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Inquiry into the Chicken Meat Industry Act 1977  
Economic Regulation Authority  
PO Box 8469  
Perth Business Centre  
PERTH WA 6849

Dear Mr Rowe,

### **Inquiry into the Chicken Meat Industry Act 1977**

Thank you for giving Bartter Enterprises the opportunity to provide input to the Economic Regulation Authority's Inquiry into the *Chicken Meat Industry Act 1977* (the Act).

As you are aware, Bartter Enterprises business operations include Broiler & Breeder Farms, Hatcheries, Processing Plants, Feed milling and Protein Recovery. Our products include sales of live poultry including breeding stock, poultry feed, fertile eggs, day old chickens, primary processed chicken (raw) and further processed chicken products and pet food. Throughout Australia, we employ over 2,200 people.

We believe that it is important to emphasise our ongoing commitment to working in Western Australia. However, Bartter operates within a competitive market, and must make decisions on a commercial basis. High input prices in Western Australia combined with the economies of scale realised by our South Australian and Victorian operations will all contribute to the decline of chicken meat production in Western Australian.

It is important to emphasise the long-term mutual interdependence between growers and processors. One cannot exist without the other.

#### **Provision of Confidential Information**

Bartter recognises the difficulty faced by the Authority in undertaking the inquiry, given the lack of publicly available data on the chicken meat industry in Western Australia. We have therefore asked an external firm to compile information and analysis on the chicken meat industry both here and nationally. The attached documents utilise information that is both commercially sensitive and publicly available. We trust that this information will assist the Authority in undertaking its analysis of the Act.



The first attachment contains highly sensitive commercial information on Bartter's operations. We therefore request, in the strongest possible terms, that the information provided in the first attachment remain confidential. The public dissemination of this information would put Bartter's at a financial disadvantage to our competitors, suppliers and customers.

The second attachment is a duplicate of the first attachment with the confidential information removed. This document may be made publicly available.

### Comments on the Draft Findings and Recommendations

*5(1)(a) - The cost of production model used to set the average growing fee appears to be based on efficient production costs, and the model inputs can be scrutinised by both processors and growers.*

We do not agree with the Authority's draft finding in regards to the average growing fee. It is suggested that the Authority review sections seven and eight of the attached document for evidence as to why the average growing fee does not reflect efficient production costs.

*5(1)(c) - Growers' fees can be further adjusted by processors to reflect growers' productivities and market factors, and average fees paid to growers are below the average price.*

While an adjustment does occur to reflect relative productivity, the percentage change in the average price is generally still transmitted through to the fee we pay to growers.

*5(1)(e) - Countervailing power in the retail sector limits the extent to which any increases in growing fees can be passed on to consumers.*

We would encourage the Authority to consider the effect of imports on the extent to which fee increases in the Western Australian broiler growing industry are sustainable. Please refer to section five of the attached document.

*5(2)(c) - Setting an average fee on the basis of the costs of an efficient notional production model Improves cost transparency in the industry, which can potentially enhance efficiency.*

This finding is based on the assumption that the 'efficient' average fee can be accurately determined by the Chicken Meat Industry Committee (CMIC). Based on our experience of dealing with the CMIC, the necessary framework for determining an efficient price is not achieved.

*10. The effectiveness of the Act in achieving its objectives would also need to be considered to determine whether the Act should be amended (for example, to better encourage productivity growth, or to improve the balance of bargaining positions between growers and processors).*

The productivity growth and innovation demonstrated by the chicken meat industry in other Australian states following deregulation provides a clear path forward for the industry in Western Australia. We acknowledge that there will be costs associated with transitioning to a new regulatory framework however overall this will be to the benefit of the industry and lead to efficiencies, capital expenditure and sustained growth.

**Next Steps**

Please do not hesitate to contact us should you require any further assistance with matters relating to the chicken meat industry in Western Australia.

Yours Sincerely

Craig Menzie  
(WA Livestock Manager)

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# Economic analysis of the *Chicken Meat Industry Act 1977*

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*A report prepared for Barter Enterprises*

*1 October 2010*

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# 1. Introduction

## 1.1. Overview

During 2010, the Economic Regulation Authority (ERA) has undertaken an inquiry into the *Chicken Meat Industry Act 1977* (the Act). Section 29(4) of the Act contains a sunset clause, hence without extension by the Minister for Agriculture (the Minister), the Act will expire on 31 December 2010. The purpose of the ERA inquiry process is to develop a set of recommendations and findings that will assist the Minister in determining whether to extend the Act beyond the December 31 deadline.

On 4 August 2010, the ERA published the Draft Report (the Report) on the Inquiry into the Act. The Report considered on input received by the ERA during an initial round of public consultation. The Report contained a series of draft findings and recommendations, illustrating the ERA's understanding and methodological approach to analysing the Act. Stakeholders to the public consultation process included the Western Australian Broiler Growers Association (WABGA), Inghams Enterprises (Inghams) and Bartter Enterprises (Bartter).

The draft findings and recommendations included in the Report were broadly supportive of the continuation of the Act. The ERA based the draft findings and recommendations on the basis that the market power of processing firms would, if left unchecked, result in an economically inefficient outcome. Given the need to provide Broiler Growers with a legal mechanism to support their bargaining position, the ERA concluded that the Act was the least-cost method of achieving this aim.

In response to these concerns, Bartter engaged Marsden Jacob Associates (MJA) to provide economic research and analysis in regards to the operation of the Act. This document contains discussion and analysis that is relevant to the ERA's deliberative process.

## 1.2. Summary of Findings

MJA's analysis of the Act comprises of three key elements. These elements relate to the nature of dispute resolution mechanisms in the Act, how the Western Australian chicken meat industry has evolved over time and the effectiveness of the farm fee model in determining efficient growing costs.

MJA has formed an opinion on the effectiveness of the operation of dispute resolution mechanisms contained within the Act. This opinion has been informed by examining the operation of dispute resolution mechanisms contained within the Act relative to alternative dispute resolution mechanisms. Based on the comparison, MJA has concluded that the mechanism for resolving disputes contained within the Act is inconsistent with best-practice procedures.

Given the lack of publicly available data on the chicken meat industry in Western Australia, Bartter has requested that MJA compile commercially sensitive information into a form that will be of use to the ERA in developing recommendations. Based on an analysis of the available data, MJA concluded that:

- the landed cost of imported chicken meat approximates the cost of local production. Consequently, recent price increases in Western Australia will make locally produced broilers relatively more expensive than inter-state product;

- Western Australia's share of national broiler production between 2005 and 2010 has decreased by 2.4% from the 1987-1997 average of 10.02%; and
- between 2008-2010, processors imported approximately 14.0% of all chicken meat consumed in Western Australia.

The use of the Farm Fee model to determine the average price paid by processors to growers for broiler chickens is a unique attribute of the Western Australia's chicken meat industry legislation. MJA has compared both the inputs and methodology used in the Farm Fee model, and has concluded that:

- the wages of a chicken meat farm manager used in the Farm Fee model is 55.7% higher than the median wage of a chicken meat farm manager as reported in the 2006 Census;
- chicken meat farm labourer wages included in the Farm Fee model in 2007 are 88.9% higher than the median wage reported in the 2006 Census for the same job classification;
- there appears to be an asymmetric response to input price changes in the farm fee model. Increases in input prices are incorporated into the farm fee model. However, a similar adjustment is not made when input prices decrease;
- adjusting the operating cost component of the growing fee to reflect changes in input prices results in an operating cost component that is, on average, 4.2% lower per review period than the operating cost component derived using the Farm Fee model; and
- by maintaining the real value of broiler growing inputs between July 2007 and July 2009, and including a productivity factor, the operating cost component of the growing fee would be \$0.10 per broiler lower than that reported in the farm fee model.

The analysis contained within this document highlights the relative decline in the competitiveness of the Western Australian chicken meat industry.



## 2. Existing Policy Response in Western Australia

### 2.1. The Chicken Meat Industry Act 1977

The chicken meat industry is characterised by a large number of broiler growers relative to a small number of chicken meat processors in the upstream market. The Act was put in place, at least in part, to address concerns regarding processor's market power, and to resolve disputes between parties in a timely and cost effective manner.

- The Act provides for the existence of the Chicken Meat Industry Committee (CMIC) (Section 5);
  - The CMIC comprises of seven members, namely one independent chairman, two representatives of processing firms, two representatives of growers and two independent persons (Section 7)
- The CMIC performs three functions under the Act. Those functions are the:
  - determination of a 'standard price', to be paid by processors to growers for broiler chickens (Section 16);
  - arbitration on disputes between growers and processors (Section 18);
  - approval of shed facilities for the growing of broiler chickens, limiting capacity expansion on the broiler growing industry.
- In addition to the Act, the following subsidiary legislation is relevant:
  - The *Chicken Meat Industry Act Regulations 1977*; and
  - The *Chicken Meat Industry Act (Participation in Growth Expansion) Regulations 1978*.

### 2.2. Purpose of the ERA Inquiry

The rationale for having an ERA inquiry into the Act resides within the Act itself. Section 29(4) states that:

*After 31 December 1987 and after 5 years have elapsed in any period for which the operation of this Act is continued under subsection (2) the Minister shall cause an investigation and review to be conducted, and a report to be prepared, as to the effectiveness of this Act, and he shall not continue the operation of this Act or further continue the operation of this Act.*

While the Act was due to elapse in 1993, it has been extended numerous times by Executive Government. Extensions of the Act are given effect to through a Ministerial notice in the Government Gazette.

The most recent extension is the *Chicken Meat Industry (Continuation of Operation of Act) Notice 2003*:

*The Chicken Meat Industry Act 1977 is continued in operation for the period of 7 years succeeding 31 December 2003<sup>1</sup>.*

The Act will therefore expire on 31 December 2010 without further extension by the Minister.

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<sup>1</sup> Western Australian Government Gazette, Friday 16 December 2003, Number 199.

## 3. Dispute resolution mechanisms

### 3.1. Overview

Dispute resolution mechanisms are a necessary feature of commercial contracts. In the Draft Report, the ERA came to the conclusion that dispute resolution mechanisms contained within the Act (section 18) were superior to more general mediation and arbitration provisions. Such provisions can be found in agreements authorised by the Australian Competition and Consumer Commission (ACCC) under collective bargaining arrangements. The ERA concluded:

*...it is likely that the costs of dispute resolution and arbitration would be higher under authorised collective bargaining than under the current legislation. (ERA, 2010, p.iv)*

The ERA's finding is based on the assumption that dispute resolution under the Act will achieve similar outcomes to arbitration under the *Commercial Arbitration Act 1985*. However, there is evidence to demonstrate that the Act does not provide effective and efficient dispute resolution mechanisms.

### 3.2. Comparison of dispute resolution mechanisms

As previously noted, there are three independent members on the CMIC. Given the equal representation of growers and processors, the three independent members could be viewed as an arbitration or mediation panel. However, there currently are no legislative constraints to guide the decision making processes of independent members.

Section 7(2) of the Act defines an independent member as an individual who is not a processor or grower and who in the opinion of the Minister does not have:

- a pecuniary interest in the affairs of a processor or grower; or
- a relationship with a processor or grower, that would prevent the individual from exercising their judgment independently as a member of the Committee.

An alternative arbitration mechanism is contained within collective bargaining authorisation applications made to the ACCC. These applications define an arbitrator as a person:

- agreed by both parties; or
- appointed by the Institute of Arbitrators and Mediators Australia.

In addition to having stricter selection requirements, there are also differing requirements for how arbitrators of a dispute must act. No additional constraints are placed on the role of independent members on the CMIC. In contrast, however, arbitrators must:

*...act fairly and impartially as between the parties, giving each party a reasonable opportunity to put its case and to respond to that of any opposing party, and a reasonable opportunity to be heard on the procedure adopted or proposed to be adopted by the Arbitrator (IAAM, 2007, p.6)*

The actions of profession arbitrators are also restricted in that they must act in a manner consistent with the principles outlined in the *Commercial Arbitration Act 1985*.

It is therefore clear that the Act does not contain provisions that are consistent with best-practice dispute resolution procedures.

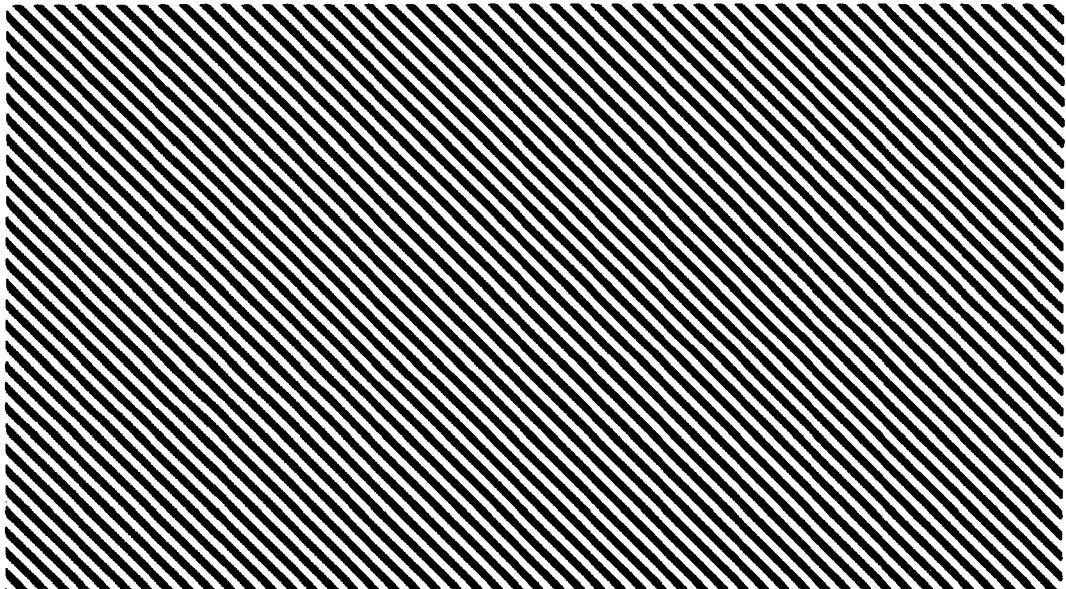
### 3.3. Effectiveness of the Act in resolving disputes

Significant increases in broiler growing fees are a cause of concern for processing firms. The ongoing commercial viability of the chicken meat industry in Western Australia is dependent on competitive broiler fees. Recent cost increases, as illustrated in Figure 1, have occurred under the Act, despite the concerns of processors.

It is understood by all parties that arbitration and mediation may result in outcomes which are considered suboptimal for the individual participants. This is inherent in dispute resolution proceedings. However, effective commercial arbitration provides all parties with the ability to provide information and evidence supporting their claims to a qualified, independent arbitrator in order to reach a mutually beneficial solution. MJA considers that such conditions do not exist under the Act.

In an effective arbitration process, discussions should not break down to the point where one side disengages from the process entirely. However, the inability of processors to influence the CMIC's deliberation process has become so pronounced that processors have "abstained from participating in the CMIC meetings and fee review process" (Bartter, 2010, p.2) altogether.

Figure 1: Median Growing Fee/Net Sell Price Ratio, 2005-2010



The ERA produced a draft finding that the Act allowed for lower cost dispute resolution compared with alternative approaches used in other jurisdictions. Any comparison of cost, however, must take into account evidence demonstrating that the Act is not as effective in resolving disputes. MJA considers that the effectiveness of the current dispute resolution process has not been demonstrated. Furthermore, the framework for dispute resolution provided in the Act does not give surety to all industry participants that they will receive a fair and equitable hearing when in dispute. This is a necessary condition of an effective dispute resolution process.

### 3.4. Effectiveness of the CMIC composition

There is the potential for the CMIC, in its present form, to not effectively represent the interests of all industry stakeholders. Clause 7(1)(b) of the Act requires that the CMIC include two “persons appointed to be representative of processors after consultation by the Minister with such body or bodies representing the interests of processors as the Minister determines”. However, the definition of a processor includes all persons “who receives or purchases broiler chickens for processing”. The definition is not limited to only those processors who purchase chickens under the prescribed agreement.

It is therefore feasible that an individual be appointed as a representative of a processor whose firm does not utilise the prescribed agreement. In such a circumstance the individual could obtain a commercial advantage for their firm by supporting increases in the average broiler price. This would result in an increased cost of production for competitors, who operate with prescribed agreements.

While this example is hypothetical situation, such an appointment, and action by a CMIC member is not prevented by the Act. The example therefore serves to highlight the difference between best practice arbitration or dispute resolution processes, and the functions performed by the CMIC.

### 3.5. Ability for cost recovery

WABGA has been raised regarding the costs of mediation or arbitration for individual parties. It should be recognised that most dispute resolution mechanisms allow for each parties costs to be determined by the mediator or arbitrator.

### 3.6. Conclusion

The ERA has based its draft recommendations on the assumption that the cost of resolving disputes under the Act is less than the cost through alternative mechanisms. However, the framework for dispute resolution provided for in the Act provides neither the necessary nor sufficient conditions for best practice dispute resolution. Furthermore, the willingness of industry participants to disengage from the CMIC process is evidence of the failure of the Act to provide effective dispute resolution procedures.

## 4. Current government policy settings

The Western Australian Government has demonstrated a commitment to improving the competitiveness of the Western Australian economy by reducing the regulatory burden on business. These actions provide relevant context to the ERA's inquiry process.

Given the sunset provisions contained within the Act, MJA considers that it would be appropriate to treat the Act as new, rather than existing, legislation during the renewal phase. It is therefore necessary that the Act pass the new tests for regulatory effectiveness benchmarks established by the State Government.

### 4.1. Red Tape Reduction – Reducing the Regulatory Burden

In December 2008, the State Government announced the creation of the Red Tape Reduction Group (RTRG) to:

- identify specific areas of existing regulations and red tape which are unnecessarily burdensome, complex or redundant;
- identify regulations and red tape that should be removed or significantly reduced as a matter of priority; and
- recommend practical measures to alleviate the compliance costs of red tape on business, government and the community.

Following analysis of the issues raised in the consultation process, the RTRG developed a series of 107 recommendations. The recommendations provided quantifiable benefits in terms of reduced compliance and enforcement costs to the Western Australian Community.

The RTRG Report demonstrates the WA Government's commitment to reducing the costs faced by business in Western Australia from unnecessary regulation. The RTRG Report illustrates that (often well intentioned) regulations may impose a burden on the economy which exceeds the benefits.

### 4.2. Regulatory Impact Assessment Process

A Regulatory Impact Assessment (RIA) process was established by the Western Australian Government for all regulatory proposals submitted to Cabinet in December 2009<sup>2</sup>. The RIA guidelines state that the RIA:

*Requirements apply to proposals for new and amending regulation, and to policy proposals that may result in new or amending regulation (regulatory proposals). (Government of Western Australia, 2010, p.22)*

An important concept raised in the RIA guidelines is that of regulatory failure. It is noted in the RIA guidelines that regulatory failure may be a justification for further regulation, the need for which may still be overcome through the consideration of alternative regulatory instruments, or through deregulation (Government of Western Australia, 2010, p.4).

In the present context it is relevant to consider whether the Act, if evaluated in a manner consistent with the RIA guidelines, could be deemed to be adequate. In this way the RIA

<sup>2</sup> Western Australian Government (2010), page 22

process provides a benchmark against which the effectiveness of both new and existing regulation can be measured.

### **4.3. Relevance and Conclusion**

Both the RTRG and RIA processes highlight the greater emphasis currently being placed on ensuring that the benefits of regulation outweigh the costs.

Given the existence of these processes, it is relevant to consider a counterfactual scenario in which the Act did not exist. In such a scenario, it is highly questionable as to whether the Act could pass the newly established threshold for regulatory effectiveness.

## 5. Import Competition and Contestability

### 5.1. Overview

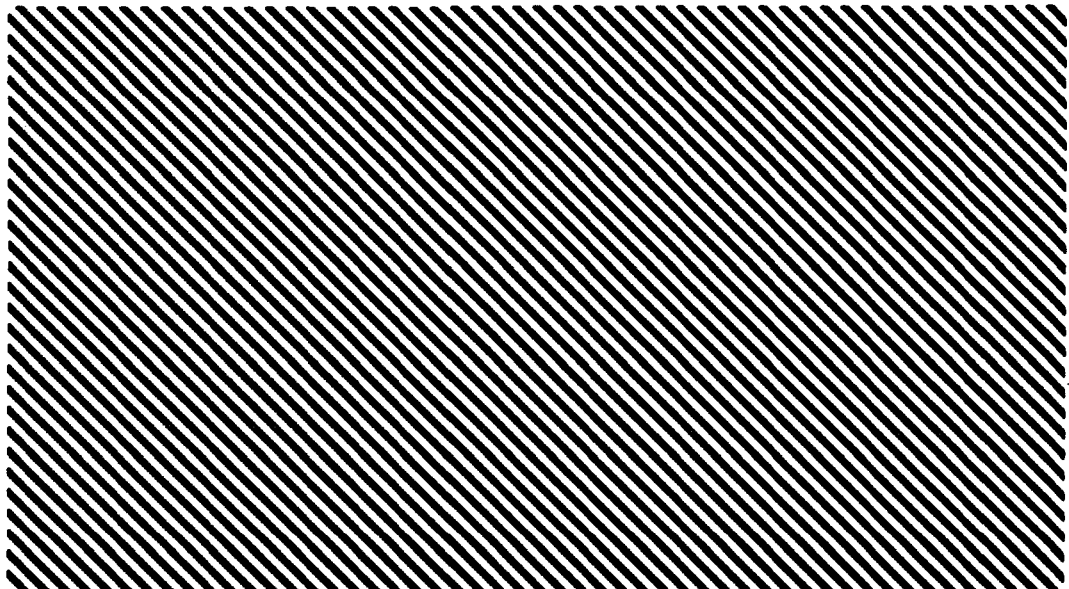
Competition from inter-state imports is the most significant barrier to the expansion of the broiler growing industry in Western Australia. Significantly lower interstate growing fees, combined with low transport costs would result in decreased demand for Western Australian broilers. It is therefore relevant to consider whether importing chicken meat from interstate is an economically competitive alternative supply source when compared with the costs of production in Western Australia.

### 5.2. Inter-state price differentials

The following information has been compiled from confidential data provided by Barter, and illustrates the nature of the problem facing the Western Australian broiler growing industry. Both processors and the WABGA have commented that the price differential between states can be at least partly explained by differing input combinations. The average age of the physical capital, health and safety requirements, and input prices all affect the cost of service delivery. Due to these factors, it is unreasonable to expect that growing costs in all jurisdictions would be equal.

Importantly, industry participants in Western Australia should recognise that a loss of market share to interstate producers, because of a genuine increase in local input costs, is not a socially undesirable outcome. It is undesirable when local input costs increase due to artificial factors, rather than because of competitive pressure.

Figure 2: Growing Fees (\$ per m<sup>2</sup> of shed space, 2009/10)<sup>3</sup>

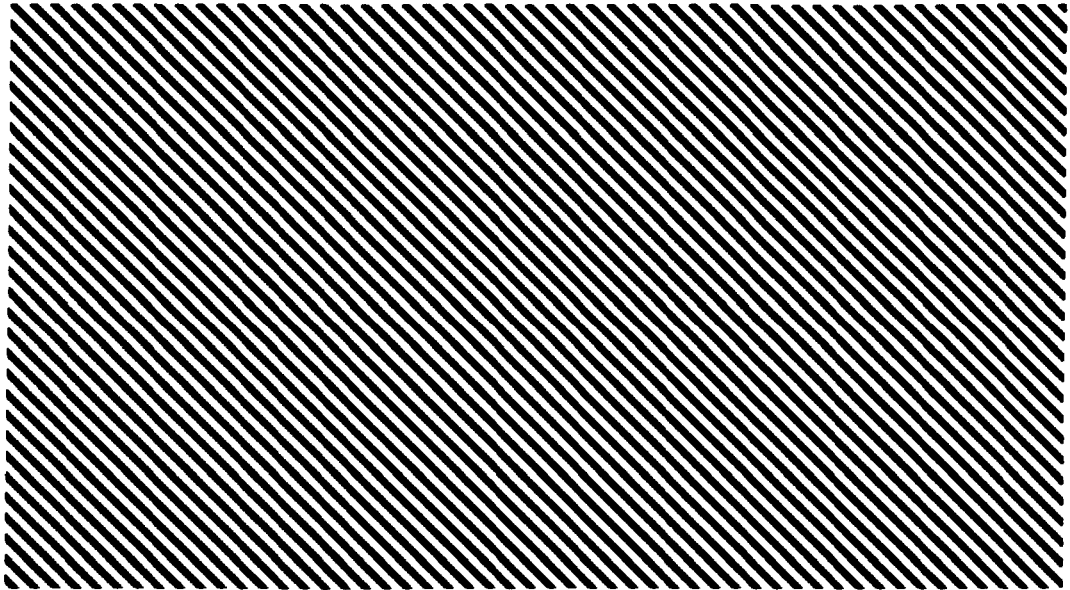


Combining the information contained in figure 2 with other variables that determine grower cost results in an estimate of the growing fees per broiler. The estimate is illustrated in figure 3 below.

<sup>3</sup> This figure is based on average growing fees faced by Barter in each jurisdiction.



Figure 3: Growing Fees (\$/broiler, 2009/10)



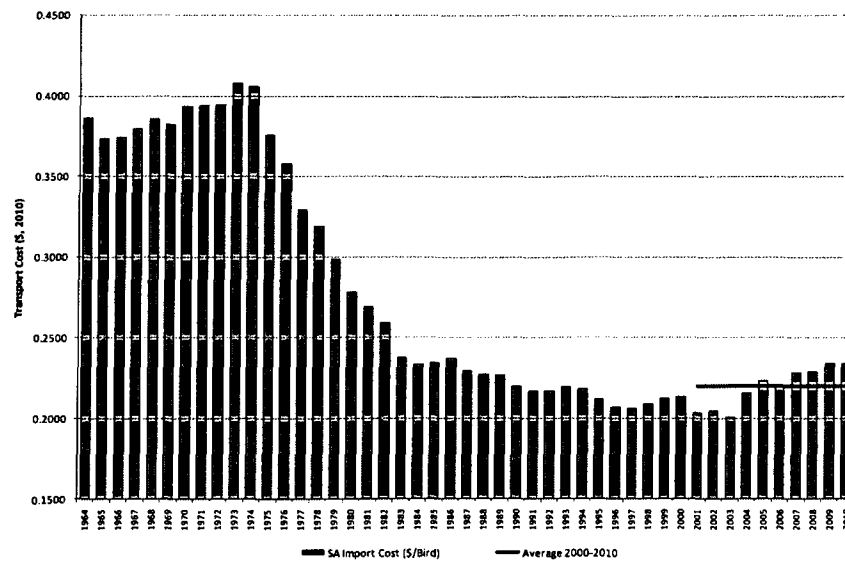
The above figures illustrate that the fee paid to growers in Western Australia, as determined by the Farm Fee model, is significantly higher than the fee paid to growers in other states. While this may be indicative of genuine cost differentials between regions, for example because of the need for concrete shed floors in Western Australia, such factors may not account entirely for the cost differential.

### 5.3. Transport costs

The second key parameter relevant to the competitiveness of imports is the cost of long distance transport. Declining transport prices will reduce the cost of inter-state imports relative to chicken meat produced in Western Australia.

Changes to transport costs are a factor beyond the control of chicken meat industry participants. A decrease in transport costs (for example, due to lower world oil prices) will reduce the cost of importing chicken meat in to Western Australia. In a static market, this would lower demand for broilers grown in Western Australia and increase the demand for chicken meat imports. All industry participants in Western Australia should recognise this as a risk to their business model.

Figure 4: Per Broiler Transport Cost<sup>4</sup>

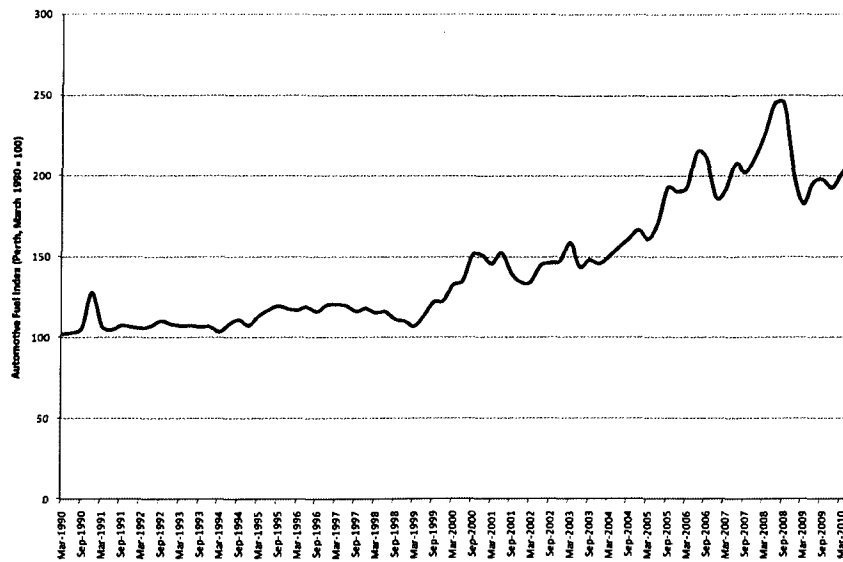


As is illustrated in figure 4 above, the 10-year average transport cost is approximately \$0.22 per broiler, with a standard deviation of \$0.012.

MJA considers that predicting the future cost of long-haul transport, and therefore the level of competition from imports, is not a productive exercise. The highly competitive nature of the long-haul transport industry ensures that new technology is readily adopted. Productivity gains are then transferred to customers via lower prices. However, automotive fuel prices have a significant impact on transport costs. As is illustrated in figure 5 below, the cost of automotive fuel has fluctuated significantly since 2000. The variance in automotive fuel prices therefore makes it difficult to predict future transport costs, and hence the impact of transport costs on the future competition from inter-state chicken meat producers.

<sup>4</sup> Source: BTRE (2008)

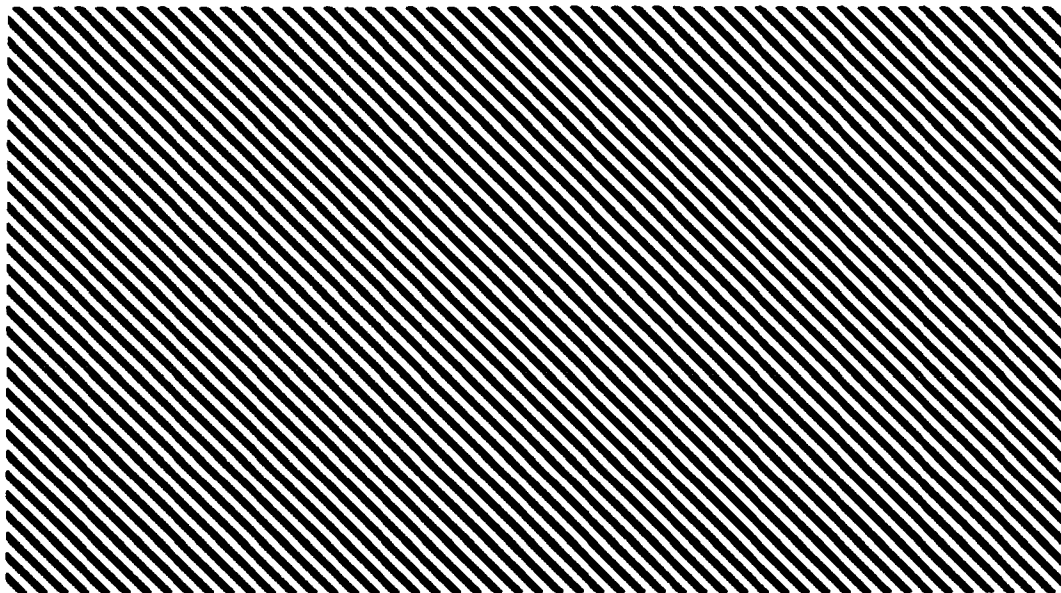
Figure 5: Automotive Fuel Prices, Perth, 1990-2010



### 5.4. Import Cost Comparison

Utilising estimates of current transport and inter-state growing costs, it is possible to calculate the marginal cost of a broiler production in Western Australia and the cost of importing broiler meat from South Australia. Figure 6 illustrates the relative price differential. From this information it is clear that the current regulated price in Western Australia exceeds the landed cost of imported broilers from South Australia.

Figure 6: WA versus SA landed cost<sup>5</sup>



<sup>5</sup> This figure is constructed utilising data on Bartter's average growing fees in Western Australia and South Australia and the current cost of transport from South Australia to Western Australia.

## 6. Production trends in the Western Australian Chicken Meat Industry

### 6.1. Overview

A lack of information regarding broiler production in Western Australia has hampered the ERA's ability to determine whether Western Australian production has declined relative to national production levels. Such a calculation is a necessary step in determining the impact of the Act on the Western Australian chicken meat industry.

In the context of the present inquiry, there has been claim and counter-claim regarding changes in the size and scope of existing processors operations:

*The WABGA has commented to the Authority on the claims by Inghams regarding the reduction to the size of Inghams' operations. WABGA maintain that the reduction was due to the loss of three Inghams growers to Finesse Food, following requests by Inghams that the growers convert their standard sheds to tunnel sheds (ERA, 2010, p.40).*

For this reason, MJA has been asked to compile and analyse data provided by Bartter, to estimate recent production trends in the Western Australian chicken meat industry.

### 6.2. Estimating WA Production

Obtaining information on Western Australian chicken meat production levels is problematic. Unlike other states, the Australian Bureau of Statistics (ABS) has not published state-level production estimates since 1997.

MJA has utilised production estimates from Bartter and Inghams for the period 2005-2010. Estimates from Finesse were derived from the registered floor space estimates multiplied by an appropriate conversion factor.

The use of a conversion factor was believed to be appropriate as the Finesse growers are using growing facilities similar to others in the Inghams portfolio. Without further information, it is difficult to justify not using Ingham's floor space/broiler production ratio for Finesse.

Table 1: WA Production Estimates<sup>6</sup>

<sup>6</sup> Production estimates are net of broiler mortality prior to processing. Estimates are derived from those published by the ABS. Consequently there is a marginal difference between firm's production statistics and the ABS estimates.

### 6.3. Changes in the WA/National Production Ratio

Utilising data from the 1967-1997<sup>7</sup> and 2005-2010 production data provided by Bartter, it is possible to test the hypothesis that WA production as a percentage of national production in the 2005-2010 period is statistically different from the same ration in the 1967-1997 period.

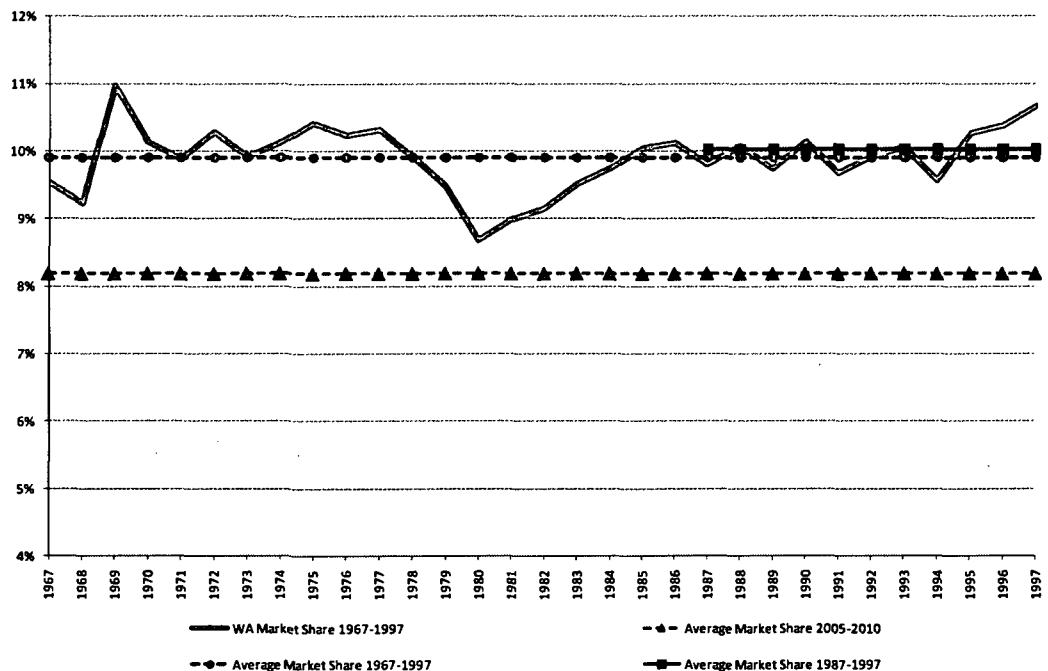
The results of such an analysis are described in the tables below. The analysis shows that there has been a statistically significant decrease in WA's share of the national broiler market by 1.8% relative to the 1967-1997 average of 9.9%.

Table 2: Changes in WA share of national production (1967-1997, 2005-2010)

Coefficient	Estimate	Standard Error	T Value	Pr (>  t )
Intercept	0.098	0.002	55.779	0.000
Dummy Variable (2005-2010)	-0.018	0.003	-5.626	0.000
Trend Component	0.000	0.000	0.473	0.639

The nature of the change in production is illustrated in figure 10 below.

Figure 7: WA share of national production relative to 2005-2010 average



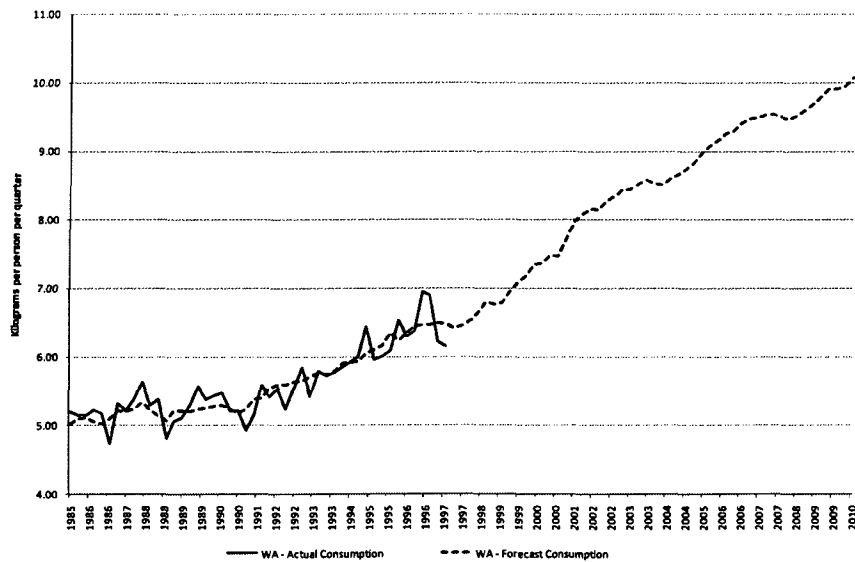
<sup>7</sup> The ABS ceased to publish Broiler numbers in Western Australia in 1997.

### 6.4. Reconciling production and consumption estimates

The lack of publicly available data on chicken meat production and imports into Western Australia is a barrier to demonstrating the consequence of changing production costs. However, an estimate of the demand for chicken meat in Western Australia can be derived from ABS data on prices and production.

The lack of imports of chicken meat into the Australian markets means that the total consumption of chicken meat will approximate total production over time. Utilising ABS Catalogue 7215.0 (Livestock Products Australia), and Catalogue 3101.0 (Australian Demographic Statistics), it is possible to derive an estimate of per-capita consumption.

Figure 8: Estimated per capita consumption of chicken meat in Western Australia



An estimate of aggregate consumption of chicken meat in Western Australia can then be formed based on the Western Australian population and the estimated per capita consumption over time. While not a precise methodology, the estimate is the optimal solution given constraints on data availability.

Figure 9: Estimated WA consumption of chicken meat relative to WA production

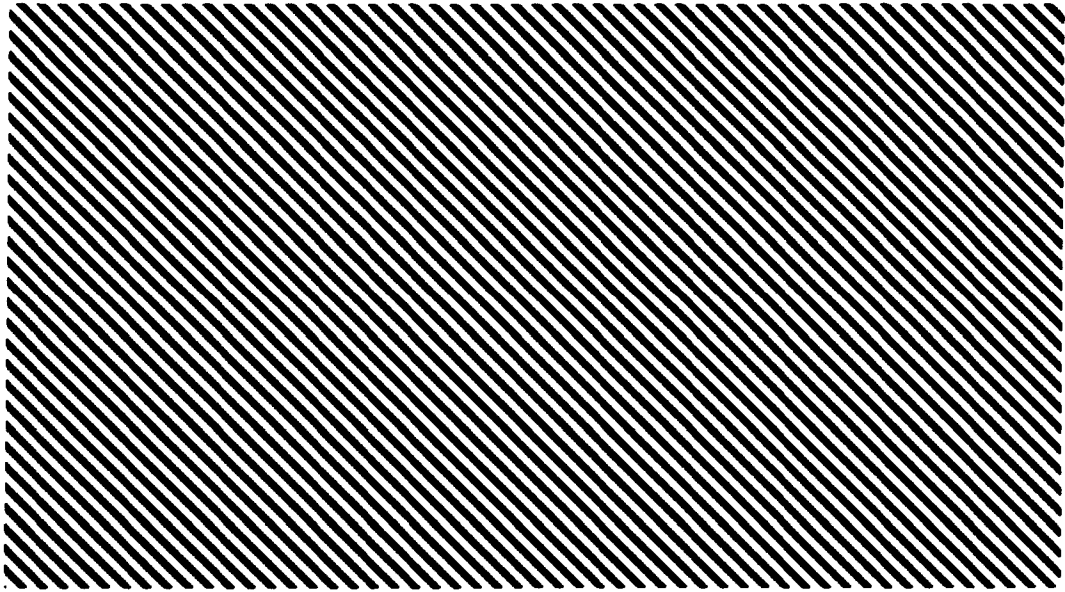


Figure 9 illustrates the increase in consumption of chicken meat in Western Australia relative to local production. Prior to 1997, local production of chicken meat approximated local consumption. However, in the period 2005-2010, it is evident that local production only increased marginally from the pre-1997 levels, whereas consumption has continued to increase. This gap between local supply and demand has resulted in increased imports. In the past five years, approximately 14.0% of local consumption has been met from imported chicken meat.

## 6.5. Conclusion

Changes in production levels in Western Australia relative to the national average provide information on the relative cost effectiveness of broiler growing and processing operations in Western Australia. In order to make any analysis it is necessary to make assumptions regarding shed space to broiler production ratios for some growers in Western Australia.

Based on the data available at this time, it is estimated that the Western Australian share of total broiler production in 2010 is 8.1%, or between 1.8% and 2.4% below the long term average share.

## 7. Review of Inputs to the Farm Model

The ability of the farm model to provide accurate estimates of an efficient broiler growing operating cost is dependent on the accuracy of inputs to the model. Inaccurate inputs will lead to the systematic over- or under-estimation of the efficient cost of production.

The accuracy of inputs is therefore critical to providing accurate information to CMIC and industry participants on the efficient cost of production. The consequences of having inaccurate information are discussed elsewhere in this document.

The following analysis is only concerned with input prices to the farm model and not volumes. Detailed analysis of efficient input volumes would best be carried out utilising cross-sectional analysis of existing broiler growers in the Australian market. However, such data is not available at present.

### 7.1. Labour Costs

Labour costs account for between 19.1% and 20.7% of the total per-bird price between July 2007 and July 2010. There is no statistically significant trend component to the operating cost / labour cost ratio.

#### 7.1.1. Farm Fee Model Methodology

The methodology employed in the Farm Fee model to estimate labour costs consists of two components. The absolute wage level is set by agreement during reviews of the farm fee model. It is understood that such reviews occur every three to five years. Mid-review adjustments then occur using the *Mercer Human Resources Percentage Movement in Base Salary*<sup>8</sup> (Production and Supply components) index (the Mercer Index).

#### 7.1.2. Labour Input Analysis – Index Changes

Changes in the Mercer Index are highly correlated with wage level indices published by the ABS. There does not appear to be any systematic divergence between ABS estimates and the Mercer Index.

No further analysis was undertaken to determine the theoretical consistency of the Mercer Index with the broiler growing industry in Western Australia.

#### 7.1.3. Labour Input Analysis – Wage Levels

The specialised nature of the broiler growing industry presents a unique problem when determining an efficient wage for industry participants. Determining the opportunity cost of labour in the broiler growing industry requires a detailed understanding of the degree of specialisation of labour and the relative scarcity of such skills in the Western Australian economy.

It is likely that any detailed econometric study would provide only marginal value to the fee determination process.

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<sup>8</sup> WABGA (2010b), page 23



However, there are still concerns that the wage level utilised for both Farm Managers and Labourers exceeds the wage level that exists in the competitive market. The ERA commented that:

*The model assumes labour costs for a full-time farm hand of \$90,526 in July 2010, which seems high relative to the current Western Australian average annual earnings of \$57,000 (ERA, 2010, p.42)*

Wage levels utilised in the farm model should reflect the wage costs of an efficient broiler growing operation. There should therefore not be a significant difference between actual wages paid to farm managers and labourers and model inputs. Statistics on the average weekly earnings of industry participants can be obtained from ABS Census statistics.

**Utilising census data to estimate median labour costs**

Utilising census data provided by the ABS, it is possible to estimate the median wage of farm managers and labourers in the broiler growing industry in Western Australia in 2006. The 2006 estimate can then be compared with inputs used in the farm model. The following data series were extracted from the ABS Census database:

- State/Territory, Individual Income (weekly), Industry of Employment (ANZSIC06) and Occupation 06 (ANZSCO) - Poultry Meat Farming – Labourers; and
- State/Territory, Individual Income (weekly), Industry of Employment (ANZSIC06) and Occupation 06 (ANZSCO) - Poultry Meat Farming – Farm Manager.

Census wage data is aggregated by the ABS to nine bands. The percentage of farm managers receiving a salary within each band is illustrated in Figure 11 below. After making adjustments for inflation and on-costs, it is possible to make a direct comparison between those wage levels allowed in the Farm Fee Model and those reported in the Census.

**Figure 10: Distribution of Average Weekly Earnings by State for Poultry Meat Farmer – Farm Manager**

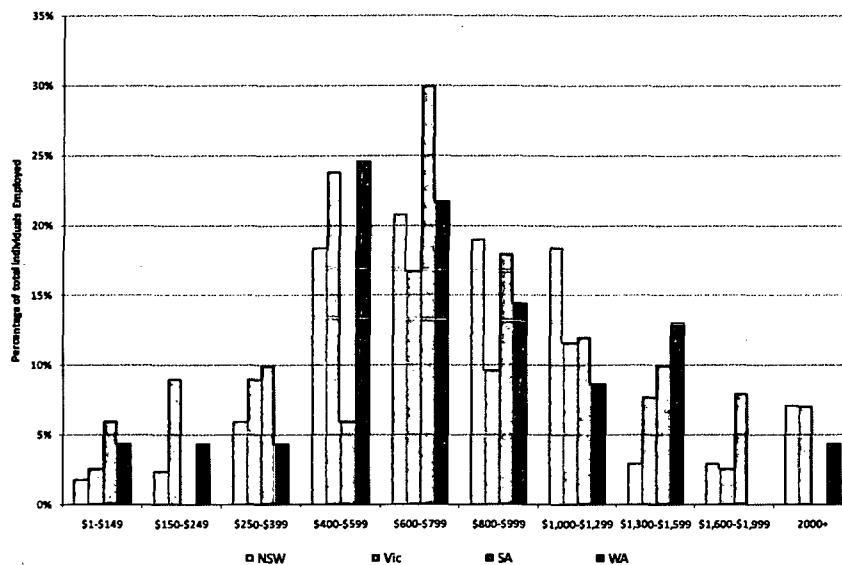
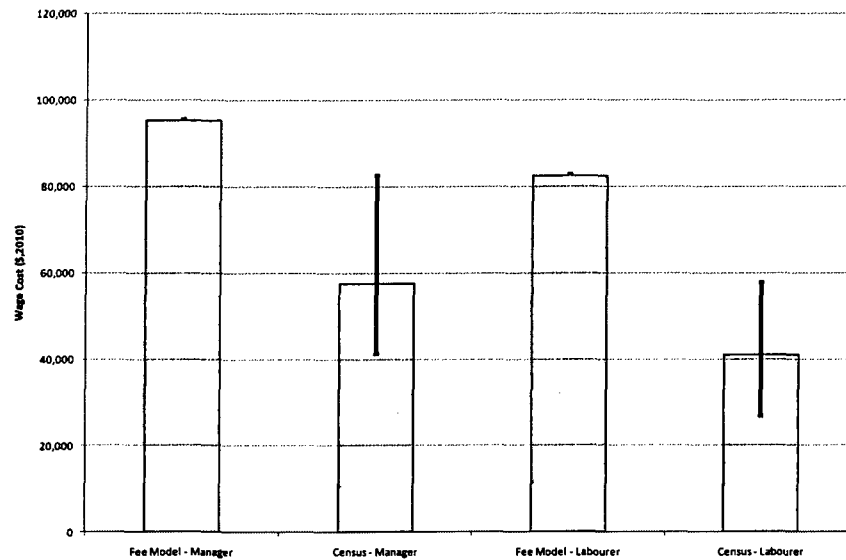


Table 3: Median Annual wage cost - Western Australian Poultry Meat Sector<sup>9</sup>

Date	Fee Model		Census Data	
	Farm Manager	Farm Labourer	Farm Manager	Farm Labourer
2007	75,000	65,000	48,179	34,414
2010	95,500	82,700	57,842	41,316

Figure 11: Fee model versus census information on wages in the Western Australian chicken meat industry (with 25<sup>th</sup> and 75<sup>th</sup> percentiles), 2010



Labour cost estimates derived from the 2006 census for workers in the Western Australian chicken meat industry are significantly different from the wages included in the Farm Fee model. For managers, there is a 55.7% difference between census estimates and those used in the Farm Fee model (in 2007). Similarly, there is an 88.9% difference in the 2007 census data/fee model cost.

## 7.2. Fuel and oil costs

Analysing the absolute level of fuel and oil costs is problematic, given that the two products are reported as a single input. While time series data on petrol, diesel and oil prices are publicly reported, providing advice on the appropriate absolute level for the fuel/oil input is impossible without knowing the specific fuel/oil input ratio used.

At present, the farm fee model includes 1,216 litres of fuel/oil at a cost of \$1.75 per litre per batch<sup>10</sup>. Prior to July 2008, the price utilised was \$1.32 per litre.

<sup>9</sup> The median income reported for both classifications in the 2006 Census has been adjusted in two ways. An upwards revisions of 25% was included to account for on-costs (9% superannuation, 7% payroll tax, 5% insurance and 4% miscellaneous), as Census data is reported as take-home pay. Secondly, the series was inflated in accordance with ABS Catalogue 6302.0 *Average Weekly Earnings, Australia* Table 12E (See data set *Earnings; Persons; Full Time; Adult; Ordinary time earnings ; Western Australia*) so that the estimate could be compared with 2007H2 WABGA (2007) paper.

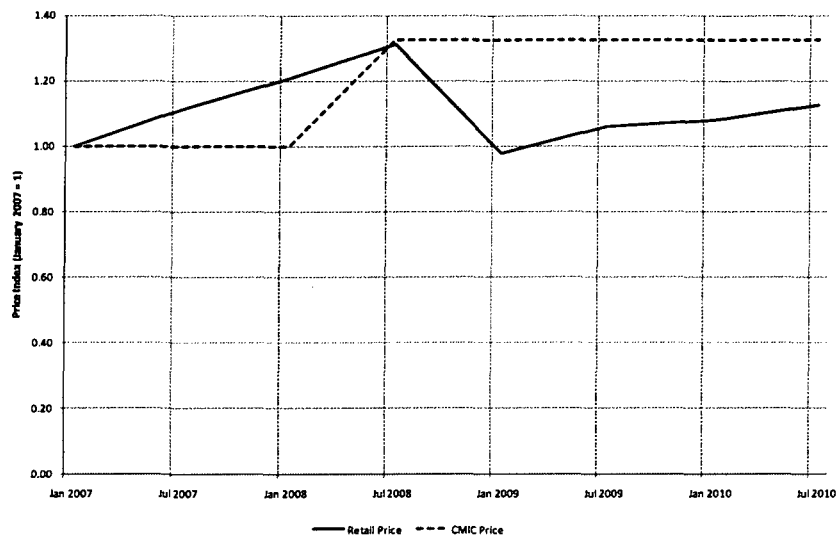
<sup>10</sup> Farm Fee Model documentation for July 2010, page 14.

### 7.2.1. Analysis of alternative data sources.

The ABS publishes an index of automotive fuel price in the Perth metropolitan region on a quarterly basis<sup>11</sup>. The ABS Fuel Price Index can be used to compare changes in farm fee model inputs over time with publicly available information.

As is illustrated in Figure 12 below, the fuel and oil price was increased from \$1.32 to \$1.75 in July 2008 to reflect a historic increase in the input price. However, the subsequent decline in the real price of fuel and oil has not been captured within the farm fee model.

Figure 12: Fuel and oil price changes over time



### 7.2.2. Implications of fuel price adjustments

Changes in fuel and oil factor prices provides unique information on the operation of the Committee in determining appropriate input prices for the farm fee model. In the six months prior to January 2009, fuel prices underwent a significant negative correction. The relevant effect is illustrated in Figure 12. Fuel prices can then be compared with the market price of all other inputs, which demonstrated strictly positive changes in price.

Due to the negative correction in the retail price, the fuel price series is relevant to testing the hypothesis that the farm fee model will accurately reflect efficient broiler growing costs. As a necessary condition for approximating the efficient price, the present value of the mean divergence between the model input price and the market input price should, over time, tend to zero.

This condition can be satisfied by either:

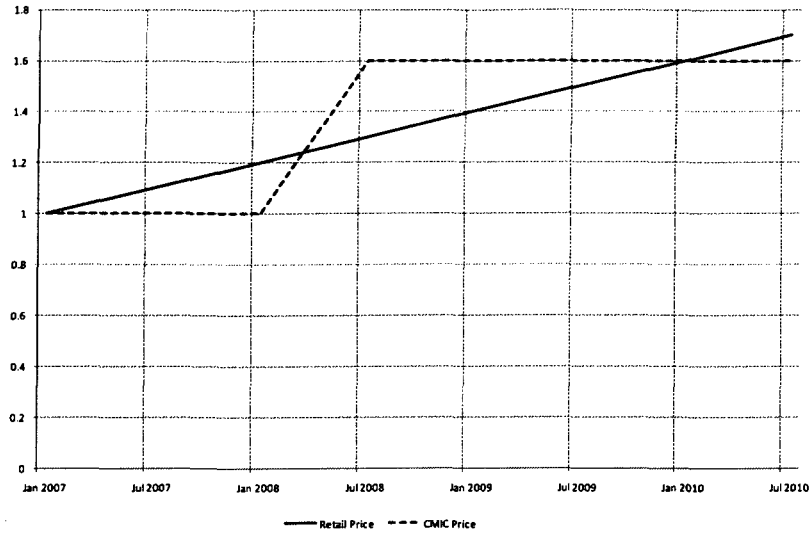
- allowing model input prices to follow market prices in a symmetric manner; or
- deferring increases in model input prices. Any over recovery of input costs in a single regulatory period, due to a *temporary* decline in market prices vis-à-vis model input prices, can then be balanced against under-recovery in a future regulatory period when

<sup>11</sup> Catalogue 6401.0 Table 13, series index Numbers; Automotive fuel; Perth.

market prices for inputs have increased above the model price (in real terms). This process is illustrated in Figure 14.

The preferred methodology will depend on either party's ability to fund a temporary over- or under-recovery.

Figure 13: Over- and under-recovery of costs



However, the farm fee model appears to have an asymmetric response to changes in input prices. As is illustrated in Table 5 below, the allowed factor price responds to increases in the price of an input, but is not adjusted downwards to reflect a significant and sustained decrease in a factor price.

The persistent over-recovery of efficient costs represents a deviation away from the farm fee model representing an efficient broiler growing operation.

Table 4: Calculation<sup>12</sup>

Date	Fee Model	Index Adjustment	Difference (Nominal)
Jan 2007	\$1.32	\$1.32	\$0.00
Jul 2007	\$1.32	\$1.47	-\$0.15
Jan 2008	\$1.32	\$1.60	-\$0.28
Jul 2008	\$1.75	\$1.73	\$0.02
Jan 2009	\$1.75	\$1.29	\$0.46
Jul 2009	\$1.75	\$1.40	\$0.35
Jan 2010	\$1.75	\$1.42	\$0.33
Jul 2010	\$1.75	\$1.48	\$0.27
Sum of the present value difference			\$0.99

<sup>12</sup> This example is for illustration only, as it assumes that the January 2007 Fee Model price of \$1.32 for fuel/oil inputs is correct. A discount rate of 6% has been assumed.

### 7.3. Inclusion of non-essential sundry equipment

The farm fee model includes range of sundry items which may or may not be necessary for the operation of an efficient broiler growing facility. Such items include:

- two tractors; and
- Disinfectant Spray Unit.

The value of each individual item is small relative to other components in the Farm Fee model. However, it is necessary to ascertain in the first instance that this equipment is standard on most broiler farms at present. For example, most broiler farms may not own a Disinfectant Spray Unit, but rather make use of contractors to perform a similar service. If this is indeed accurate, then the model should be updated to reflect this outcome.

### 7.4. Conclusion

An examination of the farm fee model has identified a number of erroneous factors which limit the ability of the fee model to provide an accurate estimate of the costs of operating an efficient broiler growing operation. While there was no external constraint preventing the CMIC from correcting the identified errors, that the issues were not resolved is indicative of the effectiveness of the dispute resolution mechanisms available under the Act.

## 8. Efficiency of regulated prices

There remains a question as to whether the farm fee model provides industry participants with an accurate estimate of the cost of production.

In the Draft Report, the ERA commented that it:

*... does not consider the cost of production model is likely to have resulted in prices that are too high relative to the efficient costs of production (ERA, 2010, p.43).*

However, based on the errors observed regarding inputs to the model, it is necessary to test the hypothesis that the farm fee model has allowed for cost increases over and above what would be required by an efficient firm. A price cap methodology will be used to test this hypothesis.

### 8.1. Methodology

#### 8.1.1. CPI Methodology

An alternative estimate of efficient changes in the broiler growing fee can be formed based on changes in publicly available indices. Assuming the use of all inputs remains constant over time, and inputs are weighted in accordance with their use in the production function, it is possible to derive an estimate of efficient cost increases.

Given the difficulty in obtaining information on the changes in land values over time, this analysis is restricted to considering the operating component of the farm fee model.

The farm fee model operating expenditure can be disaggregated into six key components. Table 6 highlights each component's mean contribution to the total operating cost over the period 2007-2010.

**Table 5: Calculation**

Item	Mean % of total OPEX	ABS Series ID
Fuel and Oil	2.3%	A2328616A
Electricity	8.0%	A2328121X
Gas	12.1%	A2331901W
Labour	37.8%	A2607599L
Insurance	4.8%	A2332576W
Remainder (CPI)	34.9%	A2325826V
<i>Total</i>	<i>100.0%</i>	

ABS Price indices (catalogue 6401.0 for Perth) have been used to measure changes in input prices over time, while the Western Australian Labour Price Index (catalogue 6345.0 for Perth) was used for labour costs. Percentage changes in each series are weighted based on their individual contribution to the total operating cost. Individual components are then aggregated to form a total change in output price which reflects real cost increases faced by the broiler grower.

$$\Delta \text{ Operating Cost} = \alpha_0(\text{Fuel and Oil}) + \alpha_1(\text{Electricity}) + \alpha_2(\text{Gas}) + \alpha_3(\text{Labour}) + \alpha_4(\text{Insurance}) + \alpha_5(\text{CPI})$$

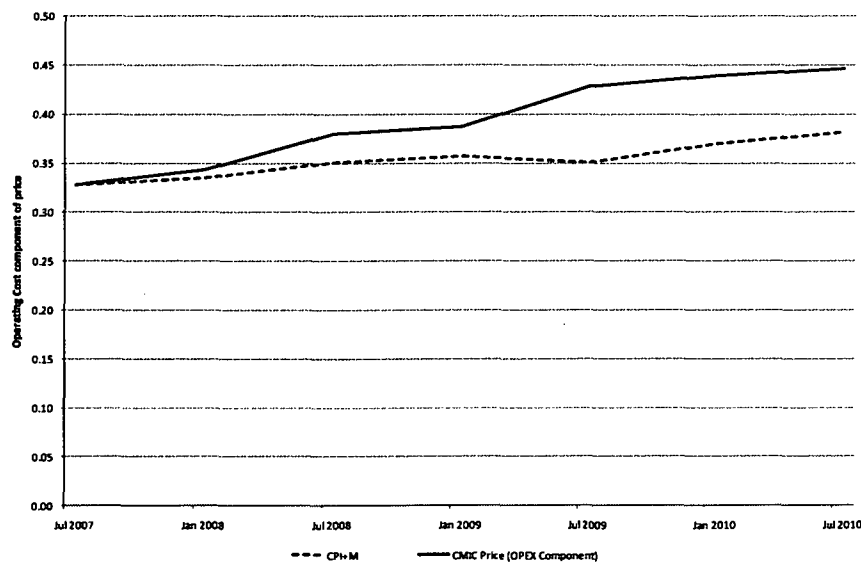
The resulting parameter provides an estimate of the change in input prices over time. The estimate assumes no substitution between the various inputs. If adopted, it would ensure that broiler growers would not see an erosion in the real price they were able to charge the processor.

Utilising this approach, and based on an initial fee operating cost component of \$0.33 per broiler, there is a mean difference of \$0.045 per broiler between the CPI method and the farm fee model for the period July 2007 - July 2010.

**Table 6: Real increases in operating cost**

Date	CPI	Farm Fee Model (OPEX Component)	% Difference
Jul 2007	\$0.33	\$0.33	0.0%
Jan 2008	\$0.33	\$0.34	2.4%
Jul 2008	\$0.35	\$0.38	8.3%
Jan 2009	\$0.36	\$0.39	8.5%
Jul 2009	\$0.35	\$0.43	22.0%
Jan 2010	\$0.37	\$0.44	19.0%
Jul 2010	\$0.38	\$0.45	16.9%

**Figure 14: Operating Cost changes**



### 8.1.2. Inclusion of a productivity factor

Up to this point, it has been assumed that there will not be a productivity improvement in the broiler growing industry. This is a problematic assumption to make. Operating under the assumption that the broiler growing industry is becoming more productive over time, it is appropriate to ensure that the benefits of productivity gains are shared by both broiler growers and customers.

The inclusion of a productivity factor, in addition to allowing for real changes in input costs would provide an incentive for broiler growers to become more efficient over time.

The nature of the productivity incentive should not be viewed as a penalty for inefficient broiler growers. Including a productivity factor provides an incentive for individual broiler growers to exceed benchmark productivity levels. The benefits of productivity gains in excess of the benchmark are captured completely by the broiler grower during the regulatory period. Therefore, so long as an appropriate productivity factor is selected, there will exist an upside benefit for growers to become more productive over time.

The ERA reports productivity increases of 2.8% per year the Australian agricultural sector<sup>13</sup>. Incorporating the 2.8% annual productivity factor results in a mean difference in the half-yearly price change between the CPI methodology and the farm fee model of 4.2%. Table 8 below illustrates the impact of compounding the divergence over multiple years, with the relative divergence being illustrated in Figure 15.

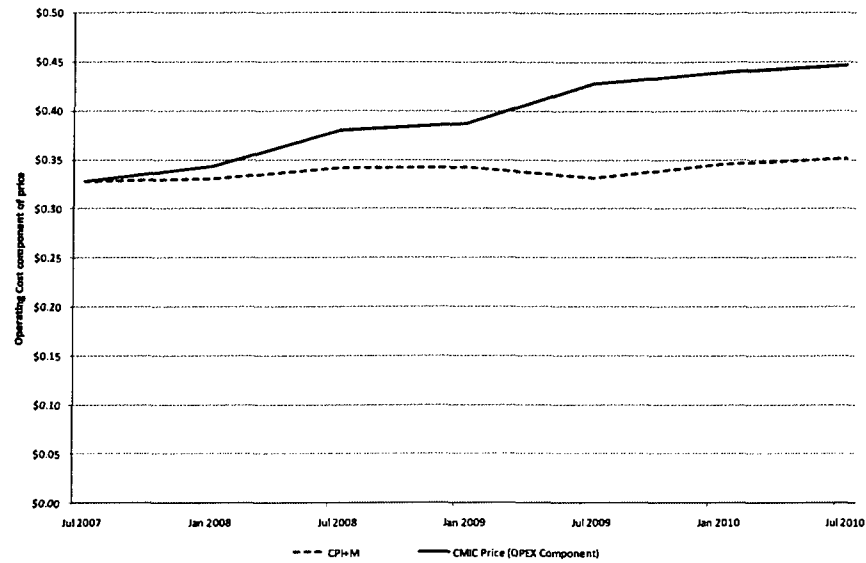
**Table 7: Real increases in operating cost with productivity factor**

Date	CPI	Farm Fee Model (OPEX Component)	% Difference
Jul 2007	\$0.33	\$0.33	0.0%
Jan 2008	\$0.33	\$0.34	3.8%
Jul 2008	\$0.34	\$0.38	11.3%
Jan 2009	\$0.34	\$0.39	13.0%
Jul 2009	\$0.33	\$0.43	29.0%
Jan 2010	\$0.34	\$0.44	27.5%
Jul 2010	\$0.35	\$0.45	26.9%

<sup>13</sup> See ERA (2010) page 43.



Figure 15: Operating Cost changes with productivity factor



## 8.2. Conclusion

MJA's analysis demonstrates that the farm fee model has allowed for significant cost increases in real terms. This has resulted in significant real increases in fees over time, which is passed on to processors, and chicken meat consumers.

The result observed in the above analysis provides evidence in support of the hypothesis that the farm fee model, in its present form, is not a reliable source of information on the costs of an efficient broiler growing operation. The accuracy of the farm fee model's outputs is central to its use in the CMIC deliberation process. Specifically, the ERA commented that the farm fee model:

*...improves cost transparency in the industry, which can potentially enhance efficiency (ERA, 2010, p. iv)*

However, based on the above analysis, it is clear that the farm fee model does not provide accurate information. The farm fee model should therefore be considered a barrier to the CMIC deliberation process achieving an efficient outcome.

## 9. Conclusion

In undertaking an analysis of the Act, MJA has focused on three key items. They are the ability of the Act to resolve disputes in an efficient manner, the dynamics of the market for chicken meat in Western Australian and a review of the Farm Fee model.

The current method of dispute resolution in the Western Australian chicken meat industry is far from ideal. While alternative dispute resolution mechanisms may be more costly to operate, the cost must be weighed up against evidence to suggest that the Act is not effective at resolving disputes.

Estimates of production and consumption of chicken meat in Western Australia demonstrate that the volume of imports in recent years has increased above the long-term historic average. This is accompanied by a relative decrease in local production of chicken meat as a percentage of national production.

At the same time, the Western Australian broiler growing fee is higher than the landed cost of South Australian broilers. This makes the importation of chicken meat from South Australia a lower cost option for processors, compared with sourcing inputs locally.

The increase in broiler growing fees can be explained by increases in the value of Farm Fee model inputs. An analysis of operating cost changes over time demonstrates that Farm fee model inputs have increased at a faster than efficient rate.

## 10. References

- Australian Bureau of Statistics (2006). *Census Data*
- Australian Bureau of Statistics (2010). *Catalogue 6401.0 - Consumer Price Index*
- Australian Bureau of Statistics (2010). *Catalogue 6302.0 - Average Weekly Earnings, Australia*
- Bureau of Transport and Regional Economics (2008). *An overview of the Australian Road Freight Transport Industry & Bartter Enterprises*
- Bureau of Transport and Regional Economics (2009) *Australian Transport Statistics Yearbook 2009*
- Economic Regulation Authority (2010). *Draft Report on the Inquiry into the Chicken Meat Industry Act 1977.*
- Government of Western Australia (2010). *Regulatory Impact Assessment Guidelines for Western Australia.*
- Inghams Enterprises (2010). *Submission to the Inquiry into the Chicken Meat Industry Act 1977.*
- Institute of Australian Arbitrators and Mediators (2007). *IAMA Arbitration Rules*
- Western Australian Broiler Growers Association (2010). *Submission to the Inquiry into the Chicken Meat Industry Act 1977.*
- Western Australian Broiler Growers Association (2007). *Cost of Production – Industry Notional Model*