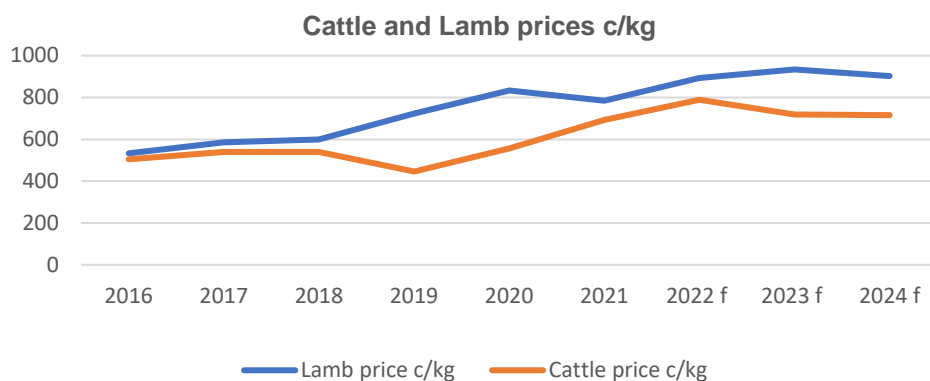
There are several key factors from within the sector that have influenced the above results.

Livestock market conditions are inextricably linked to red meat processing outcomes. Livestock production cycles are a major factor here. Red meat processing depends on having supplies of animals to process. Cattle and sheep production is subject to cycles that are driven by weather conditions. The period since 2018-19 has seen a period of declining numbers and slaughtering due to the lingering effects of drought, followed by the commencement of the rebuilding of herds under relatively benign seasonal conditions. This rebuilding has seen the numbers of livestock stabilise and then increase but the numbers slaughtered has lagged because of producers holding on to their animals. The rebuilding was also accompanied by a substantial increase in livestock prices, as producers compete for animals to rebuild their herds and hold back on sales of animals for slaughter.

This is indicated in the charts below.

Figure 7.1 Livestock numbers, slaughterings and price, actual and projections to 2024





Livestock cycles are a major factor in the decline in value added, especially in direct terms as indicated above. Fewer animals slaughtered reduces capacity utilisation in many processing facilities which rises unit processing costs, an increase that is exacerbated by the increased price of the animals that are slaughtered. This 'double-whammy' reflects the stage of the livestock production cycle being experienced by the processing sector.

Within the sector, labour availability and costs are another key factor. The reduction in the number of animals processed has an impact on the employment of labour in the sector. This in turn affects both the value added and the employment generated by the sector. Household income is also affected by employment. However more broadly, labour availability has also been constrained by a number of factors external to the industry.

These are discussed in the section below which addresses the broader national and international context for the above key results.

7.2 Broader national and international context

Several factors within the national economy have influenced the above results.

The COVID 19 pandemic has had a profound influence on the national economy and thereby on the processing sector. This has been manifested in particular in the form of the labour market. Restrictions on availability of labour due to COVID isolation requirements has been exacerbated by restrictions on availability of labour internationally, with the processing sector being a major user of temporary worker visas.

The pandemic also had an adverse impact on the demand for the sector's products in the retail food service industry, the restaurant component of which was subject to close down and density restrictions at various stages of the pandemic, offset to some degree by increased online purchases. The constraints on labour supply during the pandemic also affected the transport and logistics sectors on which the processing sector depends for movement of its products to domestic and export markets.

Trade disputes have been another factor affecting the sector. To some extent, value added would have been adversely affected by the impact of trade disputes that have entailed bans on purchases of red meat from Australian processors in some cases. The ability of the processors affected to export product to alternative markets, and the returns generated from those markets, would determine the extent to which value added was adversely affected.

7.3 Implications for the future of the red meat processing sector

The red meat processing sector has been faced with an extraordinary set of challenges in the period for which data has been analysed in this project. There are some signs that the situation of drastic falls in value added, household

income and employment generated by the sector is reversing. In particular, there are forecasts for an increase in slaughtering as the herd rebuilding cycle matures (see charts above).

However, this in turn will create new challenges for the sector. Whilst the increase in numbers and slaughtering should ameliorate the cost and capacity utilisation pressures currently facing the industry, the labour supply pressures have experienced little sign of abating. COVID-based restrictions on close contacts have disrupted availability of labour and unless these are reduced, and international sources of labour are re-opened through expanded provision of worker visas, the sector will face challenges in being able to process the increasing numbers of animals likely to be sent to slaughter as the herd rebuilding cycle matures.

Continuing labour pressures make it incumbent on the sector to find ways of substituting capital for labour through the use of technology. The sector will need to make substantial investments in research and development and in broader technology development to facilitate this. In addition, the current workforce needs continual productivity improvement through training and new recruits to the sector need to be attracted by educational and training opportunities and competitive remuneration.

However, the pressures on the sector's profitability flowing from by the deep cycles to which it is subject make it difficult for the sector to make the capital and other investments required so that it can grow and process the volume of animals likely to enter the market in the coming years. A more balanced growth development path is required for both producers and processors to meet the future needs of Australian and international consumers for red meat.

Processors and livestock producers both need to make more steady, sustainable profits to justify the investment required for future strong growth. This prospect is made much more difficult by the cycles of boom and bust which have characterised the past.

One mechanism for smoothing out these cycles is likely to be through increased compound feeding of animals, which increases the predictability of output and, through increased weight, improve capacity utilisation and unit costs of processing. Another factor is likely to be the increased scale of operation of processors, and the likely further rationalisation of the sector.

The key areas for action in improving the long-term stability and sustainability of the processing industry will rest with processors. There is, however, a broader role for Government in underpinning the growth of the sector that will entail a 'bigger picture' vision of what is required. A plan for infrastructure development in water, transport and digitalisation is required to enable a matching of where livestock are best raised and fed and where they are best processed, for the benefit of the entire value chain.

In terms of the implications for AMPC, the following perspectives may be relevant:

- The need for a more balanced growth path for the sector implies a very high degree of mutual understanding and exchange of information about industry prospects. A collaborative approach to forecasting and projections, underpinned by AMPC research, could play a positive role in this regard.
- The likely need for more lot feeding of livestock as a solution to the seasonal and cyclical challenges faced by the industry also implies a highly collaborative approach to R&D, industry planning and policy development entailing collaboration with the feedlot and livestock production sectors. AMPC would have an important role to play in supporting the development of the bigger picture role for Government in achieving what is required.
- The fundamental importance of cost competitiveness for processing must be remembered. Red meat trades globally and Australian processors face cost competitiveness pressures that are global in origin. Areas outside the control of the sector such as government taxes and charges must reflect these competitive imperatives. As an example, Government export inspection charges remain uncompetitive in Australia after literally decades of the industry's efforts to encourage change. AMPC needs to underpin the need for

Government to address competitive constraints through appropriate research and policy analysis in support of processors and ultimately for the benefit of the whole supply chain.

- Trade disruption is becoming endemic in the red meat industry, and this has major implications for processors, and for all others along the supply chain. The new reality of fractured globalisation and aggressive strategic trade policy needs to result in an appropriate new strategic pathway for the sector. AMPC has a key role to play in facilitating the development of this pathway.

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