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ECONOMIC AND POLICY CONSULTING

The nature of competition in the beef processing industry

REPORT

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Executive Summary

The nature of competition in the Australian beef industry has been subject to a high level of scrutiny by government in recent years. Currently there is a Parliamentary inquiry and a 'market study' by the competition regulator following close on the heels of an inquiry into allegations of collusive behaviour at sale yards. No action was taken in relation to anti-competitive conduct, and since 2002, the competition regulator has closely investigated and approved eight red meat processing transactions.

Most recent concerns on the part of some livestock producers and organisations about competition in the industry make a link between levels of concentration in the industry and abnormally high margins. This in turn is linked to concerns about the extent to which prices paid for livestock are not transparent. In effect, the allegation is that processors use their superior information and market power to depress prices for livestock below market levels. No evidence has been found of this to convince the competition regulator to date.

The conclusion of this report, which has been commissioned by the Australian Meat Processor Corporation to inform discussion of the relevant issues, is that the above concerns are based on a view of the nature of competition in the industry which does not reflect the reality of what processors do and how they compete. The information available to processors in determining what prices they are able to offer for livestock is far from perfect. Processing entails considerable risks (factors which can be quantified) and uncertainties (which cannot). Concentration in a market does not equate to anti-competitive conduct.

Food product manufacturing is now Australia's largest manufacturing industry and meat processing is Australia's largest food product manufacturing industry. Indeed, beef processing should more appropriately be referred to as beef manufacturing.

What processors actually do is: buy animals, make (process/manufacture) them and sell beef. This report describes key features of each activity and how processors compete. **In the buying stage, livestock producers have a range of options of what to do with their cattle through the life cycle of production, and in the methods they use to sell their animals.** The livestock production sector involves many beef producers with different size, capacity and profitability. **But differences in producer profitability reflect the costs rather than prices received for cattle.**

Processors accordingly have a range of options in buying, and in determining the prices that they are able to affordably offer for cattle, processors generally undertake a procedure that involves a great deal of risk and uncertainty. Processors have different scale and cost structures and on the sell side they are all price takers in a highly competitive international market. The international market drives the prices that processors can afford to pay for cattle since exports account for around three quarters of output.

The dynamics of the industry and the supply chain are driven by supply (available cattle) and demand (internationally). **There is significant competition for livestock from processors/buyers. There is no evidence of market power on the buy side**. The market is the market. Beef processing is a manufacturing sector using a diverse range of inputs that vary by factors such as size, breed and condition. Not all beef cattle are the same (not homogeneous); not all processor are the same; and not all sellers of finished product are the same. Not all markets are the same in terms of access and the costs of servicing these markets.

Processors' estimates of how much they can afford to pay for cattle rests on all sorts of assumptions – what they might sell the beef products for, what their processing throughput will be, what the supply of cattle will be – and if these prove to be incorrectly calculated, processors will find themselves suddenly losing money. These losses may continue because processors need to maintain throughput otherwise unit costs will rise. If they are eventually forced to shut down plants, major

financial costs are incurred and resources lost (notably skilled labour) which may not be easily regained, if at all.

When assertions about concentration and excessive margins mentioned above were made in 2013-14, figures were cited showing a sharp rise in the gap between prices received by processors for some beef exports and the prices paid to livestock producers for some cattle. However, this reflected an exceptional set of circumstances, with record sales of cattle during a serious drought in Australia and high prices for beef in the US market. **Up-to–date figures indicate the spread between the price of livestock and beef has reversed to become sharply negative and well below the long-term trend.**

Processors cannot remain in business indefinitely losing money whatever the short-term imperatives to maintain throughput. **A continuation of current conditions will see the less cost-efficient processors go out of business.** Even more cost-efficient processors will consider taking labour-intensive processing operations offshore.

The abovementioned concerns about concentration and the level of transparency in pricing have led to pressure for action to enhance competition. At its extreme, this has included calls for mandatory price reporting as is done in the USA. However, as noted above, concentration does not mean a lack of competition and the level of concentration in the USA is far higher than here. **There are potentially unintended adverse impacts of mandatory reporting (e.g. it can facilitate anti-competitive practices such as price signalling in concentrated markets, and equally signal to meat buyers prompting a race to the bottom in pricing) which would adversely affect livestock producers as well as processors.**

Concerns about some features of price reporting stem from industry-agreed practices and standards. **If technological solutions can be found which enable more accurate information to be disseminated in a manner that is cost-efficient (and there are very structured R&D programs underway to do this), then there is no reason why they should not be adopted.**

The Australian beef processing industry is both labour and capital intensive. It has a high cost to processing a beef animal compared to the major international competitors of US, Brazil and New Zealand. The currency is the currency for all and processors cannot control it. **The seller of the end product competes and bears the risks to sell into highly competitive domestic and international markets.** Importantly, once the ownership of the animal passes to the processor, the commercial and operational risks are borne fully by that processor and seller who aims to maximise the return based off the price paid for each animal.

Given that processors are price takers, having the lowest cost for processing is a key means by which processors compete. Interventions that increase risks and costs therefore undermine competitiveness and reduce the capacity to afford paying prices for livestock. **Unfortunately, the cost structure of the local industry is relatively high internationally, and has been made worse by government-influenced taxes and charges.**

The beef processing industry is an important one not only for those directly involved but also more broadly for regional, state and the national economy. Analysis undertaken for this report indicates that, for 2014-15, the **beef** processing industry accounted for $18.2 billion in value added, $6.7 billion in household income and approximately 105,000 FTE jobs when flow-on effects are taken into account. Accordingly, cessation of meat processing activities would have a significant impact on regional communities and the national economy, which in turn would be expected to generate significant negative social consequences.

The reason for pointing out the economic and social impact and significance of the industry is this: **makers of policy in relation to competition in this industry need to take into account that their decisions can have profound impacts on a very significant industry** and, through that industry on the local, regional and national economic value and household income generated, as well as the employment and social wellbeing of hundreds of thousands of people.

The unintended consequences of policies applied to one part of the industry will flow on to others. In particular, the economic fate of processors is intimately tied to that of livestock producers, and vice versa.

There are major challenges posed for policymakers by smaller producers who have difficulty in fully participating in the development of the beef industry (and indeed other agricultural industries), where economic forces generate competitive advantages for those able to realise the benefits of scale. Policy can accommodate this process or hinder it. **Where competition in the industry concerned is strong, there is no justification for using competition policy to hinder economic forces and limit the potential gains in efficiency and competitiveness of the industry as a whole.**

1 Introduction

The **Australian Meat Processor Corporation has commissioned this research report to inform discussion of the relevant issues being examined by the** ACCC as part of the market study it is conducting on the cattle and beef sector. The ACCC states in the Issues Paper for the study, issued on 7 April 2016, that it is in response to a number of issues raised by stakeholders in the industry in 2015. The study's purpose, according to the ACCC, is to examine competition and transparency in the supply chain and consider whether there are impediments to competition and efficiency at various stages of the supply chain in cattle and beef markets.

The nature of competition in the beef industry has been a focus of policy attention for the ACCC and other parts of government for a long time, but especially so over the past 15 years. There was an ACCC *Report to the Senate by the ACCC on Prices Paid to Suppliers by Retailers in the Australian Grocery Industry* in 2002; an *Examination of the prices paid to farmers for livestock and the prices paid by Australian consumers for red meat*, undertaken by the ACCC in 2007; and a Report of the ACCC *Inquiry into the competitiveness of retail prices for standard groceries* which analysed the meat industry in 2008.

This focus has sharpened over the past year, when both the ACCC and the Australian Senate Standing Committee on Rural and Regional Affairs and Transport have closely scrutinised the industry. The Australian Senate initiated an inquiry into the effect of market consolidation on the red meat processing sector and recently issued its interim report. Some livestock industry representative bodies have urged action to enhance aspects of industry competition and research has been conducted on mandatory price reporting.

In recent years, the ACCC has reviewed a number of significant acquisitions in the red meat processing sector as processors have sought to consolidate their operations. Since 2002, the ACCC has closely investigated and approved eight red meat processing transactions as follows:

2002	Merger between Consolidated Meat Group and Teys Bros.
2005	Elders Ltd acquisition of EG Green & Sons Pty Ltd
2008	JBS Southern Australia Pty Ltd acquisition of Tasman Group Services Pty Ltd
2009	Metcash Trading Limited acquisition of Fresh Market Meats.
2010	ZM Australia Pty Ltd acquisition of Tatiara Meat Company Pty Ltd
2010	Swift Australia Pty Ltd acquisition of Rockdale Beef Pty Ltd
2011	Merger of Teys Bros (Holdings) Pty Limited and Cargill Beef Australia
2015	JBS USA Holdings Inc acquisition of Australian Consolidated Food Investments Pty Ltd (Primo Smallgoods).

In 2015, the ACCC also investigated claims processors collectively boycotted the Barnawartha saleyard.

Individual processors will certainly have their own perspectives on what representations they might wish to make to the ACCC, government or other stakeholders, guided by their own specific interests in relation to the ACCC's market study.

However, the red meat processing industry, acting collectively through the AMPC, decided to commission research that provides empirical data and other relevant information to inform the research and analysis of the issues. The AMPC commissioned SG Heilbron Economic & Policy Consultants to prepare this report as part of that research.

SG Heilbron has conducted research and provided advice on economic and policy aspects of competition in the red meat and other industries for 25 years, including in relation to authorisation of anti-competitive conduct, misuse of market power, export joint-venture guidelines, collective bargaining, rural guidelines, mergers and acquisitions.

The key issues posed by the ACCC market study can essentially be interpreted as follows:

- How are prices determined (formed) in the industry?
- How transparent are those prices along the supply chain?
- What is the profitability in the industry and how has it developed over time?
- What impact has the process of consolidation had on competition and profitability?
- What are the appropriate regulatory settings for competition in the industry?

The analysis of these issues in this report is undertaken from the perspective of beef processors by analysing what processors actually do to compete – that is, they buy cattle; make (process/manufacture) them into meat products; and then sell them. Following a brief overview of the key features of the beef processing industry, the nature of competition in each of the above buy, make and sell activities is described in turn.

The report also discusses the issues associated with some key recommendations made by the Senate Inquiry in its just released interim report on meat industry consolidation. In particular it addresses those relating to the introduction of legislation to prohibit 'concerted practices' and the introduction of a national price disclosure and reporting system.

This report has been based on research using public data sources augmented by a series of structured interviews with a range of beef processors who were asked to provide their insights on the nature of competition in the industry. These processors included large and small scale operators, processors of grass-fed and grain fed beef, and located in the north and south of Australia. The Consultants express their appreciation for the time taken by processors to describe the nature of competition in their industry. The conclusions reached, however, are solely those of the Consultants'.

2 The beef industry

The significance of the industry

The red meat processing industry is estimated to contribute just under $23 billion of value added to the Australian economy, equivalent to 1.5 percent of Australia's gross industry value added including flow-on impacts. It generates almost 135,000 jobs, equivalent to 1.4 percent of full-time equivalent (FTE) employment when flow-on effects are taken into account[1].

The top five industry sectors impacted by the red meat processing sector in terms FTE employment are:

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

[1] SG Heilbron Economic & Policy Consulting, *Evaluating the socio economic benefit of the red meat processing industry in regional Australia,* AMPC Milestone 3 Report, February 2016

The red meat industry is also a relatively high value adding and employment generating industry when compared to the economy as a whole. The red meat processing sector, whilst accounting for just over 0.3 percent of the full-time equivalent workforce in Australia in 2014-15, contributed 1.5 percent of the nation's gross industry value added when flow-on effects are taken into account. In addition, the sector underpins more than 10 percent of total full-time equivalent employment in the agriculture, forestry & fishing sector.

The red meat industry is a major contributor to regional economies, with its impact reaching more than 5 per cent of value added and in excess of 4 per cent of full-time equivalent employment in some cases. The red meat processing industry is a significant contributor to the Australian economy and, at the regional level, may serve to support a substantial proportion of the economy, including the associated social impacts.[2]

The above figures for the economic contribution of the red meat processing industry include both beef and sheep meat. Analysis undertaken for the purposes of this report indicates that, for 2014-15, the beef processing industry alone accounts for $18.2 billion in value added, $6.7 billion in household income and approximately 105,000 FTE jobs when flow-on effects are taken into account. From a social impact perspective, analysis indicates that cessation of the red meat processing sector's operations nationally would have major impacts. These impacts would clearly be even more profound at the local level, in regions which have a significant proportion of the population employed in the sector.

When flow-on impacts are taken into account, cessation of operations of the red meat processing facility at the local level would have a significant impact on the local economy which in turn would be expected to generate significant negative social consequences. The impact on local unemployment rates could be of such a magnitude that it increases four-fold when flow-on effects are included, in turn impacting on stress-related mental health issues which already have a higher incidence in rural communities than in urban settings.

A major feature in the micro level impacts is the concentration of unemployment amongst individuals with similar skills and experience which would suggest they would experience difficulty in obtaining new employment locally and, in many cases, may have to leave the region. This can reasonably be expected to impact on the number of education and health care professionals that can be supported locally.

Reduced levels of expenditure, whether as a result of movement of employees from the industry or a decrease in household income, are also likely to impact on other tertiary service sectors and on business confidence generally. This in turn affects the local community overall, with a potential reduction in the ability to support a range of services. Overall, community wellbeing would decrease and there is the potential for the virtual collapse of the community altogether.

Food product manufacturing is now Australia's largest manufacturing industry and meat processing is Australia's largest food product manufacturing industry. The reason for pointing out the economic and social impact and significance of the industry is this: makers of policy in relation to competition in this industry need to take into account that their decisions can have a profound impact on a very significant industry and, through that industry on the local, regional and national economic value and household income generated, as well as the employment and social wellbeing of hundreds of thousands of people.

[2] SG Heilbron Economic & Policy Consulting, *Evaluating the socio economic benefit of the red meat processing industry in regional Australia*, AMPC Milestone 4 Report, March 2016

The unintended consequences of policies applied to one part of the industry will flow on to others. In particular, the economic fate of processors is intimately tied to that of livestock producers, and vice versa.

The supply chain and competition

A snapshot of the beef supply chain looks as follows:

- There are around 71,000 beef cattle producers in Australia and an estimated herd of around 25 million. More Australian farms are engaged in running beef cattle than in any other form of agricultural activity, with around 55 per cent of all Australian farms carrying beef cattle. These farms manage more than 75 per cent of the total agricultural land in Australia.[3]

- There are around 450 accredited beef cattle feedlots in Australia, mostly in SE Queensland, Northern New South Wales and the Riverina[4]. Some large beef processors have some part of their slaughter sourced from their own feedlots to gain greater control over cattle supplies, product quality and cost pressures. However, as shall be discussed further, vertically integrated supply accounts for a relatively minor proportion of their total cattle requirements.

- There are 124 meat processor members of the AMPC that operate 150 meat processing facilities, which process a range of species and account for more than 97 per cent of Australia's red meat processing capacity. Of these, 77 have been registered to supply to the export market, and amongst them, 37 process cattle only. In 2014, more than 8.9 million cattle (calves, steers/heifers, cows/bulls) were slaughtered at 51 export registered establishments across Australia (data from the Department of Agriculture's Export Production and Condemnation Statistics (EPACS) database). Queensland accounted for almost half of all throughput, with Victoria and New South Wales together accounting for nearly 45 per cent [5].

It is important to recognise that, from a competition perspective, the relatively large number of livestock producers and the relatively smaller number of feedlots and processors is of little significance in itself. What matters is the level of competition at each stage of the chain. In this regard, at the outset there are some key features of livestock production that affect the nature of competition.

1. *Cattle producers have many options available through the life cycle of their cattle*[6].

Younger, lighter cattle may be sold as feeder cattle for grain finishing or to the local or supermarket trade or further fattened on grass and sold to the domestic or export markets. Additionally, those cattle can be sent for live export, as an alternative to feeding and slaughter. In 2014, 1.4 million head of cattle were exported live from Australia, or 15 per cent relative to the number of cattle slaughtered[7]. Further, a decision to grass feed cattle does not preclude a producer from later deciding to finish cattle on grain so as to target the domestic or export grain-fed markets.

The options are available to cattle producers depending on whether they have grass available on their properties (i.e. whether cattle can be further fattened on available grass on the property or whether they are turned-off at an earlier age due to seasonal conditions). Producers can switch to take advantage of competition between the domestic and export markets.

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[3] Department of Agriculture, Australian Government, *Market Consolidation and the red meat processing sector*, submission to the Senate Standing Committee on Rural and Regional Affairs and Transport inquiry into the effect of market consolidation on the red meat processing sector, 9 July 2015, p. 4

[4] Ibid, p. 7

[5] Ibid, p. 15

[6] JBS Australia Pty Ltd, *Submission to the Senate Standing Committee*, June 2015, p. 13

[7] MLA, *Fast Facts - Australia's beef industry*, 2015

A producer dissatisfied with the return achieved from one purchaser can therefore alter its practices to produce cattle which target alternative markets in a relatively short period of time and this may be done from year-to-year.

2. Prices for livestock are not the main driver of producer profitability

Whilst the focus of concern about processor competition on the part of some is the prices offered by processors for cattle, research has found that there is no evidence that superior long term performance of producers can be attributed to a higher average beef price received, more rainfall or better quality land[8].

The 2013 Northern Beef Report comprehensively details the performance of the northern beef industry, by region, market and herd size over the 12 years since the start of the century. It concludes, *inter alia*, that he majority of northern beef producers are not economically sustainable as they are not able to fund present and future liabilities.
Also there is considerable variation in performance between beef businesses within the industry. The top 25 per cent performers (across all regions, herd sizes and markets) consistently outperform the average and have businesses more likely to be economically sustainable over the long term. The superior performance of top 25 per cent of producers can be attributed to factors such as higher income through better herd productivity and lower operating expenses, largely through better labour efficiency. Operating scale (number of adult equivalents under management) has a significant influence on business performance. Operating scale, along with labour efficiency, can explain most of the differences in overhead expenses per animal between businesses

Finally, and most importantly, the research concludes that it is the high cost of production that is the main cause of low profits for the majority of northern beef producers[9]. Similar results regarding the drivers of profitability have been found in relation to the Southern beef industry, where it was found that "Price received varies in only a minor way thus it is not a key driver of any difference in profit".[10]

Table 1: Long term performance (averaged over 2001-12) by herd size

Average performance	***200hd to 800hd***	***800hd to 1,600hd***	***1,600hd to 5,400hd***	***5,400hd +***
Profit per AE	($122.11)	($4.24)	$39.28	$35.92
Asset Value/AE	$5,947	$4,083	$3,204	$2,034
Operating Return	(2.5%)	(0.1%)	1.3%	1.9%
Price Received ($/ kg LW)	$1.76	$1.78	$1.77	$1.76
Cost of Production ($/kg LW)	$2.89	$1.82	$1.41	$1.31
Operating Margin ($/kg LW)	($1.13)	($0.04)	$0.36	$0.46
Top 25 performance				
Profit per AE	($13.71)	$50.74	$91.46	$75.43
Asset Value/AE	$5,732	$3,975	$2,671	$1,502
Operating Return	(0.3%)	1.6%	3.8%	5.3%
Price Received ($/ kg LW)	$1.78	$1.83	$1.78	$1.82
Cost of Production ($/kg LW)	$1.88	$1.45	$1.06	$0.97
Operating Margin ($/kg LW)	($0.10)	$0.38	$0.72	$0.85

Source: MLA, *The Northern beef report - 2013 Northern beef situation analysis*, April 2014

[8] MLA, *The Northern beef report - 2013 Northern beef situation analysis*, April 2014
[9] Ibid, p. 12
[10] MLA, *Southern beef situation analysis*, April 2014, p. 26

This is relevant for the issues relating to competition and the future of the beef industry. There are major challenges posed for policymakers by smaller producers who have difficulty in participating in the development of the beef, and indeed other agricultural industries where economic forces generate competitive advantages for those able to realise the benefits of scale. Policy can accommodate this process or hinder it. Where competition in the industry concerned is strong, there is no justification for using competition policy to hinder economic forces and limit the potential gains in efficiency and competitiveness of the industry as a whole.
This report will consider the appropriate competition and other policy settings for the industry below.

To illustrate the nature of competition in beef processing, the following analysis considers each of the main buy, make and sell activities conducted by processors.

3 The 'buy' activity

It was noted above that producers have many options during the life cycle of their cattle in terms of production strategies. The same applies to the mechanism by which they sell their animals, and hence the way in which processors buy them.

Transaction methods

Cattle are bought by processors via the following methods:

- Auction sales: ownership of cattle is transferred at the point of sale and purchased by a range of buyers including producers (for re-stocking) as well as feedlots and processors. Auctions have the advantage of bringing together at one location a range of buyers, but they have disadvantages from the perspective of processors. Auction entails multiple handling of stock, which entails costs.

  It can also distort the relationship between the type of animal that processors need in order to sell the beef required by their customers. Some producers have expressed concern over the issue as to whether, for the purposes of determining the sale price, cattle should be weighed before or after the sale. Both methods have their advantages and disadvantages. The auction market is a competitive environment and market forces reflecting the costs and benefits will ultimately determine what practices are adopted under what circumstances.

- Over the hooks: here processors pay for cattle on the basis of a price grid and ownership is generally transferred at the point of slaughter. The price grid contains premiums and discounts for specific carcase attributes. This method is generally preferred by processors because it enables the clearest means for transmitting signals about what the market is demanding to producers. Some producers have expressed concern over the extent of feedback provided.

  There is a cost as well as a benefit to providing information, and one would expect that the level of information provided by processors will reflect that cost and benefit. In a competitive market, if one processor provides less information than another, and there is demand for that information than can be met economically, then the processor providing less information will be at a competitive disadvantage against one that provides more.

- Paddock sales: this is generally used when producers sell cattle for others to feed or finish them to slaughter weight.

- Over the scales: excluding auction - this is generally used for cattle to be exported live.

- Other: various methods are available for electronic sale by description or auction, as well as forward contracts to supply a given product at a given time for a given price.

Research indicates that, while the proportions of cattle sold via saleyard auctions and direct sales change over time, they were roughly similar in 2012–13 and 1994–95.[11] This suggests that the cost-benefit calculus between different sale/purchase methods for cattle has been relatively stable too. There are significant differences between the preferred method of sale for northern and southern producers.

Around half of all beef cattle sold in Australia were sold via sale yard auctions in 2012–13, *ABARES Australian Agricultural and Grazing Industries Survey (AAGIS) data*. In southern Australia, the sale yard auction system remained the main method of sale in 2012–13, representing 66 per cent of total beef cattle sales. Sale yard auction sales are most favoured by producers who have smaller herds and sell in small lot sizes. These producers are generally located closer to settled areas so distances to sale yards and freight costs are relatively small.

Producers with larger herd sizes are more likely to sell over the hooks or in the paddock, as they can put together a truckload of cattle of the required specifications. Direct methods of sale, such as 'over the hooks', can reduce carcass damage and loss of meat quality caused by additional handling in sale yard and auction sales. In 2012–13, 31 per cent of cattle were sold 'over the hooks' and 27 per cent in the paddock in northern Australia. This compares with 41 per cent of cattle sold at sale yard auction.

Whilst on average, processors purchase around two thirds of their cattle requirements via direct (non-sale yard) methods in the northern region and around one third in the south, the largest processors use sale yards for a much lower proportion of their requirements. These processors tend to use sale yards to purchase residual requirements for slaughter not met by their preferred method of direct relationships with producers and the sale yards are used to provide one indication of market direction.

It is also important to recognise that it is the larger scale cattle producers who tend to sell direct to processors. This enables the realisation of scale benefits in selling as well as buying. When they do use sale yards for purchases, processors tend to use the grids developed for direct purchases as the reference point for their sale yard offers.

Some processors also have feedlots and they compete with other feedlots to secure supplies of feeder cattle. In general, these processors rely on feedlots for around 10-15 per cent of their total cattle requirements for slaughter, so the degree of vertical integration in beef processing is relatively small.

The pricing process

The nature of competition in the purchasing and processing of cattle dictates that when, processors buy cattle they do not know in advance the prices and volumes for the vast majority of the beef that they will sell derived from the cattle they are wanting to purchase. This key characteristic of competition is not widely known. It means that processors face significant risk and uncertainty in purchasing cattle.

The reality of competition is that most processors are subject to considerable risk and uncertainty when they purchase cattle. Beef processors generally do not have the benefit of selling forward the beef they produce for set prices and volumes. Those selling grain fed product will do everything possible to have some stable relationships with their customers and try to lock in orders for product. The risks associated with having committed to buy extremely expensive lot-fed cattle, or to have their own cattle on feedlots for 120-150 days, makes it just too risky to rely on spot sales.

[11] Department of Agriculture, op. cit., p. 11

Similarly, some processors may have special 'programs' to supply higher value added products or meet other customer specifications e.g. retail pack products for supermarket chains, or products with so-called 'credence' attributes such as grass-fed or breed-based meat products. These initiatives aim to generate higher returns from sales, the proceeds of which can then be shared by processors with livestock suppliers as an incentive to meet the specifications required.

These programs commonly entail development of contract growing or other non-auction means of procuring cattle. The reason for this is, whilst the returns might be higher from producing these products, so are the risks. If the processors concerned are not able to procure cattle which meet the specifications for beef they have undertaken to meet for their program customers, then they will receive lower returns.

In addition, lower throughput resulting from an inability to procure cattle will mean not only higher unit costs of slaughtering but may also mean than expensive packaging and other specialist equipment required to supply program cuts will be underutilized. Processors manage these risks in part by developing more vertically co-ordinated purchasing methods and strategic relationships with livestock producers to ensure the livestock produced meet the program's requirements. It should be noted that such programs would tend to constitute a relatively minor percentage of total cattle purchases for most processors involved.

Smaller processors will generally sell forward offal and other by-products. When markets for products are tight (i.e. when demand is exceeding supply) the proportion forward sold may increase, and vice versa. The nature of competition in the selling of beef products will be discussed in greater detail below.

The key feature generally is that when cattle are purchased and the livestock producer is paid, processors have little clarity on the prices they will achieve for the beef made from the animals. Whilst the methods that are used in determining what they will offer to livestock producers do vary between processors, in general what they do can be described as follows:

- Review their orders. As indicated above, very little will be effectively pre-sold before cattle are purchased. Processors have to forecast what their sales will be in terms of volumes and prices, based on historical experience and any market intelligence. Some processors provide a service kill for retail chains, in which case their sales are committed. However, the retailer, not the processor, purchases the cattle. Moreover, the terms of the sales to retailers can be subject to variation.

- Keep the plant operating. Processors try to ensure that the base capacity in their processing plants is filled. They will commonly calculate a 'break even' or 'break square' point whereby their processing costs minus their forecast sales revenue, assuming they will fill the base capacity, gives them an indication of what they can afford to offer for cattle. The economics of this are explored below but, overall processors suffer in competing with other processors both in terms of their ability to buy cattle and sell beef if their plants are not filling this base capacity. Lower capacity utilisation means higher unit costs.

  The cost to operate will take into account the processing plant economics and any characteristics that will affect them – such as industrial relations arrangements which will affect the availability and cost of labour. But at this stage in the price process, the filling of base capacity is only an assumption – it assumes that cattle will be available in the marketplace to fill the capacity.

- Review what cattle price trends are occurring in the marketplace. This information comes from a variety of sources, including published data on auction and non-auction sales, and from suppliers and buyers working for the processor. Seasonal conditions can have a major impact on the market for cattle and these are a major risk factor.

  Based on the forecasts for customer needs, and the specifications required to meet those expected needs, the parameters will be determined for purchases. Many processors translate these parameters into a grid. The processor or seller (can also be processor or third party non-packer exporter) sends the market price signals to producers through the company grid. These grids are communicated to the company's buyers who will use them in direct purchases and as a base for sale yard offers. Potential sellers of livestock are also encouraged to ask for them from the processor concerned.

  Processors embody considerable knowledge and intellectual property in these grids, and they naturally want to use them to identify and develop relationships with livestock sellers. However once the grid is communicated to a producer, there is nothing preventing the grid from being transmitted widely.

  It is equally important to appreciate that which processor overwhelmingly sell cuts of beef rather than carcases, they purchase the whole carcase. The construction of the grid and also all other methods for establishing the structure of an offer for livestock (i.e. establishing a price at which a processor will bid for livestock at an auction without a gird) therefore entails significant risks associated with translating the product requirements (which are essentially forecasts) into prices for the composite animal.

  It is only once the animal has been processed, and the products sold, that the processor discovers if a profit has been made, well after the cattle producer has been paid. Moreover, the grid is not determined by an algorithm – it is constructed using judgement and expectations for a market that is subject to considerable uncertainty.

- Then either negotiate directly with the producer based on the grid or make a bid at the sale yard auction. As has been pointed out above, producers have options as to what animals they produce, and what mechanism they use to sell the animals. As will be discussed next, in relation to the nature of competition in processing, processors are driven to continue buying animals, and at longer distances for their processing facilities, even beyond the point of profitably processing them, at least in the short term, because of the imperative of maintaining capacity utilisation.

Finally, it must be reiterated that as noted above, there is no evidence that superior long term performance of producers can be attributed to a higher average beef price received. The ability to contain costs is the main cause of low profits.

4 The 'make' activity

Processing economics

It was noted above that in determining what price processors can afford to offer to livestock producers for cattle, the processors will commonly determine a break-even point, and will then determine a grid or offer structure. Some key features of this are:

- At the outset it must be understood that there is no guarantee that the processor can actually go out and buy cattle at the prices offered. In particular, if the cattle supplies are constrained in some way, for example by seasonal conditions, the calculations will be incorrect. This is

especially relevant because of the economies of size and scale (these terms are often confused) prevailing in beef processing. It is important to remember that the breakeven calculation is based on a certain base level of capacity being utilised in the plant. This needs to be elaborated.

- Economies of size refers what happens when cost per unit of output falls as production increases in a cost minimising way. Equally, unit cost can increase when production decreases. This applies in meat processing, all other things being equal, in particular because fixed overhead costs can be spread over a larger throughput. However, from what appears to be the case in the dynamics of beef processing, economies of size do not appear to occur as a simple linear process but are more complex.

- If cattle are scarce, for example after heavy rains, production may not be able to be cut back in proportion to the reduction in cattle availability. A major reason for this is inflexibility in labour markets. In the immediate term, processors will try to manage this by reallocating labour through changes in work teams or shifts[12]. In some jurisdictions, daily hire practices provide some flexibility, whilst in others where weekly hire systems prevail this flexibility can be reduced. However, they need to keep a balance between processing in different stages of the system e.g. between slaughtering and boning.

- At some point, processors may be faced with the necessity to shut down completely. The costs of doing so, however are prohibitive and this option is generally a last resort. Apart from the immediate costs of having expensive capital equipment idle and overheads continuing to generate costs, a major consideration is that labour may move away to other industries and will not return. Processing facilities rely on skilled labour to operate costly equipment, and such labour requires considerable training. It takes a long time to recover lost human resources when plants shut down for any meaningful length of time. Similarly, if cattle supplies are abundant, this generally allows a lower unit cost of production. However, it may not be easy to accommodate higher throughput, at least in the short term. In particular, inflexible labour systems and the need to secure skilled labour, as well as physical limitations imposed by the layout of facilities and balance between slaughtering and boning, may be constraints.

- Economies of scale refers to how much production increases when a processor increases the use of all (both fixed and variable) inputs by a common proportion.[13] All things being equal, larger scale facilities have lower unit costs than smaller ones. However, in beef processing economics, again this does not appear to be simple linear process.

- Beef processing is a highly capital intensive industry and doubling the size of a facility is very expensive. A new greenfield facility in the Northern Territory is reported to have cost over $90 million to build, processing around 300,000 head per annum[14].

[12] SG Heilbron Economic & Policy Consulting, *Benchmarking labour application in-plant*, AMPC Final Report, May 2015

[13] For a discussion of scale economies in US and Australian beef processing, see Catherine Morrison, *Economic performance, cost economies and pricing behaviour in the US and Australian meat products industries,* Australian Journal of Agricultural and Resource Economics, 41:3, pp. 361-83

[14] http://www.theaustralian.com.au/business/companies/91m-plant-puts-meat-on-aacos-new-bones/news-story/9927e746afa2eff541fb5006d2afdd4e

- The largest facilities in Australia process many times that amount. Establishing larger facilities in less remote areas would be extremely expensive. In addition to the capital costs, regulatory constraints will almost certainly apply. Environmental regulations can present an insurmountable barrier to entry. Moreover, securing labour and cattle for the facility would be major challenges. What is much more economically feasible is to incrementally increase the capacity of existing facilities, where possible, to generate scale economies.

- A key feature of the economics of size and scale in processing is that the need to maintain size economies and the prohibitive costs of shutdown means that when cattle demand exceeds supply, processors will tend to continue purchasing cattle beyond the breakeven point. This is good for competition and for the cattle producer, but not for the processor. Equally, when cattle supplies are abundant, processors may have difficulty in expanding capacity, at least in the short term, because of the labour costs and constraints posed by the physical capacity of their facilities (e.g. between slaughtering and boning).

- The fact that establishing new facilities is so costly implies that barriers to entry in the industry are high. Note that some of these barriers however, such as environmental and other regulations, are the result of government policy. However, market-based barriers to entry can be offset by other features of processing economics. Processors need to maintain throughput in the short term, beyond breakeven points. Increased transport efficiencies in recent times has meant processors can ameliorate this situation by seeking to secure cattle supplies at increasingly longer distances from their facilities. Smaller facilities may tend to purchase the bulk of their cattle (say 80 per cent) from up to 400 kms from their plants. Larger facilities may purchase a similar proportion from up to 1,600 kms away. The analysis of cattle movements using National Livestock Information System (NLIS) data illustrates this[15]. A smaller percentage may be purchased by processors from the other end of the country e.g. from Victoria for plants in Queensland, and vice versa. This widens the geographic size of the market and means producers can sell cattle to facilities very far away.

- The lower unit costs resulting from size and scale economies and transport efficiencies means prices offered by distant processors can be competitive with those offered by nearer ones. The Department of Agriculture notes *"The price received by farmers is affected by the distance cattle travel to abattoirs because of the associated transport cost… The NLIS data indicate that in most instances sources from a given region sent cattle to several abattoirs. This is even the case for cattle sourced from remote areas in northern Queensland"*[16]. This also means that there are numerous buyers for cattle in most regions and no one buyer dominates markets.[17] Finally, despite the barriers to entry to processing, the Department of Agriculture cites instances of investment in new processing capacity underway or being planned[18].

- Another key feature of the nature of competition in beef processing is that processors are price takers. Around 25 per cent of beef production is sold to domestic markets and around 75 per cent is exported. In the domestic market, major retailers pose a competitive constraint on any attempt by processors to exert market power in beef sales. Further, there are an estimated 600,000-700,000 cattle a year fed and processed with product committed to major retail chains which are under the effective control of retailers, not processors.

[15] Department of Agriculture, op. cit., p. 25
[16] Ibid, p. 24
[17] Ibid, p. 26
[18] Ibid, p. 31-32

- In the export market, price is the major determining factor for sales, particularly as bulk commodities are the predominant form of product sold. The Department of Agriculture notes that the potential for red meat exporters to influence livestock prices is constrained because the prices received for these meats are largely determined in international markets for a commodity the value of which is determined overwhelmingly by price[19]. For example, a recent article on the Chinese beef market reports that "*Let's face it, China is a price oriented market. Brazil has flooded the Chinese market with cheap frozen beef. And this has lowered beef prices*"[20]. The nature of competition in sales by processors is discussed below.

- Each livestock producer's business is unique with many variable attributes, such as, cattle type, terrain, distance and remoteness, capacity and capability, access to new technology and methods and most importantly access to capital which determines quality of improvements, market flexibility, herd size, etc. Each processor is similarly unique and each in order to maintain its market position will have developed its own standard operating model. Without this uniqueness there would be no room in the market for them.

- Since they cannot control the price at which they purchase livestock, and they are takers of prices for their products, they generally have to compete on the basis of keeping their processing costs as low as possible, consistent with the quality and other requirements of their customers. Furthermore, indications are that Australian processing costs are well above those of international competitors. According to the MLA, Australian processors face the highest processing costs in the world, with costs of around $300 to process an animal because of high labour, power and regulatory charges, compared with $150 a head in the United States, $80 in Argentina and $25 in China (Beef Central 2013) [21].

- The cost of processing an animal in Australia is 1.5 to 3 times the cost of processing an animal in other countries. JBS estimates its costs of processing grain-fed cattle in Australia to be twice that of the United States[22]. The implications of this for appropriate policy settings for the industry will be also be explored below.

Concentration and profitability

A major area of concern to some producers and organisations is that increased concentration of ownership has enabled processors to depress prices for cattle and led to high margins. As evidence for the high margins, attention has been drawn to the gap between the price paid for cattle and the price received by processors for beef.

The concentration of processing in Australia can be measured in different ways. According to the Federal Department of Agriculture, the top five cattle processing companies accounted for 57 per cent of throughput in 2014 (based on slaughter figures)[23]. However, the Department also notes that, while there are confidentiality issues in identifying specific abattoirs and companies, NLIS data on cattle movements to individual abattoirs indicate that the top five processing plants accounted for around 25 to 30 per cent of cattle sent to abattoirs between 2008 and 2012. (The coverage of the NLIS data over this period is incomplete, although it has improved since 2013)[24].

[19] Ibid, p. 26
[20] Selva Freigedo, *Beef Exports To China Are Booming…But For How Long?* Sharecafe, *07/06/2016*
[21] Ibid, p. 31
[22] JBS, op. cit., p. 24
[23] Ibid, p. 15
[24] Ibid, p. 23

There are numerous other measures of concentration available publicly[25]. These use different indicators and exhibit a wide range of results. It is unclear what assumptions they embody – for example, do throughput-based estimates include Saturday kills which occur in periods of very high demand for processing? And do revenue-based estimates include all revenues or just slaughtering revenues?

Moreover do these estimates include the cattle mentioned above which are bought by retailers? Whatever the measure, it needs to be understood that concentration does not mean an absence of competition. One indicator of an absence of competition is profitability at an abnormal level. In competition policy, however, regulators look for an ability by a producer to raise prices above the supply cost (the minimum cost an efficient firm will incur in producing the product) without rivals taking away customers in due course i.e. the producer has market power.

A high level of profits may be an indicator of market power at a specific point in time, but it is not by any means a sole or conclusive indicator, as there are many factors which can affect the level of profitability of a firm. The fact is, in the beef processing industry, margins are generally low. The ACCC concluded, as far back as 2007, that low margins in processing, the need to maintain volumes of throughput, and evidence suggesting that processors have offset recent increases in costs of production with efficiency gains rather than passing on cost increases through the supply chain, suggests that competition between processors is strong[26]. The focus of attention with regard to processing profitability has been on the experience of more recent years. An example is the claim by producer organisations that "*Farmer prices remain stagnant, while Processor Margins surge*" based on data showing that the difference between the Medium Cow Index (average monthly saleyard price that farmers receive) and the 90CL lean beef export price (what processors receive) has risen from 70cents/kg in 2009 to 279c/kg in 2014[27].

A number of points need to be considered regarding these claims:

- The gap between the selling price of beef and a selling price for cattle is more appropriately referred to as a price spread rather than a margin. The USDA for example, uses this term.[28] Others refer to "marketing margins".[29] The issue is more than semantic. The gap indicated by the data is not an indicator of profitability, except in the broadest and least meaningful sense. After deducting the cost of livestock from the selling price of beef, numerous other factors have to be taken into consideration before calculating the profit in beef processing.

- As the Department of Agriculture points out, caution must be used in comparing producer prices directly with export returns as a number of factors can cause them to diverge. Sale yard and 'over the hooks' prices are measured in carcass weight equivalent whereas beef exports are in dollars per kilogram shipped. That is, no account is taken of the value added component of the beef which may be shipped as a variety of bone-in or bone-out cuts or carcase (frozen or chilled).

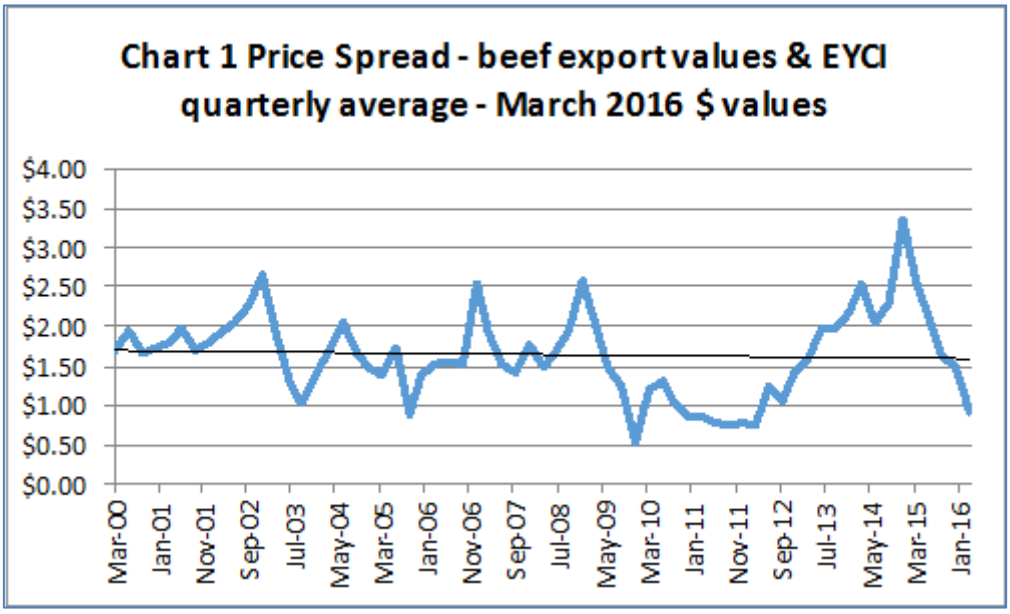
- Also, drought-induced turn-off results in higher numbers of cattle offered for sale; an increased share of (lower value) cows in total sales; poorer condition of animals offered for sale; and reduced demand for re-stocker cattle – all factors leading to downward pressure on the average sale yard price.

[25] See for example, Department of Agriculture, op. cit., p. 16; and JBS, op. cit., p. 8
[26] ACCC, *Report of the inquiry into the competitiveness of retail prices for standard groceries,* July 2008 pp. 284-300
[27] NSW Farmers and Victorian Farmers Federation, *Farmer heavyweights call on Senate to fast-track inquiry*, Media Release, 6 March 2015, p. 3
[28] USDA, Economic Research Service at http://www.ers.usda.gov/data-products/meat-price-spreads.aspx
[29] Gary Griffith, *Competition in the food marketing chain*, Volume 44, Issue 3, pages 333–367, September 2000

Additionally, there is a lag between sale of cattle, their slaughter and eventual export, particularly if a period on feed is required[30].

- The increase in price spreads cited by producer organisations which occurred in 2014 was a result of extraordinary factors. As the Department of Agriculture explains, in 2013–14, sale yard prices fell because of record slaughter as a result of drought in Queensland. Unusually though, export prices rose supported by strong overseas demand[31].

- However, since that time price spreads have fallen substantially. As is indicated in the chart below, the spread between beef export values and cattle indicator prices adjusted for inflation has fallen from a peak of $3.50/kg to around $1/kg, a level which well below the linear trend for the past 15 years (see Chart 1 below). Negative price spreads suggest that, all things being equal, processors are losing significant amounts of money every time they purchase an animal for slaughter.



Source: MLA data, SG Heilbron analysis

- Moreover, the current expectations are for a continued tightening of cattle supply as the cattle herd, which was reduced sharply during the drought, slowly rebuilds (see Table 2 below). All things being equal this should see continued pressure on price spreads.

Table 2 MLA Forecasts (April 2016 Update)

	2011	*2012*	*2013*	*2014*	*2015e*	*2016f*	*2017f*	*2018f*	*2019f*	*2020f*
Cattle No. (000)	28506	28418	29291	29100	27682	26179	25894	26427	27019	27710
Cattle kill (000)	7261	7352	8344	9226	9007	7600	7000	7300	7500	7900
Beef production (000) t CWE	2086	2114	2320	2554	2513	2174	2023	2124	2198	2331
Cattle exports (000)	695	619	850	1292	1332	1000	925	950	1000	1100
Beef exports (000) t CWE	1398	1419	1611	1881	1889	1550	1397	1492	1558	1683

Source: MLA data

[30] Department of Agriculture, op. cit., p. 27
[31] Ibid

How transparent are prices?

At the outset, it should be noted there are voluminous sources of information for producers on the price of cattle.

Producers can easily determine sales prices at auction (e.g. sale yards) due to their price transparency and those wishing to sell cattle OTH are able to obtain the price grids from several processors or buyers. MLA has a comprehensive database of prices which may be accessed by anyone. Other sources of prices include radio and television, print media, and newsletters prepared by producer organisations and private consultants.

An area of concern to some producers and organisations has been that producers are given insufficient (or misleading) information about the pricing of their cattle[32].

These concerns tend to be expressed in assertions that there are inherent systemic problems in the transparency of price information (which it is claimed reflect imbalances in bargaining power). However, when examined closely these concerns essentially focus on a few means by which price information is provided by processors.

- Concerns about information on by-products. It is claimed that cattle producers receive no remuneration from by-products. This is incorrect. Returns from the sale of by-products are included in the calculation of prices that processors can offer for livestock and are embodied in the prices paid.

- There are commonly a multitude of different by-product items sold. They will be assembled from literally hundreds of different animals into one order. To identify the contribution of each animal to all the hundreds of containers would be extremely difficult, to say the least. The final prices received will be known only well after the animal is slaughtered. Information has a cost as well as a benefit, and providing information for the sake of it, even if it is practically possible, will reduce returns unless the benefits exceed the costs.

- Claims that lower dressing percentages in Australia than the US reflect a lack of integrity in processing practices are not valid. This is acknowledged by some producer organisations. A recent media article reports that Cattle Council of Australia's David Hill said producers had noticed in the past four to five years a decline in dressing percentages. But there were distinct reasons - most plants were now Halal accredited, which created the need for more trim, and boning room yield now dominated for boxed beef production so processors were trimming to the maximum level allowed, he said. "In Australia, dressing percentages are averaging 52 to 54pc while in the US that is 62 to 64pc," he said. "But the standard carcass differs - in the US it includes kidney, channel fat and skirts so it is not a matter of comparing apples with apples.[33]"

- A particular area of concern to some is the assessment of parameters of fat measurement, dentition and "butt shape". These practices are required to comply with AUS-MEAT standards, but rely on human assessment, which occasionally can lead to errors, like all human actions. There is no evidence of large scale errors, but if a better system, including one based on electronic measurement, is developed that is economically beneficial to apply, there is no reason why this enhancement should not be implemented.

- The claimed inflexibility of grid pricing e.g. that the prices drop 'off a cliff' at either end of the

[32] One example is: http://www.beefcentral.com/news/producers-lack-fair-bargaining-power-lawyer-tells-accc-beef-market-study/

[33] See http://www.northqueenslandregister.com.au/story/3968440/offal-claims-off-the-mark/?cs=4744

indicated ranges. The calculations required by processors to develop a grid are highly complex. If ranges were to be set based on sliding scales to reflect all the potential sales and offer prices stemming from those calculations, the information for livestock producers would be overwhelming. Different ranges would need to be calculated for each product.

- However, the number of products that are regularly sold by processors needs to be considered. Just for offal cuts, there might be 5 types of tongue alone that are regularly sold, 3 types of tendon, 5 types of tripe, and so on. There may be 30 types of muscle cuts typically sold. One must seriously question the value to producers of reporting such complexity. Finally, in relation to grading issues, it must be remembered that AUS-MEAT standard carcase trim standards apply at all accredited export facilities.

Mandatory Price Reporting

Concerns about transparency have led some to argue for schemes that require processors to divulge prices at which products have been sold, such as the Mandatory Price Reporting (MPR) system that operates in the USA. As the Department of Agriculture points out, "*Anecdotally, Australian producers refer to the farmers' share of farm gate returns in the United States as being markedly greater than in Australia. Margins in the US industry tend to be more transparent than those in Australia where lack of appropriate data—at both sector level and firm level—makes it difficult to analyse pricing through the value chain. In contrast, in the United States, several research companies and equities analysts perform packer margin assessments on a daily or weekly basis. Additionally, the US Department of Agriculture's Packers and Stockyards Program received powers from the Packers and Stockyard Act 1921 to collect information on industry-wide margins for the meat industry*".[34]

Relevant points about this are as follows:

- In economic terms, transparent prices play a key role in the efficient allocation of goods and services that avoid waste and hence match what suppliers make and what consumers want, which is how economists define efficiency. Financial economic researchers typically define markets as efficient when prices reflect all available information and when prices adjust swiftly as new information arrives. If buyers and sellers do not know what prices are, then some mutually agreeable trades will fail to occur, thus creating inefficiencies.

- Barriers to price transparency include both explicit restrictions on information (such as concealment by firms of prices or price-setting approaches), and costs of search by consumers or sellers. The simplest theories suggest that more information about prices should decrease prices (or increase them in the case of sellers) and also bring prices closer together.

- However, price monitoring comes at a cost. Public administrations need to collect, check, store, process and publish data and analysis. Businesses incur reporting costs. With this in mind, policy should try to strike a balance between the costs and the benefits of improved market transparency.

- In markets with many suppliers and customers, in which little is known about prices, greater transparency will lead to lower search costs and more transactions. The distribution of effects between chain parties however cannot be known in advance. In concentrated markets, the result may be an excess of transparency: if prices are published which are too up-to-date and company-specific, actors will be able to start coordinating prices with each other. Price transparency therefore does not offer a solution for unequal power relationships in the chain.
- There are differing views on the success of Mandatory Price Reporting (MPR) in the USA in

[34] Department of Agriculture, op. cit., p. 29

achieving its objectives. [35] Koontz and Ward, reflecting the concern about unintended consequences above, point out that an area of future research that is clearly in need has to do with the ability of MPR to improve noncompetitive behavior by the packing industry. This appears to be the largest concern found in the literature (*e.g., Wachenheim and DeVuyst 2001, Azzam 2003, and Njoroge 2003*), and even in the latest literature these concerns have not been definitely put to rest.[36]

- From a commercial perspective, government mandated price transparency can have significant adverse unintended consequences. It can lead to a 'race-to-the-bottom' in pricing, whereby customers use the indicated prices as a maximum they are prepared to pay. Should this eventuate, less will be available for the processor to pay for livestock or invest in productive efficiency or capacity.

- Finally, extreme caution must be exercised in comparing the competitive situation in vastly different industries like the beef industry of the USA and Australia, and then concluding that a policy such as mandatory price reporting adopted by government in one country will be appropriate to the other.

- There are several key differences between the structural characteristics of the livestock and beef market in the US and Australia:

    - Firstly, the level of concentration in beef processing in the US is well above that in Australia. In the US, the four largest steer and heifer slaughter firms increased their share of slaughter to 85 per cent in 2010, after remaining between 78 and 81 per cent between 1998 and 2009[37]. As noted above, estimates of the share accounted for by the top 5 beef processors in Australia range between 25-30 and 57 per cent.

    - Secondly, a far higher proportion of cattle are sold via open market auctions in Australia than in the US. As indicated above, auctions remain a major form of livestock sale method in Australia, accounting for around half of national cattle sales. Only around 20 per cent of cattle in the US are sold via negotiated cash prices which includes (but is not totally comprised of) auctions – auctions would be a be a smaller percentage of total sales.

    - Thirdly, MPR in the USA was implemented in a market where cattle were predominantly sold on a 'live on the average' basis, which provided little incentive for producers to sell and processors to buy on the basis of the value of the animal. MPR facilitated a shift towards grid-based pricing, with premiums and discounts based on the characteristics of the animal.

      However as is noted above grid based pricing is a feature of the Australian livestock selling system already, which reflects the fact that all animals are not the same when it

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[35] See for example, Ted C. Schroeder, Sarah Grunewald, and Clement E. Ward, *Mandatory Price Reporting in Fed Cattle Markets: Motivations and Implications,* Council on Food, Agricultural, and Resource Economics (C-FARE) Annual Symposium, November 6 2002; Economic Research Service of USDA, *Did the Mandatory Requirement Aid the Market? Impact of the Livestock Mandatory Reporting Act*, Janet Perry, James MacDonald, Ken Nelson, William Hahn, Carlos Arnade, and Gerald Plato, September 2005, and Stephen R. Koontz and Clement E. Ward, *Livestock Mandatory Price Reporting: A Literature Review and Synthesis of Related Market Information,* Research Journal of Agricultural & Food Industrial Organization: Vol. 9: Iss. 1, Article 9, 2011

[36] Kenneth H. Mathews, Jr., Wade Brorsen, William F. Hahn, Carlos Arnade, and Erik Dohlman *Mandatory Price Reporting, Market Efficiency, and Price Discovery in Livestock Markets*, Economic Research Service of USDA, September 2015

[37] See http://www.ers.usda.gov/topics/food-markets-prices/processing-marketing/manufacturing.aspx

comes to processing[38].

- Finally, not only can MPR facilitate price signaling by processors it can equally signal prices to meat buyers prompting a race to the bottom in pricing especially for Australian beef exports. This is less of an issue in the US because it relies on exports for only around 15 per cent of its production.

How are prices transmitted?

What may be considered more significant than price transparency, in respect of concerns about competition, is the means by which prices are transmitted along the chain. Past studies in Europe, for example, have indicated the main issues within the European food value chain are related to asymmetric price transmission (or price levelling). Prices downstream rose quickly with input prices, but took much longer to fall when price pressures were relieved. In a perfect world, price changes would be instantly and evenly transmitted from one node to another.

Economic research has found that the Australian beef processing industry tends to "price level" at the wholesale stage i.e. when livestock prices increase this tends to be absorbed for a while at least by processors who do not pass all of the increase on to consumers.

Equally, when livestock prices fall, not all of the fall is passed on by processors. This conduct is not consistent with the economic concept of perfect competition, but as long as this price leveling is temporary, there is no real problem in trade practices terms. However, if it is sustained, then processors may be said to have market power.[39]
Critically, the research cited, which evaluated real price spreads, analysed the competitive behaviour of both selling and purchasing along the Australian meat marketing chain from the farm-gate to the retail level, given empirical evidence of increasing real marketing margins in the years examined and a continuing interest in the topic by the ACCC.

It concluded that the existence of perfect competition in both the input and output markets for each meat industry, at the retail level, could not be rejected, using the models, techniques and data.

In other words, as with previous studies, no evidence was found that the marketing chains for the Australian fresh meat industries are non-competitive[40]. Moreover, as has been seen in the discussion of price spreads above, the increase in the real price spreads in 2013-14 proved to be temporary.

5 The 'sell' activity

Selling beef on the world's markets adds another set of complexities, risks and uncertainties for Australian beef processors. On the sell side, processors have different capacities to maximise the value of finished beef product. Some sell direct to end customer, sell to agents or use third parties to sell on their behalf. But Australian sellers are price takers in an international market.

In export markets, which account for around 75 per cent of sales:

[38] see: http://www.beefcentral.com/news/kays-cuts-mla-should-re-evaluate-mandatory-price-reportings-value/?utm_medium=email&utm_campaign=Beef%20Central%20news%20headlines%20June%2014%202016&utm_content=Beef%20Central%20news%20headlines%20June%2014%202016+CID_d10552f8cc60a562c3fbaf78b4d85767&utm_source=eGenerator&utm_term=Kays%20Cuts%20MLA%20should%20re-evaluate%20Mandatory%20Price%20Reportings%20value

[39] Kit C. Chung and Garry R. Griffith, "*Another Look at Market Power in the Australian Fresh Meat Industries*", Australasian Agribusiness Review,Vol.17, 2009

[40] Ibid, p. 230

- demand is from principal purchasers: US, Japan, South Korea and EU
- competition is from other suppliers: US, South America, New Zealand, India
- domestic returns are then determined by exchange rates

Market access

One of the key risks on the sell side relates to market access. To illustrate this, consider the four stages of exporting beef to China.[41]

1. Permission to export

- *Export licences*: Exporters must obtain certification from Australian Quarantine & Inspection Service and accreditation from AUS-MEAT Limited (AUS-MEAT). They must also satisfy Chinese import requirements and demonstrate that certain on-farm and meat processing requirements are met.

- *Export permits*: May be granted to exporters after Customs assesses the preparation, handling and storage of beef products in accordance with statutory standards. Apply within 28 days of shipment.

2. Permission to import

- *AQSIQ filing*: Both importers and exporters must apply for filing at the Chinese General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ). Process takes about 1 week, records must be kept for 2 years.

- *MOFCOM filing*: Importers must file records with the Chinese Ministry of Commerce or its local offices (MOFCOM) and obtain a licence to import. Licences to import beef products (which falls into the 'free' category in China's Catalogue System) are normally granted provided all procedural requirements are met, but this is subject to quota and tariff requirements. Process takes about 1 week.

3. Inspection, quarantine and quality control

- *CNCA approval*: Foreign meat producers must register their facility with AQSIQ through the Chinese Certification and Accreditation Administration (CNCA), which requires compliance with certain health, sanitation and quality criteria. Accreditation may be granted for cold store, slaughter and/or boning activities. Application process takes at least 1 year.

- *Entry-exit inspection and quarantine (CIQ) bureaus:* For each batch of imported products, documents need to be submitted to the relevant CIQ bureau for inspection and quarantine. Process usually takes several days, but may be extended if there are quality or labelling issues. For first time imports, AQSIQ conducts a document review, label verification and sample inspection to ensure compliance with Chinese regulations.

[41] Business Council of Australia, *Building Australia's Comparative Advantages: A 21st Century Agrifood Sector*, December 2015, p. 29

4. Customs clearance

- *Customs filing*: Importers must file records at the local Customs. Process takes about 1 week.

- *Customs inspection*: Customs inspects all imported meat to ensure it complies with mandatory standards and to confirm the value of the goods. For first time imports, Customs will also review the clearance sheet issued by CIQ.

Market access rules are a major risk for beef processors selling beef onto world markets. These rules can change overnight and sales may be reduced or stopped completely for reasons that have nothing to do with the individual exporter. The nature of competition in export markets, which account for around three quarters of Australia's beef production, is heavily influenced by these market access rules.

In order to sell into a market, a processor's facilities have to be recognised ('listed') by the authorities of Australia and the importing country. This requires investment to ensure recognition and ingoing compliance. Processors have to make critical decisions as to what investment they will undertake to supply a particular market, and this entails significant capital and hence risk.

Other sell-side risks

It has been pointed out above that formal forward contracts are a rarity in selling beef internationally. Products are essentially sold on a spot price basis. Seasonality in production can render estimates used in calculating breakeven prices for buying cattle incorrect. Processors aim to try and guess what sales prices will be into literally dozens of markets, each of which have their own particular import requirements (see above the example of China). A major processor can sell literally hundreds of different products to as many as five dozen different countries.

Processors will use whatever public information is available in these markets to forecast the prices they might receive for their products and to use this information in negotiations with buyers, but essentially these forecasts remain highly uncertain.
Even after the product has been sold, risks remain.

- The exchange rate can move against the processor. A processor can find that a change in the currency can mean the breakeven price for livestock used to purchase the animals for processing has been over-estimated.

- Orders can be subject to revision, especially if the exchange rate has moved against the buyer of the beef products overseas. Slowdowns or deferrals of shipments or reduced volumes required will result in costs to processors exporting.

- Payment risks arise in relation to customers who may be new to the processor or who may be importing into countries with under-developed banking systems.

Regulatory costs and processing competitiveness

The significant impact of market access on the competitiveness of beef exporters was noted above. Apart from the investment costs associated with registration, there is another aspect of market access which is worth noting.

The Australian Government charges exporters for meat inspection and certification which is required for market access purposes.

In the year 2000, these costs amounted to approximately $50 million[42]. Research funded by the industry concluded that these charges should be reduced by 40 per cent to reflect economic marginal cost pricing principles, rather than uneconomic average cost pricing (which results in a tax on the industry), and after representations by meat exporters, the Federal Government agreed to reduce these costs by 40 per cent.

This meant the costs paid by the industry fell to approximately $30 million. But in 2011, processors entered into an agreement with the Federal Government for the delivery of the new Australian Export Meat Inspection Service (AEMIS).

According to AMIC[43], however, implementation of AEMIS is not meeting expectations – and it was always intended as just the start of a drive for new efficiencies. In 2013, the Federal Department of Agriculture (DA) enacted 100 per cent cost recovery for AQIS export certification charges (from 60 per cent). This has impacted significantly on the sector and is affecting viability of export processing in some meat plants. AMIC points out "*every processor in Australia is paying more than ever before for Export Certification while trying to compete in world marketplaces against countries such as the US and Brazil where exporters are not charged for government certification*".

At the Federal level, Department of Agriculture (AQIS) charges to red meat processors for export meat inspection and certification now exceed $80-$85 million a year. In addition, some inspection functions have been transferred slowly back to processor management and these cost processors another $35-$40m a year to run. The costs paid by industry have therefore quadrupled.

In an environment where buying, making and selling beef is complex and risky, where profitability is highly variable, and competition in selling internationally is heavily influenced by access to markets, uneconomic cost imposts of the kind described above undermine the competitiveness of the industry.

6 The appropriate policy settings

Based on the analysis above of the nature of competition in the red meat processing industry, what are the appropriate competition policy settings to enhance the development of the industry? There are a number of aspects of competition policy settings which should be considered. These aspects have been brought into focus by the concerns raised in relation to consolidation in the industry.

It was noted at the start of this report that the processing industry has been subject to a high level of scrutiny on competition grounds. There have been numerous investigations, research studies and inquiries. Since 2002, the ACCC has closely investigated and approved eight red meat processing transactions.

Despite this level of scrutiny, nothing untoward has been found, and applications which have resulted in market consolation have been approved by the authorities with minimal conditions. Nevertheless, the competition regulation appears to be heading towards tightening of controls over meat processing activities. This is evident in a number of areas.

[42] SG Heilbron Economic & Policy Consulting, *Study on the impact of government on industry competitiveness*, Report for MLA, February 2001

[43] Australian Meat Industry Council, Submission to the Senate Standing Committee on Rural and Regional Affairs and Transport Inquiry, The effect of market consolidation on the red meat processing sector, July 2015, p. 37

Anti-competitive conduct

The recent claims of collusive practices at the Barnawatha sale yards, as previously noted, were investigated by the ACCC and no further action was taken. Nevertheless, the competition regulator supports changes to competition law relating to collusive practices through the establishment of an offence of 'concerted action' as recommended by the Harper Review on competition[44].

The ACCC considers there is a gap in Australia's competition law, as it fails to address a type of cartel-like behaviour known as a 'facilitating' or 'concerted' practice. This conduct usually involves some form of 'tacit collusion'; that is, communication between competitors falling short of an agreement or understanding, but which significantly alters the uncertainty or strategic risk that would otherwise deliver price competition and innovation. The ACCC argues that "*In most advanced country competition law systems overseas, concerted practices are prohibited. In Europe for example, anti-competitive information disclosures are prohibited by Article 101 of the Treaty on the Functioning of the European Union. It prohibits 'concerted practices' that have "the purpose or effect of distorting competition*".

"*One recent example is the LIBOR and EURIBOR case taken by the European Commission against a large number of international banks in which it determined that those banks had engaged in concerted practices when sharing information on pricing and other transaction details between competitors through 'chat rooms'. A 'concerted practice' case against such conduct would not be possible in Australia,*" was noted by the Chairman of the ACCC. "*This gap in our laws can damage competition and so the proper functioning of our market economy*".

One can trace a process whereby the boundaries of offences relating to collusion have been continuously widened in Australia. The starting point was the offence of price fixing. Then since 2009 Australia has had a specific prohibition of 'cartel conduct' whereby parties engaged in cartel conduct may be guilty of a criminal offence or subject to a civil penalty or both. There have been very few cases of this.

Then in 2012 'price signalling' legislation came into operation, prohibiting certain forms of price information exchange. It applied only to the banking industry and it is subject to numerous exceptions. The provisions have not yet been the subject of litigation and remain controversial[45]. Now the proposal is to further expand the ambit of offences again with 'concerted practices'. The risks associated with this ever-expanding process is that legitimate economically efficient commercial activity, will be made unlawful, and hence will not be undertaken because of the fear of being judged an offence.

The implications of this are profound for an industry which depends for its ongoing survival and growth on buying, processing and selling beef and for generating the associated trading, investment and employment activities.

A similar process of expanding the ambit of anti-competitive offences relates to the proposal for an 'effects test' in the misuse of market power. This too risks making legitimate commercial activity unlawful, creating uncertainty and undermining legitimate trading and investment activity.

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[44] See ACCC, The Harper Review and privatisation, 23 April 2015, https://www.accc.gov.au/media-release/the-harper-review-and-privatisation

[45] Australian Competition Law, Cartels and anti-competitive agreements, see http://www.australiancompetitionlaw.org/law/cartels.html

Market definition

The way in which a market is defined is critical to competition regulation concerning mergers and acquisitions and also in relation to market power. It was noted above that the geographic area from which cattle are purchased by meat processors has increased over recent years. This is the result of the consolidation of plants and increase in scale of facilities and transport efficiencies.

The geographic dimension of markets has increased, but the direction of competition policy seems to have moved in the opposite direction i.e. markets are being defined on a regional basis. This began with the separation of Queensland into three separate regional markets for acquisition of cattle in the AMH decision in 1989. Given that, as described above, major processors in that state purchase the vast majority of their cattle from as far away as 1,600 kms from their facilities, it is highly unlikely that such a narrow definition of the market would be considered economically justifiable today. Yet despite this, the ACCC continues to emphasise smaller regional dimensions to a market.

For example, in the Primo decision, in considering the geographic dimension of the relevant market, the ACCC took account of market feedback suggesting cattle normally travel distances of up to around 600 kilometres from farm to abattoir. The ACCC also noted information that fat cattle buyers in the relevant market would sometimes acquire cattle from other geographic areas (such as northern or central Queensland). However, these purchases were a small proportion of their total purchases.[46]

'Freezing' the level of consolidation

Furthermore, the ACCC in the Primo decision appears to be effectively 'freezing' the level of consolidation in the industry. It states that "*while the ACCC determined that, in this instance, the proposed acquisition would be unlikely to raise significant competition concerns, the ACCC is wary of the potential impact of further consolidation of abattoirs*" and that "*the ACCC will continue to monitor this industry and any future acquisitions will face additional scrutiny*". It has been outlined in this report how important scale economies are to the competitiveness of the industry and hence its ability to pay the best possible prices for livestock. Effectively, freezing the level of consolidation in the industry will undermine the future prospects of processing and livestock producers[47].

Price reporting

Proposals to increase price transparency in beef processing have been discussed above, notably in relation to the idea of introducing of a US-style mandatory price reporting system in Australia[48].

The US has had mandatory price reporting in place for many years. This has caused considerable costs to processors and there are divergent views amongst economic analysts on the benefits generated for cattle producers. Economic analysis has pointed to unintended consequences, because the effect of greater transparency on prices is dependent on the market context. The US has a different market structure to Australia's with a far higher level of concentration and less market transparency through a significant auction market.

[46] ACCC, JBS USA Holdings Inc - proposed acquisition of Australian Consolidated Food Investments Pty Ltd (Primo Smallgoods), 2015, see http://registers.accc.gov.au/content/index.phtml/itemId/1184586/fromItemId/751046

[47] ACCC, ACCC will not oppose JBS's proposed acquisition of Primo, 2015 see https://www.accc.gov.au/media-release/accc-will-not-oppose-jbss-proposed-acquisition-of-primo

[48] Brian Todd, aginfo Pty Ltd and Peter Barnard, Oliver and Doan Pty Ltd, *Beef rice transparency*, Milestone 5, MLA 2015

It is also worthwhile noting that in Europe, whilst a number of countries monitor prices of agricultural products at various stages of the supply chain, only in Spain and France is there full monitoring of costs and prices. In 2013, the Dutch Government reviewed the costs and benefits of such an extreme option and decided against it[49].

Other areas of policy intervention

Similarly, considerable caution should be exercised in considering other ideas for regulatory intervention to promote completion in the processing industry, such as the development of Codes of Conduct. The costs and benefits of any such proposals need to be carefully analysed or they will simply result in additional cost imposts on the industry which will hinder its competitiveness.

7 Conclusions and recommendations

Recent concerns on the part of some livestock producers and organisations about competition in the industry make a link between levels of concentration in the industry and abnormally high margins. This, in turn, is linked to concerns about the extent to which prices paid for livestock are not transparent. In effect, the allegation is that processors use their superior information and market power to depress prices for livestock below market levels. No evidence has been found of this to convince the competition regulator to date.

The conclusion of this report, which has been commissioned by the Australian Meat Processor Corporation to inform discussion of the relevant issues, is that the above concerns are based on a view of the nature of competition in the industry which does not reflect the reality of what processors do and how they compete.

The information available to processors in determining what prices they are able to offer for livestock is far from perfect. Processing entails considerable risks (factors which can be quantified) and uncertainties (which cannot). And concentration in a market does not equate to anti-competitive conduct.

The beef processing industry buys, makes and sells beef. This entails a high degree of risk and uncertainty. Processors compete with each other for cattle on the basis of calculating what they can afford to pay relying on highly imperfect information on what they might be able to sell the beef for, and the breakeven point for processing a certain level of throughput, which itself might not be realised.

Accordingly, there would appear to be no economic justification for changes to competition laws that tighten provisions relating to anti-competitive conduct, market definitions and price reporting.

Policy action is, however, economically warranted in relation to costs, given that both livestock producers and processors are price takers and operate with highly variable and weak long term profitability. It is in their mutual interest to ensure any unnecessary cost imposts are addressed.

There are major challenges posed for policymakers by smaller producers who have difficulty in fully participating in the development of the beef industry (and indeed other agricultural industries), where economic forces generate competitive advantages for those able to realise the benefits of scale.

[49] Elsje Oosterkamp et al, "Food price monitoring and observatories: an exploration of costs and effects", LEI Memorandum 13-058, June 2013

Policy can accommodate this process or hinder it. Where competition in the industry concerned is strong, there is no justification for using competition policy to hinder economic forces and limit the potential gains in efficiency and competitiveness of the industry as a whole.

Accordingly, the recommendations of this report are as follows:

1. Current competition policy settings are appropriate for the industry, and there is no justification for 'freezing' the structure of the industry, widening the basis of offences to 'concerted action', introducing an 'effects test', or narrowing the definition of markets to make consolidation more difficult.

2. Mandatory price reporting should not be introduced based on a market structures in foreign countries that are different in Australia and, because of unintended consequences, will adversely affect the industry as a whole.

3. Where there are potential improvements to be made in reporting and grading systems, technological solutions should be sought through research and development and, where cost-effective, introduced in the industry.

4. Policy to advance the development of the industry should focus on minimising uneconomic regulatory cost imposts that adversely affect investment and competitiveness.

5. More broadly, policy should focus on addressing the underlying cost efficiency challenges faced by small producers in agriculture.

The Consultants

SG Heilbron has considerable experience in providing independent economic and policy analysis for commercial, industry and government clients since 1991, including the red meat industry.

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He has served as Research Consultant with the World Bank, Washington DC., Senior Economist with the Department of Trade, Canberra, and as Manager (Finance and Planning) and Chief Economist of Elders Agribusiness, Melbourne. Dr Heilbron holds degrees of Bachelor of Arts from Kent University, Master of Science in Agricultural Economics from the University of London, and Doctor of Philosophy (Land Economy) from Cambridge University, UK.

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