AMPC REPRESENTATIVE CATTLE PROCESSOR MODEL

RECENT PERFORMANCE AND OUTLOOK

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SUMMARY

- To gain insight into the drivers of economic performance and sustainability in the red meat processing industry, AMPC has developed a red meat processor model that incorporates data from the recently released *Cost to Operate* report and other publicly available red meat industry data.

- The processor model represents a single species cattle plant, processing a mixture of grass- and grain-fed steers.

- The model shows a long-term average margin of $25 per head of cattle throughput over 11 years, with three distinct periods of positive and negative margins.

- Cattle throughput is the primary driver of processor margin, with 76% of the variation in processor margin explained by the level of cattle throughput.

- 2018 showed a yearly processor margin of $-14, despite having an annual throughput equal to the long-term average of 7.8 million head. This was due to the short restocking period after the 2013-15 drought reducing the supply of finished cattle.

- Cattle processing plant closures have typically occurred during periods of strongly negative or prolonged negative margins. This has broader economic and social impacts, particularly on regional communities where the majority of processors are located.

- Looking forward based on MLA cattle projections, sustained low slaughter levels may result in negative processor margins until 2021, which will be six consecutive years of negative margins.

Average 11-year margin
$25
per head of cattle

2018 margin
$-14
per head of cattle

A REPRESENTATIVE CATTLE PROCESSOR MODEL

The AMPC representative cattle processor model has been developed to be a tool for AMPC and industry stakeholders to objectively assess the drivers of processor economic performance. The model incorporates AMPC's recently released processing Cost to Operate[1] data, as well as other AMPC and wider red meat industry data[2]. The model covers an 11 year period from January 2008 to December 2018.

The representative processor is a single species plant (as are 39% of AMPC members — the largest group). It processes a mixture of grain- and grass-fed steers, representative of the national supply (average annual 67% grass fed cattle, ranging from 60–73% and trending down over time), purchased through a mixture of saleyard (33% of purchases and decreasing) and over-the-hook (OTH) sales; operating at a capacity utilisation representative of national throughput (average annual utilisation of 75%, ranging from 67–90%); and selling 15 meat products and 24 co-products.

Given the many assumptions required to build the model, this should not be seen as a whole of industry model, but rather a reflection of an average industry participant. Due to the diversity of plant size, operational processes, and supply chain focus across the red meat processing industry, individual processors will certainly vary from the modelled results; however, the model provides an indicator of the broad industry trend.

Due to AMPC's specific processing industry need, the model differs from the Mecardo processor model[3] in some of the detail (particularly by breaking down processing costs) and the focus on a combination of both grass- and grain-fed steers rather than solely saleyard cows. While the differences understandably result in some short-term variations, much of the data and the methodology are similar, and the overall model trend is comparable.

The representative processor

- Is a single species plant

- Processes a mixture of grain- and grass-fed steers, representative of the national supply

- Purchases through a mixture of saleyard and over-the-hook (OTH) sales

- Operates at a capacity utilisation representative of the national throughput

- Sells 15 meat products and 24 co-products.

Single species plants represent the largest group of AMPC members

67% of average annual cattle processed was grass-fed

33% of purchases were through a saleyard

National average annual capacity utilisation of 75%

1   Heilbron, 2018, *Analysis of regulatory and related costs in red meat processing,* report for AMPC 2017-1062
2   Primarily publicly available MLA and ABS data. Contact AMPC for a full list of data and assumptions.
3   Mecardo, 2016, *5 reasons why transparency is important in the cattle industry*

OVERVIEW AND KEY DRIVERS

Since January 2008, the economic performance of the AMPC representative processor has varied across distinct periods of positive and negative margins, with an average monthly margin of $25 per head of cattle (graph 1).

1. Processor margin and cattle throughput
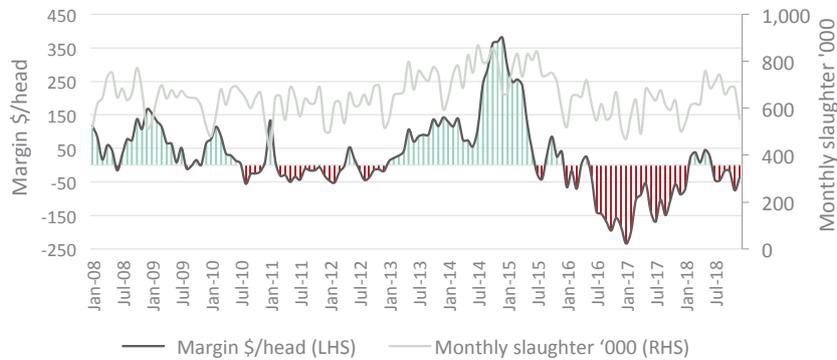
Graph 1 also shows the monthly national adult slaughter, which is one of the strongest drivers of processor margin. Seasonal fluctuations in cattle slaughter, and the associated underlying climatic conditions, disrupt the normal long-term relationship whereby domestic cattle prices are driven by international meat prices and associated currency movements (r-squared of 76% for grass-fed saleyard, 83% for grass-fed OTH, and 85% for grain-fed). As such, positive margins were present during the "millennium drought" which ended mid-2010[4]; followed by negative margins during 2010–2012 restocking. Positive margins arose again during the 2013-2015 drought; and mostly negative margins since 2016. This relationship is consistent with the long-reported dynamic whereby red meat processing is a low margin industry, relying on high throughput and high capacity utilisation to generate returns[5]. The strong positive correlation (r-squared 76%) between annual cattle throughput and annual processor margin is shown in graph 2.

2. Total throughput and margin — yearly

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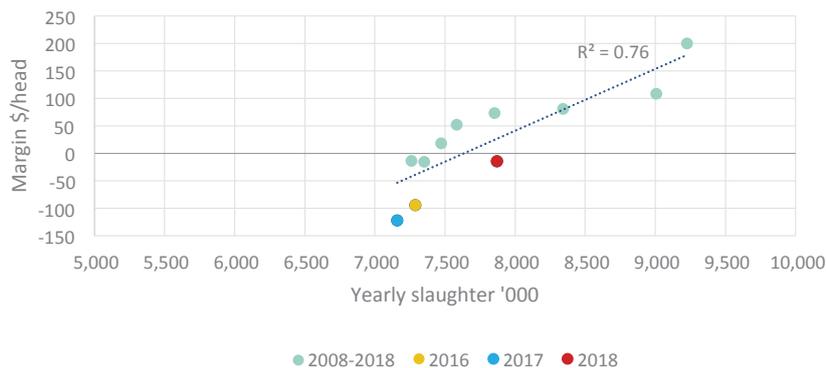
4   **BOM, 2015, _Recent rainfall, drought and southern Australia's long-term rainfall decline_**

5   Heilbron, 2001, _Study on the impact of Government on industry competitiveness_, report for MLA; GHD, 2010, _Study of the Australian Red Meat Processing Sector and its Contribution to National and Regional Economics_, report for MLA and AMPC A.CIS.0016; and **ProAnd, 2016, _Regulatory costs in the red meat and livestock industries_, report for MLA G.POL.1600**

Interestingly, the 3-year period from 2016–2018 has shown a margin below what the historical relationship between throughput and margin would suggest. In particular, 2018 posted a yearly processor margin of $-14, despite having an annual throughput consistent with the long-term average of 7.8 million head. While the first half of the year did show a margin trend broadly consistent with the 11-year average (graph 3), the second half of the year did not follow the typical margin recovery.

3. Seasonal processor margin
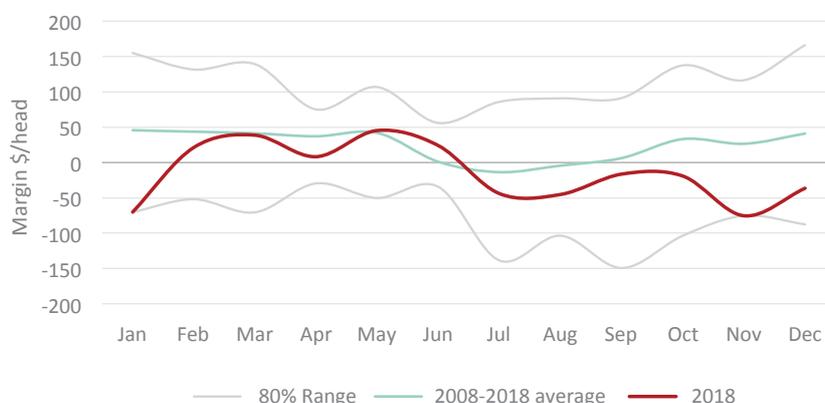
Source: AMPC margin analysis

In contrast, the Mecardo model[6] showed a strong positive margin for 2018. The primary reason for the divergence in the two models is that saleyard cow prices (used by Mecardo) showed a strong dip in 2018, which was not reflected in saleyard and OTH steer prices (used in the AMPC model) or even OTH medium cow prices. Despite the above average female kill ratio (51%, which is 7% above the 11-year — and long term — average of 47%), total slaughter was less than 1% above the 11-year — and long term — average of 7.8 million head throughput per year. This was reflective of the status of the national herd, which had not had sufficient time to rebuild following the 2013–15 drought. Compared to the millennium drought, the 2013–15 drought saw a larger reduction in national herd (-2.4 million head compared to -1.8 million peak to trough), a larger proportional reduction in national herd (-8% compared to -6% peak to trough), and a similar end herd size (26.8 million compared to 26.6 million). However, following the 2014–15 drought, there was only a 19-month herd rebuild phase (defined as the period with female slaughter below 47% of total) before drought conditions and liquidation returned, which was just half the rebuild period that followed the millennium drought (37 months).

Consequently, a flush of female cattle reduced the saleyard cow price in late 2018 at the same time as an undersupply of finished cattle forced processors to offer more at the saleyards or OTH to meet market specifications[7]. As cattle input prices make up the largest share of processor costs (average 79% over the 11-years), AMPC's weighted grass-fed and grain-fed steer processor margin did not reach the highs of the Mecardo saleyard cow processor in 2018.

6   Mecardo, 2019, *Processor margins and spreads*, 31 January
7   Also noted at the time by MLA, 2018, *Finished cattle attract price premiums*, 07 November and Mecardo, 2018, *Rising finished prices no match for inputs*, 18 October

INDUSTRY AND COMMUNITY IMPACT

When compared to the thirteen known cattle processing facility closures since 2008, there is a clear relationship between periods of low margin and closures (graph 4). There were three additional sheep/lamb abattoir closures in the period.

4. Processor margin and plant closures
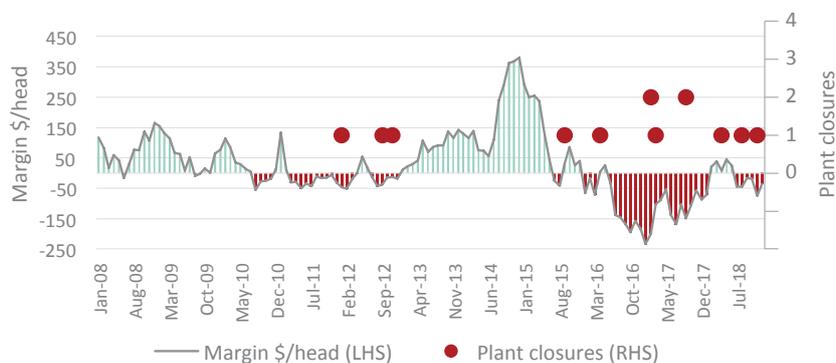
Source: AMPC margin analysis, AMPC data base and Australian Abattoirs[8] for plant closures

The thirteen closures resulted in a total loss of 1,806 jobs in the sector, and occurred primarily in regional areas with a median population of 13,000 people[9]. Nearly 70% of the plant closures had less than 200 employees (a plant size that represents 51% of current AMPC members) and the remaining 30% of plant closures employed between 200–600 people (a plant size that represents 31% of AMPC members). This highlights the particular vulnerability of smaller and medium-sized processors during periods of prolonged or extreme low margin.

Previous analysis has estimated that the flow-on effects from processing is the highest in the red meat sector, with every full-time equivalent (FTE) person directly employed in processing supporting a further 2.45–2.75 FTE jobs[10] in the broader economy. As such, the permanent loss of 1,806 jobs from plant closures would potentially result in a subsequent loss of 4,425 to 4,967 jobs up and down the supply chain.

8   Australian Abattoirs, 2018, *Chronological history of Australian abattoirs and meatworks*

9   ABS, 2016, *ERP by LGA (ASGS 2016), 2001 to 2016*

10   MLA, 2018, *State of the industry report 2018: The Australian red meat livestock industry*; and MLA, 2017, *State of the industry report: The Australian red meat and livestock industry*.

OUTLOOK

Looking forward, MLA[11] forecasts adult cattle slaughterings to drop to 7.60 million in 2019, and to 7.35 million in 2020, before recovering to 7.50 million in 2021, and returning to average in 2022 with 7.80 million slaughtered. All else remaining equal, these annual throughput levels would result in a continued negative annual margin for the AMPC representative processor until 2021 (graph 5).

5. Processor margin and cattle slaughterings — yearly
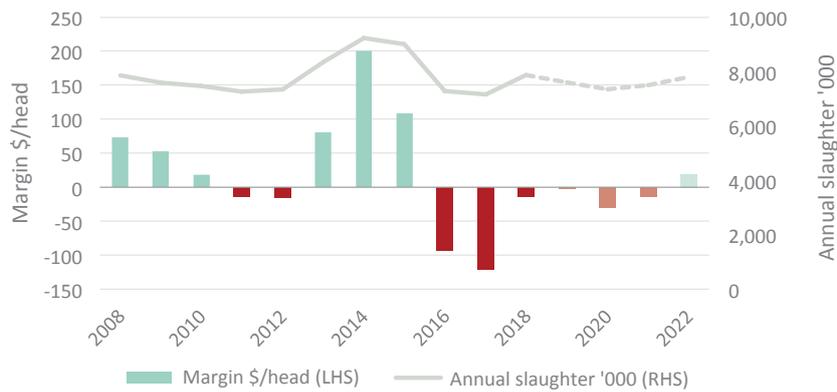
Source: AMPC margin analysis, ABS and MLA throughput figures

With the processor already having sustained negative margins since 2016, this outlook scenario would result in a 6-year period of negative annual margins, the effects of which would be felt not only in the processing sector, but also along the broader red meat supply chain and in the local communities on which it depends.

11   **MLA, 2019,** *Industry projections — Australian Cattle* Note: these forecasts were undertaken prior to the February 2019 North Queensland floods which reports indicate are estimated to have killed approximately 500,000 head of cattle (2% of the national herd), further reducing future cattle supply. See **Mecardo, 2019,** *Disaster for some gives support to the rest, 21 February*.