FINAL REPORT

REGULATORY COSTS AND ASSISTANCE TO THE RED MEAT AND LIVESTOCK INDUSTRY

FOR MEAT AND LIVESTOCK AUSTRALIA

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ABBREVIATIONS

Term	Abbreviation
ABARE and ABARES	Australian Bureau of Agricultural and Resource Economics AND Australian Bureau of Agricultural and Resource Economics and Sciences (post-2010)
ALFA	Australian Lot Feeders' Association
APVMA	Australian Pesticides and Veterinary Medicines Authority
AMPC	Australian Meat Processor Corporation
AMIC	Australian Meat Industry Council
AQIS	Australian Quarantine and Inspection Service
BAD	Bank Account Debits tax
BLM	US Bureau of Land Management
CAFO	Concentrated Animal Feeding Operation
CSE	Consumer Support Estimate
FMD	Foot and Mouth Disease
FTE	Full-Time Equivalent
GIA	Government Industry Agreement
GSSE	General Service Support Estimate
GST	Goods & Services Tax
Ha	Hectares
IPART	Independent Pricing and Regulatory Tribunal
LPA	Livestock Production Assurance
MAF	Ministry of Agriculture and Forestry New Zealand (changed March 2012 to Ministry for Primary Industries)
MLA	Meat and Livestock Australia
NAICS	North American Industry Classification System

Term	Abbreviation
NAITS	National Animal Identification and Tracing Scheme
NCBA	National Cattlemen's Beef Association
NLIS	National Livestock Identification System
NVD	National Vendor Declaration
NPI	National Pollutant Inventory
NZ	New Zealand
NZU	New Zealand Units
OHS	Occupational Health and Safety
PAA	ProAnd Associates
PSE	Producer Support Estimates
R&D	Research & Development
TSE	Total Support Estimate
P&L	Profit and Loss
US	United States
USDA	United States Department of Agriculture
USFS	United States Forest Service

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The Project Team acknowledge the help and cooperation of numerous enterprises which provided sensitive production and financial data for this project in the three jurisdictions. All efforts have been made to provide confidentiality in the report while also highlighting the extent of regulatory compliance costs to industry.

EXECUTIVE SUMMARY

The purpose of this project was to provide an analysis of regulatory costs and assistance to the red meat and livestock industry. The project report identifies major cost items; how regulatory burden has changed over the past decade; how the Australian cost of regulation compares to that in the United States (US) and New Zealand (NZ); assistance provided to red meat industries in other countries; and recommendations on which Australian regulatory costs should be targeted for further policy analysis and reform.

The study classifies regulatory cost into a range of major categories, including time taken to comply with regulatory requirements. Data to quantify regulatory costs was sourced from Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), other literature and industry consultation. Comparisons with findings from a report completed in 2001[1] on regulatory costs are provided throughout this report.

The main highlights are as follows for:

Beef producers

- Analyses were completed for northern and southern Australian beef producers and US cow-calf operations.
- In 2008-09 regulation cost northern beef producers around 11% of total revenue and southern beef enterprises around 12% of revenue. Major costs were incurred by beef producers in association with environmental; transport; employment on-costs; occupational health and safety (OHS); rates and the time taken by producers to comply with regulatory requirements.
- In 1998-99 major cost items included rates; utilities; employment on-costs and the time taken by producers to comply with regulatory requirements. Environment and transport were not identified as major regulatory cost items at this time. Regulatory costs accounted for almost 17% of total beef producer revenue in 1998-99.
- In the US regulation costs cow-calf operations around 14% of revenue. Major cost items include environment, OHS, employment on-costs; rates; building code compliance; and administration fees. On this basis the US beef industry does not appear to have a regulatory cost advantage over its Australian competitors.
- Minimal government assistance is provided to the Australian beef industry. Fuel excise rebates are common to both the Australian and US situation. US beef producers may enjoy favourable government assistance indirectly through US Farm Bill packages, although the scale of this scheme may alter.
- This study makes no recommendations for reform of existing regulations affecting Australian beef producers. The impact of carbon pricing and new requirements to address beef cattle welfare during transportation will need to be monitored.

Sheep producers

- Analyses were completed for Australian and NZ sheep producers.
- In 2008-09 regulation cost Australian sheep producers around 14% of total revenue. Major cost items associated with regulation included animal welfare; the environment; transport; time taken by producers to comply with regulatory requirements; employment on-costs; utilities; rates; levies; building code compliance; administration and vehicle registration.
- In 1998-99 major cost items included utilities; employment on-costs; rates and levies. Animal welfare, the environment and transport were not identified as major regulatory cost items at this time. Regulatory costs accounted for a staggering 57% of total Australian sheep producer revenue in 1998-99 (Heilbron 2001).
- In NZ regulation costs sheep producers around 11% of revenue and this estimate is inflated by a much higher hourly rate for farm management labour. Regulation costs are a

[1] S.G. Heilbron, Study on the Impact of Government on Industry Competitiveness, 2001.

lower percentage of revenue for NZ sheep producers than for sheep producers in Australia (14% of revenue). Significant NZ regulatory cost items include transport; time taken to comply; labour on-costs; rates; levies; and administration.

- Items which are prominent in Australia and lower or absent in NZ include animal welfare. It is recommended that the nature of these costs be further researched as a potential source of comparative advantage for NZ over Australia in world markets.
- Little government assistance is provided to either the Australian or NZ sheep industries.

Livestock Exporters

- All analysis in this report is pre ESCAS using 2008-09 data.
- Analysis was completed for exporters of live cattle to South East Asia, and exporters of live sheep from Western Australia to the Middle East.
- In 2008-09 government-influenced costs represented 6.4% of total enterprise revenue and 7.4% of enterprise expenses for exporters of cattle to South East Asia.
- Sea freight, fodder and administration were the major government influenced costs for live cattle exporters (fodder costs are a proxy for regulations regarding animal welfare during the voyage).
- Government influenced costs for live cattle exporters are only about half the level (in terms of percentage of revenue and costs) incurred by northern beef producers. However the export of live cattle is a trading enterprise where over 70% of total costs are incurred in the purchase of cattle for export. Therefore, government-influenced costs account for almost 30% of costs incurred after the purchase of livestock.
- In 2008-09 government-influenced costs represented 11.3% of total enterprise revenue and 12.9% of enterprise expenses for sheep exporters to the Middle East.
- Sea freight, fodder, and administration were again the major government-influenced costs for live sheep exporters. Assembly depot costs were much higher for sheep exporters because of government requirements that they spend sufficient time in the depot to accustom them to fodder pellets used during shipment, and to ensure sheep unfit to travel are culled from the shipment.
- Live sheep exporters do not face as high a level of government-influenced costs as sheep producers, but again these are over 32% of costs incurred after sheep are purchased.
- Aside from the regular costs identified in this study that are influenced by government, the Australian Quarantine and Inspection Service (AQIS) can from time to time impose conditions on the granting of an export permit that increase the cost of a shipment. For example, AQIS can impose lower stocking densities at times of the year when there may be a higher risk of heat stress causing unacceptable mortalities during shipment.

Lotfeeders

- Analysis of a small scale and a large scale operation indicated regulatory costs in the order of 2.7%-3.2% of revenue in 2008-09. For lotfeeders, the principal regulatory costs encountered relate to disease control, environmental management and labour on-costs.
- In the US industry, data obtained from the United States Department of Agriculture (USDA) Census of Agriculture included many small scale feedlots and their regulatory costs (mainly related to environment, vehicle costs and land rentals) suggested costs in the order of 2.4% of revenue.
- For larger scale feedlots, regulatory costs per share of revenue were slightly lower, although obtaining complete data sets was challenging. For this scale of operations, with capacity of 16,000 head or more, environmental management is the primary regulatory burden and the most time-consuming for staff and management.
- Both for feedlotters and processors in the US context, the possibility of further environmental regulation by federal agencies is real.

Rangeland Goat producers

- The analysis showed that significant regulatory cost items for the rangeland goat industry were associated with the environment; and meeting land use costs. Overall a relatively modest 2.6% of revenue was foregone by goat producer/harvesters to meet regulatory

compliance costs. The rangeland goat industry was not included in the earlier study on regulatory costs.

Meat Processors

- Meat processors (both beef-only and sheep-only plants) have been affected by changes in regulatory requirements, particularly in regard to environmental issues, increased labour on-costs and government inspection costs.
- Environmental compliance now occupies a significant percentage of operating costs, including annual license fees, testing and reporting obligations and waste treatment measures.
- Little government assistance is provided to the Australian processing sector except in the form of one-off industry structural adjustment packages, the last of which occurred some 10 years ago in NSW and Qld.
- Annual regulatory costs for beef processors ranged from 3.8%-6.8% of revenues, depending on enterprise scale. For sheep processors, this amount was slightly lower at an estimated 2.9%-3.1% of sales revenue.
- The carbon tax, due to be introduced from 1 July 2012, is expected to significantly impact large scale processors which have built up economies of scale in their production and waste management capabilities.

Government Assistance

- There have been some, generally positive, changes in the way support is provided to the agricultural sector in OECD countries, particularly in the important area of decoupling support from production.
  (i) less support is provided on the basis of commodity output or variable input;
  (ii) payments are less tied to production of a specific commodity; &
  (iii) support is becoming increasingly tied to requirements that producers follow certain practices in pursuit of broader objectives such as environmental protection, animal welfare or food safety.
- Despite these improvements, the OECD noted that support based on output (including border protection measures) and support based on unconstrained use of variable inputs still accounted for 56% of OECD aggregate Producer Support Estimates (PSE) in 2006-08. It also noted that reform was uneven across countries and there was a wide range of producer support levels even across OECD members – NZ 1%, Australia 6%, US 10%, Canada 18%, EU 27%, Japan 48%, and Korea 61%.

Government assistance for agriculture in Australia, US and NZ is relatively low and almost non-existent for livestock producers in the three countries. Total support for the agricultural sector as a percentage of GDP in the three countries is: Australia 0.33%, US 0.72%, NZ 0.24%.

Despite the perception of increased costs of regulation since 1998-99, the study found that regulatory costs as a proportion of revenue have remained at similar levels to those noted in the earlier period, while revenue for virtually all sectors has substantially increased. The absolute costs of regulation themselves have increased, particularly in the area of time spent on compliance and reporting tasks.

The report also found that time taken to comply can vary significantly across regulatory focus areas and between sectors of the industry. Overall, the areas showing the highest impact of time taken are animal welfare in the live export sector, environment management and land use in the processing and feedlot sectors. There are numerous focus areas with a relatively low level of impact but which likely have a higher cumulative impact on a business over the course of the financial year.

1 INTRODUCTION

1.1 Study Purpose

The Australian red meat and livestock industry has one of the most highly regulated supply chains in the country. The costs and time required to comply with regulations are often onerous – even for regulations where there are sound reasons for their existence.

Previous research (for instance Welsman (2007 and 2008) and Heilbron (2001)) indicates that some regulations impose unnecessarily high compliance costs and can impair the productivity and competitiveness of individual red meat enterprises. Both studies identified key regulatory areas that place a major impost on the red meat industry.

Meat and Livestock Australia (MLA) commissioned this study to update and expand previous research. The updated and expanded study was required to direct future policy research efforts. Where possible comparisons with the Heilbron work have been made and time series/trend statements presented.

1.2 Terms of Reference

The following terms of reference were prepared by MLA:

1. Review how the regulatory environment and government policies affecting the red meat and livestock industry has changed over the past decade. (a) Identify the key drivers for changes.
2. Examine the full suite of government charges and regulations and industry rules that are placed on Australian cattle, sheep and goat producers, feedlots, red meat processors / exporters and livestock exporters; (a) also include government assistance.
3. Identify the time taken and cost for cattle, sheep and goat producers, feedlots, processors / exporters and livestock exporters to comply with these regulations/rules. (a) Calculate the proportion of these costs on revenue, expenses and net profit.
4. Repeat the above for the US beef industry and the NZ sheep industry.
5. Analyse the relative competitive advantage or disadvantage sustained by the Australian industry as a result of these charges and regulations. (a) Compare the results with those in Heilbron (2001).
6. Prioritise the various regulations/charges/rules for each sector of the red meat industry (i.e. cattle/beef, sheep/lamb, goat, exporter/processor, livestock exporter) in terms of net cost impost/negative impacts and (a) in terms of the likelihood of there being a relaxation in the charge/regulation/rule, taking into account any benefits of the regulation/charge/rule.
7. For each sector of the red meat industry, identify areas where regulations/rules should be introduced.
8. (a) Interview key regulators to discuss (i) scope for dismantling current regulations (ii) anticipated areas of new regulations.

   (b) Include implicit or sub-textual drivers in 1(a) above e.g. land clearing legislation and similar initiatives impacting on industry

   (c) Examine the issue of government assistance to the red meat and livestock industry.

1.3 Study Approach

1.3.1 Government-Influenced Costs and Charges - Inclusions and Exclusions

The following points summarise the main inclusions and exclusions relevant to regulatory costs and assistance in this report; most are consistent with Heilbron's stated methodology.

- The analysis has as its starting point the inclusion of any item identified in legislation or underpinned in legislation and affecting the red meat and livestock industries.
- The analysis includes costs to other sectors such as transport that are passed on to enterprises in the red meat sector.
- The report analyses costs and related data for the period 2008-09 (in the case of NZ and US data, the closest financial year period was used).
- The analysis of government-influenced costs and charges also includes non-legislated industry initiatives which, if not implemented, contain the threat of subsequent legislation e.g. animal welfare provisions for the feedlot industry are contained within codes of practice which are not at this time legislated.
- Industry-imposed costs such as MLA marketing and research and development (R&D) levies have been included in the analysis and this is consistent with Heilbron (2001).
- Costs associated with the National Livestock Identification System (NLIS) have been included in the analysis.
- Livestock Production Assurance (LPA) costs are not mandatory and convey a market advantage to producers who adopt them e.g. chemical safety, no added hormone growth promotants, etc. Consequently LPA costs have not been included in the analysis.
- Heilbron did not include income, fringe benefits or other broad based national taxes such as the Goods & Services Tax (GST). Heilbron and others have included shire land rates and this analysis is completed on the same basis.
- Heilbron included on-costs, payroll tax, superannuation, training and recruitment costs, leave entitlements, workers' compensation costs and OHS. This study also includes these costs.
- The Heilbron analysis included items such as bank charges and, given that we are making time series comparisons, these costs have been included as well. In 1998-99 bank charges would have been more relevant to this style of analysis, given state government bank fees e.g. Bank Account Debits (BAD) tax that were subsequently abolished with implementation of the GST.
- Utilities are subject to regulation control on pricing in some states (e.g. the actions of the Independent Pricing and Regulatory Tribunal (IPART) in NSW) and are therefore included in the analysis. This is consistent with Heilbron's approach.
- Fuel is included in the analysis because national excise duties account for approximately 30% of the retail cost of fuel before diesel rebates are applied. Licensing, inspection, rates, mandatory levies (i.e. underpinned by legislation), environmental charges, registration/permits, etc are all included.

1.3.2 Key Regulatory Areas

Review of local, state, national and international legislation using Welsman (2007) as a starting point revealed more than 175 relevant instruments impacting on red meat and livestock production. Careful analysis of these instruments reveals a list of regulatory areas as shown in Table 1, many of which were not considered significant issues at the time of Heilbron's analysis.

Table 1: Major Regulatory Drivers for the Australian Industry

REGULATORY AREA	COMMENT/INCLUDES:
Animal welfare	Including but not limited to transport regulations – designed to minimise risks to animal welfare in the production, transport and processing phases in response to state and Federal based legislation & regulations.
Carbon pricing and abatement	Anticipated costs and measures as industry prepares for either a carbon price or an emissions trading scheme.
Disease control	Mandatory programs to guard against outbreak or spread of epizootic diseases including Foot and Mouth Disease (FMD), brucellosis, and other 'List 1' diseases. Also includes costs associated with 3rd party veterinary services for live export, delays in the registration of veterinary medicine and the prohibition of imported grain on biosecurity grounds.
Environment	Obligations under state based environmental licensing system and federal reporting requirements regarding air, soil, water and local amenity.
Food safety	Mandatory processes and audit trails to achieve certification and approval.
Indigenous	Requirements associated with land access and native title claims. More relevant to northern Australia and to the time of the Heilbron analysis.
Land use	Legislation related to land clearing, and change of land use, including impact of clearing restrictions.
Labour on-costs	Focuses on superannuation, workers' compensation and OHS (mandated measures are concerned with worker safety and health, including duty of care obligations, driver fatigue and industry-related risks).
Regulation of the industry	Including statutory slaughter and live export levies as well as NLIS.
Inspection fees	Related to provision of inspectors in live export and meat processing sectors to achieve government certification.
Industry levies	Statutory levies on livestock transactions (including live exports).
Transport	Including fuel excise and lack of harmonisation of weight limits for trucks.
Utilities	To some extent still regulated; and subject to additional costs imposts (renewable energy policy). It is likely to increase over time in relation to introduction of carbon regulations. Utilities also include water and gas costs. Included for comparison with Heilbron.
Rates	Defined here as local government rates and included for comparison with Heilbron.
Miscellaneous regulatory costs	Including accounting, bank, and legal charges; also costs of meeting building codes, stamp duty on insurance and vehicle registration and insurance.
Compliance (time taken to comply)	Manifest as management, staff time and overheads such as office space to meet various regulations – tax and superannuation law, corporation law, industrial law, AQIS regulations and documentation.

Source: PAA analysis

1.3.3 Analysis of Time Taken to Comply with Government Costs and Charges

Explicit in the study's terms of reference is a requirement to consider the time taken and cost of time taken to comply with government requirements and rules. This item is particularly problematic

in the producer sector because it is normally performed by unpaid labour. In larger red meat industry businesses, these costs are incurred through administrative officers and their managers.

To deal with this anomaly efficiently, the costs of unpaid labour have been added to on-farm enterprise analyses. For all other analyses it is assumed time costs have manifested themselves through wages and salaries paid. In each enterprise analysis, this appears under the compliance heading.

1.3.4 Representative Industry Enterprises - Australia

Representative industry enterprises were developed and analysed to identify government influenced costs/charges and assistance. Representative industry enterprises were prepared using both public and private data sets (the approach adopted by Heilbron in 2001) as shown in Table 2.

Table 2: Representative Industry Enterprises Analysed

Red Meat and Livestock Sector	Detail of Representative Enterprises
Specialist Beef Producers Northern Australia (Queensland, NT and northern WA) **Specialist Beef Producers Southern Australia (NSW, Vic, SA, Tas and southern WA)**	• Heilbron used 'specially commissioned' ABARE Farm Survey data for 1998-99 (N = 18,479 beef farms) plus some cross checking with producers. • This study used ABARES Farm Survey data 2008-09 for Beef Industry (N = 17,242 producers) which was the latest complete data available at the time. • Separate analyses completed for Northern and Southern Australia using specially requested ABARES data sets. • ABARES survey data cross checked with private data from McCosker *et al* 2010 (Northern Australia) and Holmes Sackett 2007 (Southern Australia) and a limited number of producers.
Sheep Producers	• Heilbron used 'specially commissioned' ABARE Farm Survey data for 1998-99 (N = 11,317 sheep farms) plus some cross checking with producers. • This study used ABARES Farm Survey data 2008-09 for Sheep Industry (N = 5,609 producers) which was the latest complete data available at the time.. • ABARES survey data cross checked with Holmes Sackett 2007 (Southern Australia) and relevant graziers.
Feedlotters	• Heilbron presented aggregate data from an unspecified number of feedlots. • This report includes private data for both a 25,000 head operation and a 2,000 head feedlot. • Private data cross checked with Australian Lot Feeders' Association (ALFA), Yates *et al* 2002.
Live Exporters	• Heilbron did not include the live export sector. This report includes separate analyses for live cattle and live sheep exports.
Rangeland Goat Producers	• Heilbron did not include any data specific to the goat production sector. This report sourced data and consultation from three enterprises and includes a goat industry analysis.
Processors	• Three sets of processor analyses are included: a large scale beef processor, medium scale beef processor and a large-scale lamb slaughter operation.

Representative industry enterprises with an on-farm focus provided regulatory costs as a proportion of total farm revenue, expenses and income. ABARES data is the basis for on-farm analysis.

Certain off-farm sectors such as feedlotters (whose business model relies on making a margin between purchase price and sale) were not comfortable with having commercially sensitive information reported publicly. For these sectors, regulation cost is only reported as a percentage of total revenue. Reporting on-farm regulatory costs as a percentage of total farm revenue, expenses and income permits direct comparison with Heilbron (2001).

1.3.5 Presentation of International Information - NZ

NZ's regulatory cost structure was analysed from the perspective of sheep producers (mainly lamb producers) and also export-registered sheep meat processors. Production sector data was obtained from recent statistics collected by the Ministry for Primary Industries (MPI, formerly Ministry of Agriculture and Forestry) for the 2008-09 year. This data series provides extensive information on a regional basis about income and revenue, flock numbers and production levels and is largely consistent with Heilbron's data sources.

Data for the processing sector was collected from individual enterprises based on a series of questionnaires and discussion guides. Published annual reports and similar documents for several of these entities were also used to confirm information.

1.3.6 Presentation of International Information – US

The regulatory cost structure for the US industry was analysed from three perspectives: beef producers (mainly cow-calf operations); cattle feeders; and beef processors (described as federally-inspected plants slaughtering only cattle). Data for the production and feedlot sectors was obtained from the USDA Census of Agriculture for the 2009 calendar year. This series provides detailed breakdowns of farm budgets including main sources of income/revenue, expenses and also included numbers of livestock. The data is comparable to the Farm Survey data series published by ABARES.

Obtaining and validating data for the US feedlot and processing enterprises was problematic and this was also noted by Heilbron in 2001. In particular, the US cattle feeding operations that contributed information would not release details about the value of their cattle purchases or feed inputs. The three US processors that contributed financial data for the study of regulatory costs were reluctant to reveal the full extent of their costs structures and instead provided aggregated data for the main regulatory drivers applicable to their businesses. Nevertheless this report provides more details of processors' and feeders' costs than did the Heilbron report.

2 BEEF PRODUCTION SECTOR

This representative industry analysis initially addresses the historical impact of government-influenced costs and charges in 1998-99. It then goes on to provide a review of relevant contemporary data for the period 2008-09, using literature and consultation to determine changes in regulatory burden. It then estimates the impact on revenue and expenses of government costs and charges for Northern Australia and Southern Australia specialist beef producers in the same period. The assessment also provides a qualitative analysis of benefits associated with relevant costs and charges. The report then examines the US beef production sector in the same approach.

2.1 Specialist Beef Producers in Northern Australia

2.1.1 Analysis Description

The Northern Australia specialist beef producer analysis was compiled from commissioned ABARES Farm Survey data for 2008-09 for Queensland, Northern Territory and Western Australia adjusted for insights provided by the Northern Beef Situation Analysis 2009 (McCosker, McLean and Holmes 2010).

2.1.2 Impact of Government-influenced Costs and Charges 1998-99

Heilbron 2001 provides an analysis of the share of government-influenced costs and charges for financial year 1998-99 and enough data to approximate the share of revenue, expenses and cash income. Heilbron uses ABARE Farm Survey data but does not break the analysis into northern and southern producer groups, unlike the current study.

Table 3: Beef producers (all Australia): government influenced costs and share of total revenue (ABARE 1998-99)

Government Influenced Cost / Charge 1998-99	Cost Incurred by Beef Producer ($) **	Share of Total Farm Revenue (%)
Labour on-costs (0.3% superannuation, 1.9% workers' compensation with data on payroll tax, training and leave entitlements not separately identified)	3,272	2.3
Utilities (1.8% electricity, 0.1% gas, 0.4% water and 6.8% other, which was mainly fuel)	11,525	8.1
Rates	4,411	3.1
Levies	1,281	0.9
Registration	854	0.6
Other (including bank and legal fees, sale and saleyard charges and miscellaneous government charges)	2,419	1.7
Total Government Influenced Cost	**23,761**	**16.7**

Source: Heilbron 2001; ** based on ABARE data

Key farm financial indicators for beef producers in 1998-99 based on total government-influenced costs estimated at $23,761 were:

- 16.7% of total revenue of $142,000
- 21.0% of total expenses of $113,000

In 1998-99 the major source of government-influenced cost was utilities, made up of electricity, gas, water and fuel. No costs were recorded by Heilbron for animal welfare, carbon footprinting, disease control, driver fatigue, environment, food safety, indigenous, land use and regulation of the industry. The Heilbron study did not collect data about the time taken for producers to comply with regulations.

2.1.3 Review of Contemporary Data, Literature and Consultation Outcomes

2.1.3.1 ABARES Farm Survey 2008-09

Commissioned ABARES Farm Survey data for 2008-09 for beef industry farms in Queensland, Northern Territory and Western Australia is summarised in the table below.

Table 4: ABARES Farm Survey Data - Key Metrics Beef Industry (Qld, WA and NT) 2008-09

	Queensland	Western Australia	Northern Territory
Sample (no. farms)	290	44	45
Survey population (farms)	7,082	1,009	171
Average:			
Farm area (ha)	15,590	35,255	233,641
Beef cattle herd (no.)	1,259	1,262	9,333
Cash receipts ($)	323,356	379,613	1,692,158
Cash costs ($)	255,963	281,537	1,757,527
Farm cash income ($)	67,395	98,076	(65,369)

Source: Commissioned ABARES Farm Survey data

The complete ABARES data set provides a detailed breakdown of administration costs, utilities, rates, levies, registration and other government charges. The data is 'whole state' rather than just focussing on the northern beef industry (i.e. includes southern WA and southern Qld). McCosker et al (2010) provides analysis that addresses only the northern beef industry.

2.1.3.2 Northern Beef Industry Situation Assessment (McCosker *et al* 2010)

McCosker *et al* 2010 defined the northern beef industry on the basis of four land type regions in Queensland, two in the Northern Territory and one in Western Australia. Data was collated from the RCS Profit Probe™ database and found to be consistent with ABARES Farm Survey findings.

The McCosker *et al* data provides an extra 'richness' that is not present in the ABARES commissioned data set (e.g. detailed breakdown of labour on-costs). Data reported in McCosker *et al* 2010 was for the 2008-09 financial year.

The average northern beef entity as defined by McCosker *et al* had:

- A farm area of 23,500 ha carrying 3,180 head
- Total cash receipts of $333,902
- Total cash costs of $276,599
- Farm cash income of $57,303.

McCosker *et al* (2010) reported that the northern beef industry is currently both unprofitable and in an unsustainable state. Causes of poor financial performance include inadequate scale in more closely settled areas, significant cost escalations in both overheads and direct costs (including policy related imposts), doubling of debt per livestock unit and decline of return on assets to very low levels. Approximately half the Northern Australian beef producers recorded in the RCS Profit Probe™ database have spent more money on their beef properties than they earned in the six years 2002-03 to 2008-09.

McCosker *et al* 2010 singles out changes in legislation around vegetation management as a major cause of diminished northern beef farm performance, writing 'the politics of tree clearing are a significant threat to the long term viability of properties with a regrowth issue in Queensland'. Furthermore, 'the introduction of an emissions trading scheme (or a price on carbon) will immediately impact overheads for all businesses, further exacerbating the overhead and scale

problem. It will lead to higher fuel, electricity and transport costs, whether agriculture is in or out [of a carbon scheme].'[2].

In a separate article, McCosker reviews the Carbon Farming Initiative and concludes that for methodology reasons related to the concepts of Additionality and Permanence, the policy will likely have a poor farmer uptake rate and will provide little opportunity to abate carbon price costs (McCosker April 2011). McCosker sees little positive assistance for the red meat industry in this policy.

2.1.3.3 The Cost of Bureaucratic Red Tape to Agriculture (Holmes Sackett 2007)

Holmes Sackett (2007) examined the cost to southern grazing enterprises of government costs and charges (referring to them as 'bureaucratic red tape') from 1998 to 2006 in two parts. The first part addressed direct overhead costs and included accounting fees, legal costs, bank fees, charges and taxes. The second part estimated the cost of labour to comply with 'red tape' and is based on an estimate of time taken for farmers to meet compliance requirements and a survey of relevant farm wages. Results are reported in Table 5 below.

Table 5: Government-influenced Costs & their Share of Total Revenue, Expenses and Income (1998-2006)

	Grazing Farms-Southern (Sthn Aust & <15% cropping)	Mixed Farms (>15% cropping)	All Farms
Overhead Expense associated with Compliance	$11,414	$30,659	$19,412
Wage Cost and Time Required for Compliance	$2,718 (15 days)	$3,708 (20 days)	$3,130 (18 days)
Total Cost of Compliance	**$14,134**	**$34,367**	**$22,542**
Compliance Cost as share of Revenue	3%	3%	3%
Compliance Cost as a share of Total Expenses	4%	4%	4%
Compliance Cost as a share of Profit	13%	15%	14%

Source: Holmes Sackett 2007

The Holmes Sackett estimate of farm labour required to meet government regulatory costs provides evidence to directly address one of this study's terms of reference (i.e. time taken for producers to comply with regulations/rules), and is an important inclusion that has not been previously counted in analyses of government-influenced costs.

2.1.3.4 Consultation

Ad hoc consultation with northern beef producers and industry stakeholders confirms the concerns expressed by McCosker *et al* (2010) in relation to the impact of land clearing regulations in Queensland; the impact of new transport regulations addressing animal welfare; and also concerns about the impact of future carbon pricing/policy initiatives.

2.1.4 Representative Industry Enterprise – Northern Beef 2008-09

Based on ABARES, private data, literature and consultation findings the following analysis of government-influenced costs and charges was prepared.

[2] McCosker, 2010 p. 65.

The table includes ABARES data for the Northern Australian states (WA, NT and Qld) augmented with details available from the McCosker *et al* (2010) analysis.

Column one provides enterprise descriptors and cost items, column two shows the quantum for the data set and column three provides an explanation of why a cost associated with government charges is incurred and the quantum of the cost.

Table 6: Specialist Beef Producers Northern Australia – Government-influenced Costs and Charges 2008-09

Item	Specialist Beef Northern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer cattle sales	514,430	MLA transaction levy: $5/head on sales of 995 head i.e. $4,975.
Other receipts	283,946	
Total receipts	**798,376**	
Cash costs		
Cattle / Other livestock purchases	98,989	
Fertiliser, seed, pasture, chemicals	15,444	
Fodder	58,950	Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transport regulations: estimated at 10% of total fodder cost (NB: excise is 30% of fuel cost) i.e. $5,895.
Agistment	3,723	Agistment, especially in Northern Australia, has a freight cost component which includes excise payments – cost equivalent to 5% of total is government-influenced i.e. $186.
Livestock materials	25,951	NLIS costs: tag + labour = $1.05/head X natural increase of 1,227 head i.e. $1,288.
Freight	52,412	Excise: 30% of fuel cost i.e. $15,700 (primary producer rebate not relevant to livestock transport companies). Animal welfare and OHS: 10% of total freight cost to meet new time off water (animal welfare = $2,621) and driver fatigue requirements (labour on-costs = $2,621) for transported livestock.
Marketing charges (e.g. agent fees)	13,735	
Fuel, oil and grease	62,856	Excise: fuel used on-farm is assumed to be diesel and eligible for rebate, no cost incurred.
Electricity	4,065	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable

Item	Specialist Beef Northern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		energy policy). However, most northern beef producers would have generators so utility regulation not relevant to this case study i.e. $0.
Other materials	9,723	
Contracts	39,080	Labour on-costs: 15% of total contracts value i.e. $5,862.
Stores and rations	6,909	
Interest	72,676	
R&M or Buildings and Plant	62,319	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations i.e. $6,232.
Hired labour - wages	58,109	This figure is net of superannuation and OHS costs which are presented in the rows below.
Hired labour - other (super A)	10,548	Superannuation is legislated: total cost of $10,548 is applicable.
Hired labour - workers' comp.	1,760	OHS is legislated: total cost of $1,760 is applicable
Accounting	4,081	Tax and superannuation compliance cost: total cost of $4,081 is applicable.
Bank Fees	2,137	No longer a state govt based tax, included at 100% for consistency with Heilbron & Holmes Sackett
Legal Fees	1,036	Included at 100% for consistency with Heilbron and associated with tax and regulation related compliance.
Phone, post and subscriptions	5,940	
Insurance	12,054	
Other Services and Admin Costs	10,728	
Advisory services	4,200	
Shire rates - land	6,040	Included at 100% for consistency with Heilbron.
Licensing and permits	327	Includes water licences, included at 100%.
Leasing (e.g. equipment)	1,432	
Land leasing rent	18,696	One response to Qld clearing restrictions has been to lease more land – 50% of this cost included to represent this incremental additional expense associated with native vegetation

Item	Specialist Beef Northern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		clearing restrictions i.e. $9,348.
Land maintenance or Landcare	1,510	Land stewardship is underpinned with regulation requiring control of invasive plants and animals – 100% of cost included.
Vehicles plus plant hire	10,923	Vehicle registration-costs: estimate of $1,374 per vehicle for 3 registered vehicles (state based / sub national charge) i.e. $4,122.
Other cash costs	42,446	
Total cash costs	**718,799**	
Cash surplus	**79,577**	

Source: PAA analysis of public and private data

In addition to the cash costs shown above in Table 6, a cost is also incurred for red meat producers to comply with government imposed regulations and rules. Reference to the literature (Holmes Sackett 2007) would indicate that between 15 and 20 days are required by an Australian farm owner operator to meet regulatory compliance requirements – an estimated annual cost of $4,000.

2.1.5 Qualitative Analysis of Regulatory Benefits

Red meat producers are quick to point out that government regulations and rules generate benefits both for their industry and for the Australian community. A review of major regulatory areas identified in the representative industry analysis and their resultant benefits is summarised in Table 7 below.

Table 7: Benefits Attributable to Government-influenced Costs and Charges – Northern Beef

Regulation Type	Industry Benefits	Community Benefits
Animal welfare	Retention of the industry's good corporate citizenship standing.	Increase in utility for those concerned about the humane treatment of animals.
Carbon pricing and abatement	Opportunities to sequester carbon (According to the literature these are minor under current initiatives).	A lower carbon emission Australian economy. Reduced risk of increased global temperature in the future.
Disease control	Healthy, and in the long term more profitable, livestock.	• Improved animal welfare outcomes. • Food security e.g. major loss in beef production would be associated with an FMD outbreak.
Environment	Retention of the industry's good corporate citizenship standing.	Incremental reductions in air, soil, water pollution and improved local amenity – minor for the extensive northern cattle industry.
Food safety	Consumer confidence in red meat, greater long term sales.	Improvement in community health.

Regulation Type	Industry Benefits	Community Benefits
Indigenous	Retention of the industry's good corporate citizenship standing. Enhancement of relationships with northern Aboriginal communities.	More equitable Australia.
Land use	Clearing restrictions provide nil benefit to beef producers.	Incremental additional biodiversity along with the benefit of any additional carbon capture and storage.
Labour on-costs	Coverage in the event of a work related accident. Superannuation to fund employee retirement. Safe delivery of livestock and lower long term freight costs (e.g. transport insurance cost savings)	Better outcomes for people employed in the industry. Lower costs for compensating injured workers and old age pensions. Safer roads with lower accident related costs.
Regulation of the industry, Inspection fees and industry levies	Revenue streams for red meat marketing, research, development and disease control.	Spillover benefits associated with industry R&D.
Transport	Nil	General government revenue for community priorities.
Utilities	Controls that prevent price gouging on electricity.	Revenue from state owned utilities plus controls that prevent price gouging on electricity.
Rates	Services including maintenance of property access roads	Revenue for local services
Miscellaneous regulatory costs	Registration - Safe personal vehicles	Registration - Safe vehicles on public roads

Source: PAA analysis

2.1.6 Summary and Conclusions

From the above analysis it can be estimated that government-influenced costs totalling **$90,289** ($86,289 in cash costs and $4,000 for imputed compliance labour) account for the following percentages of northern beef producer enterprises in 2008-09:

- 11.3% of enterprise revenue of $798,376
- 12.6% of enterprise expenses of $718,799

The quantum of government-influenced cost is substantially larger than estimated by Heilbron in 2001. Significant cost items for northern beef producers include environment, labour on-costs and transport.

2.2 Specialist Beef Producers in Southern Australia

2.2.1 Analysis Description

This analysis addresses the impact of government-influenced costs and charges for specialist beef producers in Southern Australia. It presents a review of relevant data for the 2008-2009 period based on literature and consultation with producers to identify changes in regulatory burdens. The enterprise analysis provides an estimate of the impact on revenue and expenses of government-related costs and charges for specialist beef producers in this region.

2.2.2 Impact of Government-influenced Costs and Charges 1998-99

Heilbron (2001) did not differentiate the impact of government-influenced costs and charges on northern and southern beef producers. Costs incurred by southern beef producers in 1998-99 are therefore assumed to be the same as presented in the previous section.

Heilbron (2001) had found that in the 1998-99 period, utilities were the main government-influenced cost (comprising electricity, gas, water) and fuel. There were no costs identified by Heilbron for animal welfare, carbon footprinting, animal disease control, driver fatigue, environment, food safety, indigenous, land use or industry regulation. Nor did the Heilbron study collect data about the time taken for producers to comply with regulations/rules. (Reference to Heilbron's earlier data is provided earlier at Table 3.)

2.2.3 Review of Contemporary Data, Literature and Consultation Outcomes

2.2.3.1 ABARES Farm Survey 2008-09

Commissioned ABARES Farm Survey data for 2008-09 for beef industry farms in Southern Australia states is summarised in the table below.

Table 8: ABARES Farm Survey Data – Key Metrics Southern Beef Industry 2008-09

	NSW	Victoria	South Australia	Tasmania
Sample	95	50	20	18
Survey population (farms)	4,855	3,297	394	433
Average:				
Farm area (ha)	1,012	323	8,997	551
Beef cattle herd (no.)	397	290	918	440
Cash receipts ($)	234,539	109,027	409,578	162,995
Cash costs ($)	203,161	88,248	348,035	122,999
Farm cash income ($)	31,378	20,779	61,543	39,996

Source: Commissioned ABARES Farm Survey data

Data provided by ABARES was augmented with information from the Southern Beef Industry Situation Assessment (Holmes Sackett 2010), The Cost of Bureaucratic Red Tape to Agriculture (Holmes Sackett 2007) and also through consultation with Southern Australian graziers.

Southern Australian graziers were quick to point to the need for sound regulation, including the need for OH&S and workers' compensation insurance schemes, but also identified costs that impose unacceptable burdens on their enterprise. These costs included state based legislation that necessitated no spray buffers around grape and horticulture plantings that negatively affected their pastures; local council-enforced state based clearing restrictions, and differences in transport regulations (livestock and fodder transport) that add to their cost base. These costs are analysed in the enterprise analysis at Table 9.

2.2.4 Representative Industry Analysis – Southern Beef 2008-09

Using ABARES data, relevant recent literature and consultation notes, the following analysis of government-influenced costs and charges for Southern Australian beef producers was compiled.

The ABARES data set comprises NSW, Victoria, South Australia and Tasmania, and was supplemented with details found in the Holmes Sackett report. Column one provides enterprise descriptors and cost items, column two shows the quantum for the data set and column three provides an explanation of why a cost associated with government charges is incurred and the quantum of the cost.

Table 9: Specialist Beef Producers Southern Australia – Government-influenced Costs and Charges 2008-09

Item	Specialist Beef Southern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer cattle sales	176,408	MLA transaction levy: $5/head on sales of 238 head i.e. $1,190
Other receipts	52,627	
Total receipts	**229,035**	
Cash costs		
Cattle / Other livestock purchases	41,046	
Fertiliser, seed, pasture, chemicals	20,049	
Fodder	10,665	Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transport regulations: estimated at 10% of total fodder cost (NB: excise is 30% of fuel cost) i.e. $1,067.
Agistment	1,660	Agistment has a freight cost component which includes excise payments – cost equivalent to 5% of total is government-influenced i.e. $83.
Livestock materials	5,611	NLIS costs: tag + labour = $1.05/head X natural increase of 180 head i.e. $189.
Freight	1,436	Excise: 30% of fuel cost i.e. $431 (primary producer rebate not relevant to livestock transport companies). Animal welfare and OHS: 10% of total freight cost to meet new time off water (animal welfare = $72) and driver fatigue (labour on-costs = $72) requirements for transported livestock.
Marketing charges (e.g. agent fees)	5,754	
Fuel, oil and grease	11,131	Excise: fuel used on farm is assumed to be diesel and eligible for rebate, no cost incurred.
Electricity	1,888	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total i.e. $378.
Other materials	1,941	
Contracts	7,189	Labour on-costs: 15% of total contracts value i.e. $1,078

Item	Specialist Beef Southern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Stores and rations	0	
Interest	17,430	
R&M of Buildings and Plant	16,141	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations i.e. $1,614.
Hired labour - wages	9,596	This figure is net of superannuation and OHS costs which are presented in the rows below.
Hired labour - other (super A)	1,745	Superannuation is legislated: total cost is applicable.
Hired labour - workers' comp.	291	OHS is legislated: total cost is applicable.
Accounting	1,753	Tax and superannuation compliance cost: total cost is applicable.
Bank Fees	1,100	No longer a state govt based tax, included at 100% for consistency with Heilbron & Holmes Sackett
Legal Fees	206	Included at 100% for consistency with Heilbron and associated with tax and regulation related compliance.
Phone, post and subscriptions		
Insurance	4,364	
Other Services and Admin Costs	5,781	
Advisory services		
Shire rates - land	6,708	Included at 100% for consistency with Heilbron.
Licensing and permits	0	Includes water licences, included at 100%.
Leasing (e.g. equipment)	581	
Land leasing rent	2,697	Lease extra area to offset lost production area associated with environmental regulations e.g. compulsory buffers around neighbours who produce wine grapes.
Land maintenance or Landcare	0	Land stewardship is underpinned with regulation requiring control of invasive plants and animals – 100% of cost included.
Vehicles plus plant hire	4,452	Vehicle registration-costs: estimate of $1,360 per vehicle for 2 registered vehicles (state based / sub national charge)

Item	Specialist Beef Southern Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Other cash costs	9,396	
Total cash costs	**190,611**	
Cash surplus	**38,424**	

Source: PAA analysis of public and private data

As with the Northern Australian beef producer representative industry analysis, the above ABARES data does not include time taken for a farm owner operator to comply with government regulation – an estimated cost of $4,000 per annum.

2.2.5 Qualitative Analysis of Regulatory Benefits

It is assumed that the same types of benefits accrue to specialist beef producers in southern Australia as those identified for the northern Australian cohort and indicated in the review of major regulatory areas summarised in Table 7 above.

2.2.6 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalling **$27,394** ($23,394 in cash costs and $4,000 for imputed compliance labour) is made for Southern beef producers in 2008-09. This total estimate is equivalent to:

- 12.0% of enterprise revenue of $229,035
- 14.4% of enterprise expenses of $190,611

Significant cost items for this category of beef producers include land use, labour on-costs, rates and compliance – time taken.

2.3 Cow-Calf Sector Beef Production – US

2.3.1 US Industry Overview

At the beginning of the beef supply chain in the US, the cow-calf sector is driven by the availability and production of forage: consequently, the sector is widely dispersed with notable and quite variable demographic characteristics from one side of the country to the other. These demographics make macro-oriented cost analysis of cow-calf operations difficult.

USDA data indicate there are about 742,000 beef cow operations in the US with the average herd size being about 41 cows, which is far smaller than average herd sizes in the Australian industry indicated in the ABARES data. There are 588,000 operations (79%) with herds of fewer than 49 cows and these herds have 28% of the beef cows in the U.S.

Another 17% of operations have between 50 - 99 cows, accounting for another 11% of the total beef cow operations. Therefore, around 45% of the beef cow inventory in the US is held in operations of fewer than 100 head and these smaller operations account for 90% of all the beef cow operations in the U.S.

As in Australia, the USDA is not the only government department that impacts on beef production through regulatory activity. There are numerous other agencies, including US Forest Service (USFS), Department of the Interior and Bureau of Land Management (BLM) that also regulate different aspects of the US beef production sector. There are also state agencies that regulate the beef supply chain.

2.3.2 Cow-Calf Enterprises

The majority of US cow-calf operations may be described as part-time enterprises in that the owners do not rely on income from cattle for their livelihood and are either mixed crop-livestock

producers or have full-time employment off-farm. This creates a problem in assessing the cost of regulation on cow-calf operations which nevertheless represent the majority of beef cattle operations. These operators often react to a different set of factors than the medium to large scale operations that are full-time businesses and rely on revenue from cattle to maintain their economic viability. But at the same time, since they represent the largest share of cattle operations, they are also the primary movers to the US cattle cycle. The smaller operations, moreover, mostly graze private pastures and generally are somewhat insulated from some of the regulations affecting larger scale operations, particularly environmental regulations. In fact, many herds in the part-time category have been liquidated in the depth of the recent US recession in order to generate immediate cash flow.

US cow-calf operations that are likely most impacted by regulations are full-time cattle operations with 300 or more cows. The medium size operations with 100 to 500 cows represent about 9% of the operations with 38% of the cows. Only 1% of cattle operations have over 500 cows and these operations hold about 17% of the US cow population.

Many operations in this latter category hold permits to graze Federal lands, administered by either the USFS or the BLM. There are numerous regulations which govern this mode of grazing and, in practical terms, these ranches continuously fear the threat of losing all or part of the grazing permits. Most of the costs associated with grazing permits are fairly easy to document and assess, relative to total costs of production or ranch revenue. However, the production from these ranches which utilise (and may even be dependent on) Federal grazing lands is less than 5% of total US beef production.[3]

Cost factors are quite variable across operations and across various size groups, within regions of the country as well as across regions of the country. In other words, costs of production vary quite widely between operations across the U.S, which makes cost analysis at an industry level difficult.

2.3.3 Impact of Government-influenced Costs and Charges 1998-99

Heilbron's study used the 1997 USDA Census of Agriculture based on a total number of beef cattle ranches and farms of 557,100; the current study used the 2007 Census based on 687,540 units. Heilbron derived costs per farm based on total expenditure shown in the Census, divided by the number of farms reporting. The results therefore are different from a representative and weighted sample of farms surveyed. As with the current analysis, US farms reporting in the Census had a relatively low number of cattle per operation. Importantly, Heilbron also noted US cattle producers generated considerable revenue from non-livestock sales, mainly grain, which may serve to further reduce the regulatory cost burden on their businesses.

Heilbron estimated that US beef producers paid 9 percent of total farm revenue in government-influenced costs and charges in 1998-99.[4] Moreover, government payments served to further ease the burden on farming and beef production activities. However the Heilbron report does not provide any breakup of the 9% estimate for government costs and charges.

2.3.4 Present Analysis Description

This analysis is based on data from the USDA's 2007 Census of Agriculture. The Census is collected for each of the 50 states and can be aggregated to regional and national averages by industry sector. The North American Industry Classification System (NAICS) categorises farms in the Census by the commodities which represent the majority of the operation's sales. The results for the North Central and South Central zones comprise the main part of the analysis, although operations in western zones were also consulted for specific regulatory issues (particularly land leasing and grazing regulations). The two zones comprise approximately 68% of the total US cattle inventory and around 75% of the total number of beef cattle operations in the country.

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[3] Sterling Marketing Communication, December 2011.

[4] Heilbron 2001, p. 43.

2.3.5 Representative Industry Analysis – Cow-Calf Beef Producers 2008-09

Table 10 below provides basic metric data on the Census of Agriculture for the North Central and South Central regions where a high proportion of the cow-calf operations are based.[5]

Table 10: USDA Census of Agriculture Data – Cow-Calf Beef Producers 2008-09

	ALL US	North Central	South Central
Survey population	687,540	222,700	334,400
Farm area (ha)	231	275	301
Beef cattle herd (no.)	41	63	66
Total cash receipts ($)	43,197	45,483	
Farm production expenses - average per farm ($US)	41,579	42,178	
Farm cash income ($US)	1,618	3,305	

Source: USDA Census of Agriculture 2007

This data was also cross-checked with eight beef cattle operations in the South Central and North Central regions for validation. Using this data the analysis of government-influenced costs and charges for beef cattle producers shown at Table 11 was compiled.

Table 11: US Beef Cattle Producers – North Central and South Central Aggregated ($US)

Item	Beef Cattle Operation $US	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer cattle sales	43,983	
Other receipts	1,500	Mainly crop sales and payments
Total receipts	**45,483**	
Cash costs		
Cattle / Other livestock purchases	10,621	
Fertiliser, seed, pasture, chemicals	3,019	
Fodder	7,453	Rebate on diesel excise tax (federal and state) is usually available to livestock carriers, therefore assumed, no cost incurred.
Beef Checkoff Levy	28	Mandated at $1 per head transaction fee.
Seed and crop materials	611	

[5] North Central zone comprises the states of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Kansas, Missouri, South Dakota, North Dakota and Nebraska; South Central comprises Kentucky, Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Tennessee and Alabama.

Item	Beef Cattle Operation $US	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Freight	617	Rebate on diesel excise tax (federal and state) is usually available to livestock carriers, therefore assumed, no cost incurred.
Fuel, oil and grease	2,874	Combined federal and average state excise taxes for diesel fuel in 2008-09 were 12.6 cents/litre. Farmers may apply for rebate on diesel usage on farm, therefore assumed, no cost incurred.
Utilities	935	Most utilities are deregulated and no government charges remain. In central zone, electricity charges are reported as 15% higher than other areas.
Interest	2,940	
R&M of Buildings and Plant	3,462	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations.
Hired labour - wages	2,221	
Hired labour – workers' compensation and Social Security.	123	Social Security and worker safety costs are legislated.
Contract Labour	400	
Accounting	255	Majority of tasks is to comply with state and federal tax compliance cost: total cost is applicable.
Property Taxes	1869	Included at 100% for consistency with Heilbron.
Leasing (e.g. equipment)	600	
Land leasing rent	2,154	Lease payments payable to range land leases to Dept of Interior, particularly in western state regions. Lease may be for primary plots where enterprise is situated, or additional land may need to be secured for grazing. Assume 20% is relevant.
Vehicle registrations	124	Assume 100%
Other cash costs incl telephone, insurances, administration costs, marketing/agents fees, some of which are regulatory-related	2,023	Assume 4% of total amount is relevant i.e. taxes on insurance, stamp duty etc. $81
Total cash costs	**42,329**	
Cash surplus	**3,305**	$3,256 Reg. costs approx. 7.15% of total revenue or 7% of cash costs

Source: PAA analysis of public and private data

In addition to the cash costs identified in Table 11, cost is also incurred for cattle ranchers to report on with government imposed regulations and rules. US Bureau of Labor Statistics would indicate that record keeping occupies between 4 – 5 days per annum for a rancher to meet regulatory compliance requirements – an estimated annual cost of $600.

2.3.6 Qualitative Analysis of Regulatory Benefits

The main source of benefits to the cow-calf sector are indirect cash payments for crop production under US Farm Bill provisions. These have reduced substantially in the past decade. There is no direct benefit payable for beef production in the US industry.

2.3.7 Summary and Conclusions

From the above analysis, it can be estimated that government-influenced costs and charges totalling $3,856 ($3,256 in cash costs and $600 for imputed compliance labour) account for the following percentages of US cow-calf production in 2008-09:

- 8.4% of enterprise revenue of $45,483
- 9.1% of enterprise expenses of $42,329

Heilbron reported that US cattle producers paid around 9% of non-grain revenue in government-influenced costs and charges, so these figures are largely unchanged from that time. Significant cost items for this category of producers are land taxes and leases, and compliance time taken. Labour on-costs are fairly low due to the low utilisation of hired labour.

3 SHEEPMEAT PRODUCTION SECTOR

The representative industry analysis initially addresses the historical impact of government-influenced costs and charges in 1998-99. It then provides a review of relevant contemporary data for the period 2008-09, using literature and consultation to determine changes in regulatory burden. It estimates the impact on revenue and expenses of government costs and charges for sheep producers in Australia in the same period. The assessment also provides a qualitative analysis of benefits associated with relevant costs and charges.

3.1 Sheep Producers – Australia

3.1.1 Analysis Description

The sheep-beef producer case study uses data from Heilbron 2001 for sheep farms (excluding wool) for 1998-99 and commissioned ABARES Sheep Industry Farms data for 2008-09.

ABARES data was augmented with information from the Cost of Bureaucratic Red Tape to Agriculture report (Homes Sackett 2007), the Prime Lamb Situation Assessment (Holmes and Sackett 2010a) and consultation with Southern Australian graziers.

3.1.2 Impact of Government-influenced Costs and Charges 1998-99

Heilbron (2001) provides an analysis of the share of government-influenced costs and charges for financial year 1998-99 and their share of revenue using ABARE data. This data is presented in Table 12 below.

Table 12: Sheep Producers: government influenced costs and share of total revenue (ABARE 1998-99)

Government Influenced Cost / Charge	Cost Incurred by Sheep Producer ($)	Share of Total Farm Revenue (%)
Labour on-costs (1.0% superannuation, 4.0% workers' compensation with data on payroll tax, training and leave entitlements not separately identified)	13,627	10.3
Utilities (1.8% electricity, 0.1% gas, 0.7% water and 11.0% other which was mainly fuel)	32,810	24.8
Rates	11,642	8.8
Levies	9,129	6.9
Registration	2,381	1.8
Other (including bank and legal fees, scale and saleyard charges and miscellaneous government charges)	5,557	4.2
Total Government Influenced Cost	**75,146**	**56.8**

Source: Heilbron 2001

Unlike in the Australian beef production scenario discussed earlier, Heilbron (2001) did not provide data to permit analysis of government-influenced costs for the sheep industry as a share of total expenses or net cash income. His estimate of the total of government costs and charges being equivalent to 56.8% of revenue is significantly high.

3.1.3 Review of Contemporary Data, Literature and Consultation Outcomes

3.1.3.1 ABARES Farm Survey 2008-09

Commissioned ABARES Farm Survey data for 2008-09 for the sheep industry is summarised in Table 13 below.

Table 13: ABARES Farm Survey Data – Key Metrics Sheep Industry 2008-09

Key Metrics	Australia (i.e. all states and territories)
Sample (no. farms)	243
Survey population	8,377
Farm area (ha)	4,912
Cash receipts ($)	210,090
Cash costs ($)	166,560
Farm cash income ($)	43,530

Source: Commissioned ABARES Farm Survey data

The ABARES data set is supplemented with literature and consultations as reported in previous sections. In addition, findings from the Prime Lamb Situation Assessment (Holmes and Sackett 2010a) are relevant.

3.1.3.2 Prime Lamb Situation Assessment (Holmes and Sackett 2010a)

The Prime Lamb Situation Assessment found that lamb enterprises are currently more profitable than wool or beef, but not more profitable than cropping in the high rainfall zone. Holmes Sackett (2010a) concluded costs had appreciated by almost 100% in the eleven years to 2009 and that the major cost for sheep flocks was employed labour with its government-influenced on-costs. Other major lamb production costs with a government-influenced cost component include administration; contract services (labour on-costs and legal fees); fertiliser (embedded energy and fuel); fuel and lubricants; selling costs; shearing; and supplementary feed. The Prime Lamb Situation Assessment helps to inform the case study analysis.

3.1.4 Representative Industry Analysis – Sheep Producers 2008-09

The impact of government-influenced costs and charges on sheep-beef industry farms is analysed in Table 14 below.

Table 14: Sheep Producers: Government-influenced Costs and Charges 2008-09

Item	Specialist Sheep Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer sheep sales	71,520	MLA transaction levy: 2% of sale price i.e. $1,430
Producer cattle sales	10,020	MLA transaction levy: $5/head on sales of 12 head i.e. $60
Producer wool sales	56,290	
Other receipts	72,260	
Total receipts	**210,090**	
Cash costs		
Sheep / Other livestock purchases	10,740	
Shearing and crutching	12,130	Includes labour on-costs: 15% of total contracts

Item	Specialist Sheep Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		value i.e. $1,820.
Fertiliser, seed, pasture, chemicals	22,110	
Fodder	7,250	Fuel excise and fodder transport regulations. Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transportation regulation – estimated at 10% of total fodder cost (NB: excise is 30% of fuel cost) i.e. $725
Livestock and other materials	5,450	NLIS costs for cattle of $1.35/head. No cost for sheep i.e. $0
Freight	1,609	Excise and animal welfare: 30% of fuel cost for excise as livestock transporters not eligible for rebate. Animal welfare and OHS estimated at a further 10% (40% in total) to meet new time off water and driver fatigue requirements for transported livestock, i.e. total government related cost of $644 - $322 freight and $322 for animal welfare.
Marketing charges (e.g. agent fees)		
Fuel, oil and grease	11,730	Excise: fuel used on-farm is assumed to be diesel and eligible for primary producer rebate, no cost incurred.
Electricity	1,923	To some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total cost i.e. $385.
Contracts	6,660	Labour on-costs: 15% of total contract value i.e. $1,000.
Interest	20,230	
R&M or Buildings and Plant	14,310	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations i.e. $1,431.
Hired labour - wages	4,405	This figure is net of superannuation and OHS costs which are presented in the rows below
Hired labour - other (super A)	801	Superannuation is legislated: total cost is applicable.
Hired labour - workers' comp.	134	OHS is legislated: total cost is applicable.
Accounting	3,874	Tax and superannuation compliance cost - total is applicable

Item	Specialist Sheep Australia $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Bank and Legal Fees	1,052	Included at 100% for consistency with Heilbron
Other Services and Admin Costs	23,197	
Shire rates - land	6,670	Included at 100% for consistency with Heilbron
Licensing and permits	958	Includes water licences, 100% relevant
Land leasing rent	3,150	Leasing of additional land to offset production lost through clearing restrictions and spray buffers – 100% of this cost included as regulatory related.
Land maintenance or Landcare	524	Land stewardship is underpinned with regulation controlling invasive plants/animals, include 100%
Vehicles, plant hire, equip leasing	4,000	Vehicle registration-costs: estimated at $1,500 for a single vehicle
Other cash costs	5,576	
Total cash costs	**$166,560**	
Cash surplus	**$43,531**	

Source: PAA analysis of public and private data

As with the beef producer representative industry analyses, the above ABARES data does not include time taken to comply with government regulation – an estimated cost of $4,000 per annum.

3.1.5 Qualitative Analysis of Regulatory Benefits

Many sheep producers readily acknowledge that product values have increased over the past decade and that their industry has realised some benefits from government regulations and requirements which also benefit the wider Australian community. Some of the major regulatory areas relevant to specialist sheep production and identified through the case study are summarised in Table 15 below.

Table 15: Benefits Attributable to Government-influenced Costs and Charges – Sheep Production

Regulation Type	Industry Benefits	Community Benefits
Animal welfare	Retention of the industry's good corporate citizenship standing	Increase in utility for those concerned about the humane treatment of sheep
Carbon pricing and abatement	Opportunities to sequester carbon (According to the literature these are minor under current initiatives)	A lower carbon emission Australian economy. Reduced risk of increased global temperature in the future.
Disease control	Healthy, and in the long term more profitable, livestock	Improved animal welfare outcomes. Food security e.g. major loss in sheep meat production would be

Regulation Type	Industry Benefits	Community Benefits
		associated with an exotic disease outbreak.
Environment	Retention of the industry's good corporate citizenship standing	Incremental reductions in air, soil, water pollution and improved local amenity.
Food safety	Consumer confidence in sheep meat and additional long term sales.	Improvements in community health.
Indigenous	N/a	N/a
Land use	Nil.	Incremental additional biodiversity along with the benefit of any additional carbon capture and storage
Labour on-costs	Coverage in the event of a work related accident. Superannuation to fund employee retirement	Better outcomes for people employed in the industry. Lower costs for compensating injured workers' and old age pensions
Regulation of the industry, inspection fees and industry levies	Revenue streams for red meat marketing, research, development and disease control.	Spillover benefits associated with industry R&D.
Transport	Excise on fuel – Nil	Excise on fuel – general government revenue for community priorities.
Utilities	Controls that prevent price gouging on electricity	Revenue from state owned utilities plus controls that prevent price gouging on electricity.
Rates	Services including maintenance of property access roads	Revenue for local services
Miscellaneous regulatory costs	Registration – safe personal vehicles	Registration – safe vehicles on public roads.

Source: PAA analysis

Qualitative regulatory benefits for sheep producers follow the same generic profile as for beef producers.

3.1.6 Summary and Conclusions

From the above analysis it can be estimated that government influenced costs totalled **$30,158** ($26,158 in cash costs and $4,000 for imputed compliance labour). This total cost estimate is equivalent to:

- 14.4% of enterprise revenue of $210,090
- 18.1% of enterprise expenses of $166,560

Significant cost items include land use, labour on-costs, rates and compliance – time taken to comply.

3.2 Sheep Producers – NZ

3.2.1 NZ Industry Overview

Consistent with the Heilbron (2001) report, the NZ comparison for the sheep producer sector uses the sheep & beef sector all farm classes model from Beef + Lamb New Zealand Economic Service (B+LNZ). This financial model has been supplemented by the farming compliance cost survey undertaken by Nimmo-Bell for the New Zealand Ministry of Agriculture and Forestry (MAF) in 2006-07. The sheep & beef farm is the most typical configuration in the NZ agricultural sector apart from the dairy farm. Data for this grouping is drawn from both the North and South Islands, with particular emphasis to significant lamb-producing regions in Canterbury and Hill country.

3.2.2 Analysis Description

The basic metrics of the 2008-09 sheep & beef farm model is outlined in Table 16.

Table 16: Sheep & beef farm model parameters (2008-09) – NZ

Farm Class	All classes
Number in Sample	**542**
Effective Area (Hectares)	**649**
Labour Total	**1.68**
Total Stock Units at Open	**4,046**
Stock Units per Ha	**6.2**
Economic Farm Surplus $ per hectare	**40.99**
Economic Farm Surplus $ per stock unit	**6.58**
Rate of Return on Total Farm Capital %	**0.5**
Equity as % of Total Assets	**78**

Source: Beef + Lamb New Zealand - Economic Service

3.2.3 Representative Industry Analysis – Sheep Producers 2008-09

Table 17 shows revenues and expenses for an average sheep & beef (S&B) farm.

Table 17: Sheep & beef farm government-influenced costs and charges (2008-09) NZ

Item	NZ $	NZ $ cost	Effect of regulation, extent of effect and type of regulation
Revenue Per Farm			
Wool	32,089	684	Industry levy wool $684 (wool levy collected 2008-09 averaged over 12,880 S&B farms; $0.0525/kg)
Sheep	166,153	858	Industry levy sheep $858 ($0.40/hd x sheep slaughter averaged over 12,880 S&B farms)
Cattle	79,830	1,523	Industry levy cattle $424 ($3.40/hd x beef cattle slaughter averaged over 12,880 S&B farms); TB cattle slaughter levy $1,523 (AHB beef levy income 2008-09 averaged over 12,880 S&B farms; $11.50/hd); cattle revenues grossed up by TB slaughter levy.
Dairy Grazing	16,485		none
Cash Crop	41,685	333	industry levy arable sector 0.8% of sales for herbage seed, grain and seed crops (cereals, pulses etc); 0.8% x 41,685 = $333
Others	21,145	-	none
Total Gross Revenue	**357,387**		
Expenditure Per Farm			
Wages	19,317	2,762	Mandatory non-wage costs holidays, superannuation, and ACC is 14.3% x 19,317 = $2,762

Item	NZ $	NZ $ cost	Effect of regulation, extent of effect and type of regulation
Animal Health	13,750	281	One of two tags for compliance as farmers will still use a tag for identification. Cost of a tag for beef and dairy beef calves less dairy heifers and bobby kill averaged over 12,880 farms = $281
Weed & Pest Control	10,180	-	none; Ministry for the Environment is conducting a study on HSNO compliance costs in the form of higher product prices and ease of access to new products
Shearing Expenses	15,842	2,265	Contractor wages hence non-wage mandatory cost is 14.3% x 15,842 = 2,265
Fertiliser	35,950	-	none, fertiliser levy funded by fertiliser company
Lime	4,456	-	none
Seeds	5,843	-	none
Vehicle Expenses	10,545	416	vehicle registration costs - assume 1 diesel 4WD ($323), 1 tractor and trailer ($62), 1 ATV ($31)
Fuel	11,101	3,564	Fuel duties, taxes & levies: Petrol $0.48/litre; diesel $0.36/litre; ave price 2009 diesel is $1.09/litre and petrol is $1.69/litre. Diesel (80% of $11,101 is $8,880/1.09 = 8,148 litre x 0.36 = $2,933); Petrol (20% of $11,101 is $2,220/1.69 = 1,314 litre x 0.48 = $631); Total is $3,564
Electricity	2,816	10	Electricity levy $.00186/kwh = 0.35% = $10
Feed & Grazing	14,357	-	none
Irrigation Charges	2,371	-	none similar to treatment of Heilbron report where water rates are paid in rates and that irrigation is uncommon for S&B farms.
Cultivation & Sowing	4,288	-	none
Cash Crop Expenses	3,536	-	none
Repairs & Maintenance	20,578	-	none as building code related costs will be reflected in capital expenditure
Cartage	5,579	899	road user charge $0.43/km x 2,090km/year to processors = $899
Administration Expenses	9,891	5,586	$4,909 external advisors cost in 2006 adjusted for producer price index (inputs) for S&B farming to 2009 (13.8% inflation) = $5,586
Total Working Expenses	**190,400**		
Insurance	4,758	559	$559 for fire and Earthquake Commission levies
ACC Levies	2,104	2,104	total applicable = $2,104; $1.31 per $100 of payroll/earnings
Rates	9,040	9,040	total applicable = $9,040
Managerial Salaries	2,336	334	mandatory non-wage cost is 14.3% = $334
Interest	56,586	-	none
Rent	10,432	-	none
Total Standing Charges	**85,256**		
Total Cash Expenditure	**275,656**		
Depreciation	25,266		
Total Farm Expenditure	**300,922**	**31,218**	
Farm Profit before Tax	**56,465**		

Source: Beef + Lamb New Zealand - Economic Service; NimmoBell analysis

3.2.4 Time taken for compliance

The compliance cost survey in 2006-07 for 223 sheep & beef farms showed an average of 164 hours per year spent by sheep & beef farmers for compliance-related tasks (Nimmo-Bell, 2006). The number of hours increased in 2008-09 due to the introduction of the superannuation scheme KiwiSaver in 2007. This is evidenced in the last Business New Zealand Compliance-KPMG Compliance Cost Survey[6] in 2008 which reported a large rise in compliance cost for the primary sector. Conservatively, 164 hours is used and valued in 2008-09 by inflating the farmer hourly rate of $40 in 2006 to 2008-09 using the Statistics New Zealand labour cost index for the agriculture industry group. The estimated value in 2008-09 at an adjusted hourly rate of $43.70 (up by 9.3%) is $7,168.

3.2.5 Qualitative Analysis of Regulatory Benefits

Government assistance relevant to the sheep sector includes the following measures:

- In 2008-09 the New Zealand Government (through the Foundation of Research Science and Technology; FRST) granted $10.4m in scientific funding towards 10 projects directly related to the sheep industry. This funding encompassed $3.55m for forage and pasture research (3 projects), $2.05m for animal health research (3 projects), $2.27m for reproduction/productivity research (2 projects), $1.09m for animal welfare/market access research (1 project) and $1.43m for a project involved with research into wool products (FRST, 2011).
- In 2008, the NZ government (through MAF) provided $1.4m in grants to 11 projects directly linked to the sheep industry as part of the Sustainable Farming Fund (SFF) initiative. In 2009, the SFF provided $2.3m in funding to 15 projects directly linked to the sheep industry. The SFF provides funding for community groups to conduct applied (on-farm) research and technology application in response to localised problems and opportunities (MAF, 2011a).
- A degree of government funding and assistance is available in the event of adverse climatic events and natural disasters. This assistance may range from deferment of tax payments and personal financial assistance (i.e. assistance to cover living expenses), through to special recovery measures in which the government may cover the cost of rebuilding/re-establishing uninsurable infrastructure, pastures or crops and clean-up costs in the case of a large scale event (to a maximum of $250 000 per farm business). The government also provides funding for a network of Rural Support Trusts which continually operate in rural areas (MAF, 2011b). Widespread drought in 2008 meant that the government provided rural assistance payments to a number of farmers throughout the country, although exact figures for 2008-09 are unavailable.
- The NZ government has also provided funding for research through Climate Change Research Grants. In 2008-09, $10.5m of funding was allocated to research projects involved with mitigating NZ's agricultural carbon footprint. Of this funding, $3.7m was specific to forestry and dairying, leaving $6.8m of funding having some link to the sheep industry. The government has also funded a range of statistical studies to calculate the contribution of agricultural industries towards greenhouse gas production (MAF, 2011c).
- The Agricultural Industry Training Organisation (Ag ITO) receives funding from the government's Tertiary Education Commission. In 2009, this funding equated to approximately $1,500 per trainee. In 2009, Ag ITO had 872 trainees enrolled in its Sheep and Beef courses (AG ITO, 2010), equating to approximately $1.3m in funding aimed towards the sheep and beef industry.
- In 2009, the government established a bonding scheme to encourage veterinarian graduates to work in rural areas in which a shortage of veterinarians exists. The majority of these areas are in remote, sheep farming regions. A total of 30 new places is made

[6] Business New Zealand-KPMG Compliance Cost Survey, October 2008.

available each year, with the scheme providing a taxable payment of $11,000 per veterinarian, every year, for up to five years (MAF, 2011d).

Assistance beyond the farm gate includes the following measures. In May 2009, government agency FRST committed $8.36m over six years to the Ovine Automation Project, a joint funded project with the meat processing industry to develop automated sheep processing technologies. The project plans to develop 'state-of-the-art sensing and robotic technology to fully automate the early stages of sheep processing including removing the pelt and the internal organs' (FRST, 2009). In March 2011, the Ovine Automation Consortium announced that it was ready to commercially release two robotic machines as a first step towards a more automated sheep meat process (MSI, 2011).

In addition, the Primary Growth Partnership (PGP) is an initiative in which industry and government co-fund significant research and innovation projects. Since its inception in 2009, the PGP has provided just over $105m of government funding to three projects directly involved with the sheep industry. A project involved with the development of an integrated value chain for the red meat sector received $59.5m in government funding, with an additional $91.5 m in funding provided by industry. A project aimed at the expansion of Merino sheep production received $36m in government funding, coupled with $15m in industry funding. A project to develop new nutrient/fertilizer products received $9.75m in government funding, along with $19.5m from industry (MAF, 2011e).

Finally, in 2011, a contestable $850,000 fund was established to provide funding for projects that increase red meat sector profitability and international competitiveness. Government agency New Zealand Trade and Enterprise (NZTE) provided 50 percent of the fund, and industry group Beef + Lamb New Zealand provided the other 50 percent (NZ Herald, 2011).

3.2.6 Summary and Conclusions

The above analysis indicates an estimate of government-influenced costs and charges totaling $38,386 ($31,218 in cash costs and imputed farm labour of $7,168) is made for NZ sheep producers in 2008-09. This estimate is equivalent to:

- 10.7% of enterprise revenue of $357,387
- 12.7% of enterprise expenses of $300,922

Fuel excise duties, taxes and levies, along with rates, formed the main regulatory cost components, followed by labour on-costs. To some degree the absence of state based charges (no state boundaries in NZ) contributes to the lower level of regulatory costs.

4 LIVE EXPORT SECTOR

Heilbron 2001 did not address the live export sector so it is not possible to discuss changes over time to this sector's cost structure. However, over the past ten years, livestock exports have been subjected to significantly increased government regulation in an effort to improve animal welfare outcomes. This culminated in the introduction in 2011 of a new regulatory framework that will impose significant additional costs on Australian livestock exporters. This analysis provides an estimate of the impact of government-influenced costs and charges in 2008-09, prior to the introduction of the new regulatory framework.

4.1 Live Export Cattle

4.1.1 Analysis Description

This analysis addresses the impact of government-influenced costs and charges on Australian live cattle exporters. It is based on a relatively large-scale Northern Australian operation exporting cattle to South East Asia.

4.1.2 Representative Industry Analysis – Live Cattle Exporters 2008-09

The impact of government-influenced costs and charges on Australian exporters of live cattle to South East Asia is analysed in Table 18 below.

Table 18: Live Cattle Exporters from Northern Australia – Government-influenced Costs and Charges 2008-09

Item	Live Cattle Exporter $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Receipts from export sales:		
100,000 head @ $960/head	96,000,000	Almost all cattle are exported on a CIF basis.
Total receipts	**96,000,000**	
Cash costs:		
Cattle purchased – 100,000 head @ $615/head	61,500,000	Cattle are purchased delivered to the assembly depot, with dipping cost, agent's commission, insurance and transport paid by the vendor.
Assembly depot fee @ $2/head	200,000	Although cattle would usually be assembled at some point prior to export, this is now an AQIS requirement, and cattle would now spend 4 days rather than 3 in a depot to facilitate AQIS inspection – an estimated 25% of cost attributable to AQIS regulation.
Fodder costs in depot @ $12/head	1,200,000	Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transport regulations: estimated at 10% of total fodder cost. Also as explained immediately above, 25% of fodder costs attributable to AQIS regulation.
Ear tag – tag + labour @ $1.05/head	105,000	Became a regulatory requirement in 2011 under the NLIS.

Item	Live Cattle Exporter $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Third party veterinarian @ $3.50/head	350,000	AQIS requirement
Road transport to port @ $13/head	1,300,000	Includes 30% excise on fuel, and estimated 10% of total freight cost to meet animal welfare and OHS regulations.
Port and wharf charges @ $4/head	400,000	
Stevedoring charges @ $4/head	400,000	
AQIS charges @ $2.50/head	250,000	Australian Government charge
LiveCorp levy @ $0.0095238/kg	300,000	A compulsory levy backed by Australian Government regulations
Sea freight @ $130/head	13,000,000	Estimate that sea freight costs are 25% higher than would otherwise be the case because of AQIS and AMSA regulation (e.g. stock density requirements)
Fodder for voyage @ $18/head	1,800,000	As per immediately above 25% due to AQIS and AMSA regulation
Stockman @ $300/day x 30 voyages annually x 6 days	54,000	AQIS requirement
Livestock manager	150,000	Includes regulatory costs – superannuation and workers' compensation.
Livestock buyer	120,000	Includes regulatory costs – superannuation and workers' compensation.
Administration – including office rental & expenses, general management, accounting and business administration, and sales, marketing and documentation	1,800,000	Estimated that 25% of total administration costs result from compliance with various regulations – tax and superannuation laws, corporations law, industrial laws, AQIS regulations, export documentation regulations, etc
Total Costs	**82,929,000**	

Source: PAA analysis

4.1.3 Summary and Conclusions – Live Cattle Exporters

Government-influenced costs and charges for a large live cattle exporter in 2008-09 are estimated as follows:

Item	Costs
Assembly depot fee	$50,000
Fodder in depot	$600,000
Third party veterinarian	$250,000
Transport to port	$325,000
AQIS charges	$250,000
LiveCorp levy	$300,000
Sea freight	$3,250,000

Item	Costs
Fodder during voyage	$450,000
Stockman	$54,000
Super and workers' comp	$60,000
Administration	$450,000
1 man-year extra*	$100,000
Total	**$6,139,000**

Source: PAA analysis

* Exporters estimate that it takes the equivalent of an additional staff position to comply with the numerous government regulations.

This total cost estimate of $6,139,000 is equivalent to:

- 6.4% of enterprise revenue of $96,000,000
- 7.4% of enterprise expenses of $82,929,000

The percentage of enterprise revenue and expenses accounted for by government-influenced costs and charges is low for live cattle exporters compared with, for example, northern Australian beef producers where the percentages were 11.3% and 12.6% respectively for revenue and expenses. However the export of live cattle is a trading enterprise where over 70% of total costs are incurred in the purchase of cattle for export. Government-influenced costs and charges account for almost 30% of costs incurred after the purchase of livestock.

In addition to the regulatory costs and charges included above, AQIS can, from time to time, impose conditions on the granting of an export permit that increase the cost of a shipment. For example, AQIS can impose lower stocking densities at times of the year when there may be a higher risk of heat stress causing unacceptable mortality levels during shipment (and there is a ban on shipping Bos Taurus cattle from below the 26th parallel to the Middle East during the Australian winter). AQIS can also require that an AQIS registered veterinarian accompany livestock on long haul (over 10 days) voyages.

4.2 Live Export Sheep

4.2.1 Analysis Description

This analysis addresses the impact of government-influenced costs and charges on Australian live sheep exporters. It is based on Australian exporters of live sheep from Western Australia to the Middle East.

4.2.2 Representative Industry Analysis – Live Sheep Exporters 2008-09

The impact of government-influenced costs and charges on Australian exporters of live sheep from Western Australia to the Middle East is analysed in Table 19 below.

Table 19: Live Sheep Exporters from Western Australia to the Middle East – Government-influenced Costs and Charges 2008-09

Item	Live Sheep Exporter $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Receipts from export sales:		
1,000,000 head @ $125/head	125,000,000	Sheep are exported to the Middle East on both a CIF and a FOB basis, but CIF is used in this case study.
Other (wool, manure) @ $0.2/head	200,000	
Total receipts	**125,200,000**	

Item	Live Sheep Exporter $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Cash costs:		
Sheep purchased – 1,000,000 head @ $66/head	66,000,000	Sheep are purchased delivered to the assembly depot, with agent's commission, insurance and transport paid by the vendor.
Assembly depot fee @ $3/head	3,000,000	Although sheep would be assembled in a depot prior to loading AQIS require they spend an extended period in the depot to allow for adjustment to pellet feed and to cull shy feeders and other unsuitable stock from the shipment – estimate 50% of cost attributable to AQIS regulation.
Fodder costs in depot @ $5/head	5,000,000	Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transport regulations: estimated at 10% of total fodder cost. Also as explained immediately above, 25% of costs attributable to AQIS regulation.
Third party veterinarian @ $0.10/head	100,000	AQIS requirement
Road transport to port @ $2/head	2,000,000	Includes 30% excise on fuel, and estimated 10% of total freight cost to meet animal welfare and OHS regulations.
Port and wharf charges @ $0.60/head	600,000	
Stevedoring charges @ $0.20/head	200,000	
AQIS charges @ $0.60/head	600,000	Aust Govt charge
LiveCorp levy @ $0.60	600,000	A compulsory levy backed by Aust Govt regulations
Sea freight @ $25/head	25,000,000	Estimate that sea freight costs are 25% higher than would otherwise be the case because of AQIS and AMSA regulation
Fodder for voyage @ $5/head	5,000,000	As per immediately above 25% due to AQIS and AMSA regulation
Stockman and veterinarian @ $0.30/head	300,000	AQIS requirement
Livestock manager	150,000	Includes regulatory costs – superannuation and workers' compensation.
Livestock buyer	120,000	Includes regulatory costs–superannuation and workers' compensation.
Administration, including office rental & expenses, general management, accounting and	1,800,000	Estimated that 25% of total admin costs result from compliance with various regulations – tax and superannuation laws, corporations law,

Item	Live Sheep Exporter $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
business administration, and sales, marketing and documentation		industrial laws, AQIS regulations, export documentation regulations, etc
Total Costs	**110,470,000**	

Source: PAA analysis

4.2.3 Summary and Conclusions – Live Sheep Exporters

Government-influenced costs and charges for a large live sheep exporter in 2008-09 are estimated as follows:

Item	Cost
Assembly depot fee	$1,500,000
Fodder in depot	$2,500,000
Third party veterinarian	$100,000
Transport to port	$500,000
AQIS charges	$600,000
LiveCorp levy	$600,000
Sea freight	$6,250,000
Fodder during voyage	$1,250,000
Stockmen & veterinarian	$300,000
Superannuation and workers' compensation	$60,000
Administration	$450,000
1 man-year extra*	$100,000
Total	**$14,210,000**

Source: PAA analysis

* Exporters estimate that it takes the equivalent of an additional staff position to comply with the numerous government regulations.

This total cost estimate is equivalent to:

- 11.3% of enterprise revenue of $125,200,000
- 12.9% of enterprise expenses of $110,470,000

The percentage of enterprise revenue and expenses accounted for by government-influenced costs and charges is low for live sheep exporters compared with, for example, Australian sheep producers where the percentages were 15.1% and 19.0% respectively for revenue and expenses. However the export of live sheep is predominantly a trading enterprise where 60% of total costs are incurred in the purchase of sheep for export. Government-influenced costs and charges account for 32% of costs incurred after the purchase of livestock.

In addition to the regulatory costs and charges included above, AQIS can also impose conditions on the granting of an export permit, which also increases the cost of a shipment. For example, AQIS can impose lower stocking densities at different times of the year when there may be a higher risk of heat stress causing unacceptable mortality levels during shipment.

Table 20: Benefits Attributable to Government-influenced Costs and Charges – Live Export Sector

Regulation Type	Industry Benefits	Community Benefits
Animal welfare	Retention of the industry's good corporate citizenship standing – live export sector now heavily monitored.	Increase in utility for those concerned about the humane treatment of livestock in transport.
Carbon pricing and abatement	Not applicable	Not applicable
Disease control	Livestock health and disease control are critical where animals are in close proximity en route to market via ship.	Improved animal welfare outcomes.
Environment	Retention of the industry's good corporate citizenship standing.	Incremental reductions in air, soil, water pollution and improved local amenity – important in an intensive industry generally located in more closely settled areas.
Food safety	Not applicable.	Not applicable.
Indigenous	Not applicable.	Not applicable.
Land use	Not applicable.	Not applicable.
Labour on-costs	Coverage in the event of a work related accident. Superannuation to fund employee retirement. Safe delivery of livestock.	Better outcomes for people employed in the live export industry. Lower costs for compensating injured workers' and old age pensions.
Regulation of the industry, Inspection fees and industry levies	Revenue streams for live animal marketing, research, development and disease control.	Spillover benefits associated with industry R&D.
Transport	Regulatory costs largely a reflection of improved animal welfare outcomes.	Improved standing in community.
Utilities	Not applicable.	Not applicable.
Rates	Not applicable.	Not applicable.
Miscellaneous regulatory costs	Registration - safe personal vehicles	Registration - safe vehicles on public roads

Source: PAA analysis

5 FEEDLOT SECTOR

5.1 Cattle Feedlots – Australia

5.1.1 Impact of Government-influenced Costs and Charges 1998-99

Heilbron (2001) did not identify public data for this sector but instead relied on private information from a number of feedlots.

Heilbron's research indicated that government-influenced costs and charges accounted for around 3.1%-3.3% of feedlot revenue in 1998-99. Major cost items were labour on-costs, meat-specific charges (cattle and grain levies) and utilities. Heilbron concluded that the cost imposition incurred by the Australian feedlot industry was similar to that incurred in the US for small feedlot operations (3.3% of revenue including environmental costs), but higher than was incurred by large commercial US feedlots (around 2.1% of revenue, excluding environmental costs).

Major areas of relative disadvantage for Australian feedlot operators were identified by Heilbron as being labour on-costs and meat specific charges including cattle and grain levies. There was little disadvantage in 'other costs' (includes environmental costs) and a slight advantage in utilities and fuel.

Yates *et al* (2002) modelled three sizes of commercial feedlots to determine the regional economic impact of feedlot investment – small (5,000 head capacity), medium (15,000 head) and large (30,000 head). The analysis showed amongst other points that environmental compliance costs were approximately $2.50/head of capacity and had been stable since 1991.

5.1.2 Review of Contemporary Data, Literature and Consultation Outcomes

5.1.2.1 ALFA

The Australian Lot Feeders' Association (ALFA) confirmed that no public economic studies had been completed for the Australian feedlot sector since Yates *et al* (2002) and that the report deliberately did not include gross margins or value chain analysis due to sensitivity by the industry at that time. Feedlotters are margin takers and will not provide this information and will certainly not allow it to be reported publicly. Providing this information would place feedlotters under margin pressure both from processors and, to a lesser extent, cattle producers.

5.1.2.2 Consultation

The following points were made in relation to feedlot regulatory costs following discussions with ALFA and feedlotters in NSW and Queensland.

- In the economics of feedlotting, it is the price of cattle and grain that count; the balance of costs, including labour, are less than 10% of total production cost.
- The biggest regulatory cost incurred by the feedlot sector is environmental management – odour, effluent, manure, noise, etc.
- Transport regulation is the next biggest cost impost for feedlotters, including chain of responsibility legislation, compliance and enforcement. State based livestock transport regulations impact different jurisdictions in different ways. For example it is difficult for feedlots to get B-double livestock truck access in NSW outside of the Newell Highway. By contrast, B double use is legal in virtually all parts of Queensland.
- Agricultural vehicle dimensions permitted on public roads also differ between states. Loading levels and requirements for the movement of harvesters and the transport of hay are also variable between states: Victoria has the most accommodating regulations in this regard. Driver fatigue legislation is a transport cost-related issue for the feedlot industry.

- Water is the third biggest regulatory cost impost for the feedlot industry (after environment and transport) i.e. administration costs associated with water licences and the uncertainty created by ongoing water reform.
- AQIS inspection charges are perceived as a cost to processors that are passed back to feedlotters.
- There is no legislation dictating animal welfare for the feedlot industry, the industry works to voluntary codes. Nevertheless there is the threat of compulsion behind these voluntary codes so it is appropriate to include them in the regulatory cost analysis.
- Regulation of chemicals through the Australian Pesticides and Veterinary Medicines Authority (APVMA) results in costs for the feedlot sector, principally animal health products. The process is complex and Australia is a small market, so it reportedly misses out on new medicines that would assist industry productivity. Mutual recognition i.e. if an animal health product is registered for use in the US, it is automatically acceptable for use in Australia, would add to the competitiveness of the Australian feedlot industry.

In contrast to the US, ALFA note that the Australian feedlot industry in 2012 now faces much more stringent animal welfare and environmental management costs. The US is now playing 'catch up' and regulation is being driven by activists and end-user requirements (e.g. McDonalds Restaurants supply chain certification requirements). The US situation is similar to Australia where regulations are imposed at the national, state and local levels. For example, California is heavily regulated and Texas is more lightly regulated. California also has legislated access to water, so the industry is unlikely to move to a lower regulatory environment like Texas.

5.1.3 Identification of Regulatory Cost Items for Analysis

Consultation and analysis identified the following cost items as a focus for the feedlot industry analysis:

- Cattle and grain levies
- Labour on-costs
- Utilities – electricity costs will be higher for larger feedlots that typically use steam flakers
- Utilities – water administration is the third largest regulatory cost after environment and transport
- Fuel – excise charges (net of any diesel rebate claimed)
- Environmental costs
- Transport – chain of responsibility legislation
- Biosecurity costs – low cost feed grain cannot be imported e.g. US corn
- AQIS inspection charges – passed back to feedlotters by processors
- Animal health – cost of getting chemicals registered
- Animal welfare – more stringent than the US

5.1.4 Representative Industry Analysis – Large Scale Cattle Feedlot 2008-09

This section of the study addresses the impact of government-influenced costs and charges on a large cattle feedlot with 25,000 head capacity and annual sales of 45,100 head. A separate analysis is prepared for a small scale cattle feedlot.

Consistent with Heilbron (2001) and ALFA requests, the analysis of the impact of regulation on the Australian feedlot sector is presented in terms of percentages rather than actual cash costs and receipts. The percentage based analysis was developed from private data for a feedlot of 25,000 head capacity and is set out at Table 21.

Table 21: Large Scale Cattle Feedlot: Government-influenced Costs and Charges – Costs as a Percentage of Revenue

Item	Percentage of Total Revenue (%)	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Feedlot's cattle sales	99.5	MLA transaction levy: $5/head on the 40% of sales that are not custom fed. NB: AQIS inspection charges may be 'passed back' to feedlotters depending on ruling elasticities. This cost is noted but due to its variable nature depending as it does on individual circumstances and time periods is not quantified in this analysis.
Other receipts (e.g. manure sales)	0.5	
Total revenue	**100.0**	
Cattle purchases	55.0	
Grain, roughage and other feed	28.0	GRDC levy of 0.99% estimated as a cost of compliance. Long term average cost of biosecurity regulations preventing the use of imported grain – estimated at 3% of long term average grain cost.
Transport – cattle in/out, fodder in and manure out	5.0	Fuel excise payable by transport company which also incurs costs associated with state regulations: estimated at 10% of total transport cost.
Animal health – chemicals, drugs and veterinarian	1.0	Costs associated with Australian registration and delay in registration of animal health products estimated to add 5% to total cost of chemicals.
Hired labour – wages, superannuation and workers' compensation	2.0	Superannuation is legislated and therefore a cost of compliance. OHS is legislated and the total cost is applicable.
Admin – accounting, audit and legal	0.3	Tax and superannuation compliance costs. Legal fees included for consistency with Heilbron.
Admin – insurance	0.2	
Admin – office	0.1	An estimated 10% of office time is required to comply with regulatory requirements
Rates and taxes - shire	0.0	Included at 100% for consistency with Heilbron
Rates and taxes – state payroll tax	0.1	Not included in the analysis for consistency with Heilbron
Registration – state for vehicles	0.0	Included as a state based / sub national

Item	Percentage of Total Revenue (%)	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		charge
Registration – ALFA	0.0	Not a government imposed cost.
Registration – other	0.0	
Services – phone, consultants, QA lab	0.0	
Repairs and maintenance – pens, water, waste management, plant, equipment and other	1.0	Estimate for waste management R&M is directly applicable to state based environmental compliance regulations.
Energy – fuel and oil	0.6	Excise: fuel used on-farm is assumed to be diesel and eligible for rebate, no cost incurred.
Energy – electricity	0.2	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). An estimated 15% of total cost is attributable to utilities regulation.
Water	0.1	Water is a significant regulatory cost for the feedlot industry i.e. administration-costs associated with water licenses and the uncertainty created by ongoing water reform – 50% of total water cost is estimated as attributable to environmental regulation.

Source: PAA analysis

5.1.5 Summary and Conclusions – Large Scale Feedlot

Government influenced costs and charges account for 2.7% of revenue in 2008-09. This is slightly lower than the estimate prepared by Heilbron for 1998-99 of between 3.1% and 3.3%. Significant cost items include disease control (biosecurity), environment (waste and water management), labour on-costs, industry levies, transport and compliance (time taken).

5.1.6 Representative Industry Analysis – Small Scale Cattle Feedlot 2008-09

The second feedlot analysis is for a small scale operation with 2,000 head capacity and annual sales of 7,425 cattle. Heilbron (2001) did not distinguish between large and small feedlot operations and there is no publicly available data on small scale cattle feedlots.

Analysis results for the small scale cattle feedlot using private data are presented in Table 22.

Table 22: Small Scale Cattle Feedlot: Government-influenced Costs and Charges – Costs as a Percentage of Revenue

Item	Percentage of Total Revenue (%)	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Feedlot's cattle sales	99.2	MLA transaction levy: $5/head on the 60% of sales that are not custom fed. NB: AQIS inspection charges may be 'passed back' to feedlotters depending on ruling elasticities. It is not quantified in this case study.
Other receipts (e.g. manure sales)	0.8	
Total revenue	**100.0**	
Cattle purchases	58.0	
Grain, roughage and other feed	30.0	GRDC levy of 0.99% estimated as a cost of compliance. Long term average cost of biosecurity regulations preventing the use of imported grain – estimated at 3% of long term average grain cost.
Transport – cattle in/out, fodder in and manure out	5.0	Fuel excise payable by transport company which also incurs costs associated with state regulations: estimated at 10% of total transport cost
Animal health – chemicals, drugs and veterinarian	2.0	Costs associated with Australian registration and delay in registration of animal health products estimated to add 5% to total cost of chemicals.
Hired labour – wages, superannuation and workers' comp.	1.8	Superannuation and OHS are legislated and are therefore costs associated with compliance.
Admin – accounting, audit and legal	1.0	Tax and superannuation compliance costs. Legal fees included for consistency with Heilbron.
Admin – insurance	<1.0	
Admin – office	<1.0	An estimated 10% of office time is required to comply with regulatory requirements
Rates and taxes - shire	<1.0	Included at 100% for consistency with Heilbron

Item	Percentage of Total Revenue (%)	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Rates and taxes – state payroll tax	<1.0	Not included in the analysis for consistency with Heilbron
Registration – state for vehicles	0.0	Included as a state based / sub national charge
Registration – ALFA	0.0	Not a government imposed cost.
Registration – other	0.0	
Services – phone, consultants, QA lab	0.0	
Repairs and maintenance – pens, water, waste management, plant, equipment and other	<1.0	Estimate for waste management R&M is directly applicable to state based environmental compliance regulations.
Energy – fuel and oil	<1.0	Excise: fuel used on-farm is assumed to be diesel and eligible for rebate, no cost incurred.
Energy – electricity	<1.0	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). An estimated 15% of total cost is attributable to utilities regulation.
Water	<1.0	Water is a significant regulatory cost for the feedlot industry i.e. administration-costs associated with water licenses and the uncertainty created by ongoing water reform – 50% of total water cost is estimated as attributable to environmental regulation.

Source: PAA analysis

5.1.7 Summary and Conclusions – Small Scale Feedlot

Government influenced costs and charges account for 3.2% of revenue in 2008-09. This is slightly higher than for large scale feedlots (2.7%) and reflects a lack of scale economies in meeting compulsory regulatory costs.

5.1.8 Qualitative Analysis of Regulatory Benefits

The benefits of regulation to the feedlot sector are summarised in Table 23 below.

Table 23: Benefits Attributable to Government-influenced Costs and Charges – Large Scale Cattle Feedlot

Regulation Type	Industry Benefits	Community Benefits
Animal welfare	Retention of the industry's good corporate citizenship standing – feedlot sector now seen as animal industry leader in NSW.	Increase in utility for those concerned about the humane treatment of cattle in feedlots.
Carbon pricing and abatement	Opportunities to improve feedlot efficiency e.g. lighting	A lower carbon emission Australian economy. Reduced risk of increased

Regulation Type	Industry Benefits	Community Benefits
	and mill operations.	global temperature in the future.
Disease control	Healthy livestock – critical in an intensive industry like feedlotting where disease may spread rapidly through large numbers of cattle.	Improved animal welfare outcomes.
Environment	Retention of the industry's good corporate citizenship standing. In the industry's early days there were problems with runoff and waste storage	Incremental reductions in air, soil, water pollution and improved local amenity – important in an intensive industry generally located in more closely settled areas.
Food safety	Consumer confidence in grain finished beef and additional long term sales.	Improvement in community health.
Indigenous	Not applicable.	Not applicable.
Land use	Clearing restrictions less relevant to the feedlot sector. Land use buffers may improve feedlot visual amenity.	Land use buffers around feedlots improve visual amenity.
Labour on-costs	Coverage in the event of a work related accident. Superannuation to fund employee retirement. Safe delivery of livestock and lower long term freight costs (e.g. transport insurance cost savings)	Better outcomes for people employed in the feedlot industry. Lower costs for compensating injured workers' and old age pensions. Safer roads with lower accident related costs.
Regulation of the industry, Inspection fees and industry levies	Revenue streams for red meat marketing, research, development and disease control.	Spillover benefits associated with industry R&D.
Transport	Fuel excise - nil	General government revenue for community priorities.
Utilities	Controls that prevent price gouging on electricity.	Revenue from state owned utilities plus controls that prevent price gouging on electricity.
Rates	Services including maintenance of property access roads	Revenue for local services
Miscellaneous regulatory costs	Registration - safe personal vehicles	Registration - safe vehicles on public roads

Source: PAA analysis

5.1.9 Summary and Conclusions

Regulatory costs for the feedlot sector are mainly related to environmental management, utilities and transport-embedded costs. The latter costs can also be linked to regulation of animal welfare and occupational health and safety. Small scale feedlots incur higher regulatory costs than large scale operations and costs overall appear to be higher than those identified in Heilbron (2001) particularly due to environmental compliance requirements.

5.2 Cattle Feedlots – US

Regulatory activity has increased significantly across US agriculture over the past three decades with the primary focus on the environment and, of course, food safety. Environmental regulations

have also affected packers and feedlots and are mainly concerned with air and water quality. More recent discussion has included climate change and the production of carbon gases.

In addition to the environment, other major regulatory activity includes food safety and testing trace-back, worker safety, immigration, marketing, trade, humane animal handling, livestock health and welfare, US federal grazing lands and compliance with transparent marketing laws.

5.2.1 US Industry Overview

There are about 77,140 feedlots in the US, with a combined one-time inventory of about 14 million head of cattle. An estimate 97% of these feedlots has a one-time capacity of fewer than 1,000 head, but they market only about 15% of the total number of fed cattle. The remaining 3% of the feedlots with a capacity over 1,000 head market 85% of the cattle.

From a regulatory cost standpoint, US feedlots are most impacted by environmental regulation. Concentrated Animal Feeding Operations (CAFO)[7] have become highly regulated in the US and much of the day-to-day operations at these establishments (aside from feed production and distribution to the cattle) is linked to the need to record, measure and advise regulators about environmental and energy data. This is apparent both on a federal and a state level. Most feedlots contacted during the course of the project commented that they have progressively improved their feedlots and completed the necessary investments in order to receive CAFO permits. One feedlot commented that it was difficult to nail down some of the ongoing costs associated with regulation, but it was clear that the obligation for record-keeping (and retaining proof of record-keeping) has increased significantly over the past decade. Two of the feedlots maintained that the record-keeping requirement for regulatory compliance has actually improved their record-keeping across the entire operation and helped to improve their businesses, particularly in relation to value-added programs like supply chain certification that must be tracked and documented. Invariably, these compliance costs at large commercial feedlots are absorbed into the feeding cost through the yardage fee. The largest cost to a feedlot and which has the greatest impact on competiveness is still the cost of the cattle.

The major US states in terms of marketing fed cattle are located in the Great Plains and Corn Belt regions as well as the southwest zone: Texas (25% of total fed marketings), Kansas (23%), Nebraska (21%) and Colorado (9%). Census data was aggregated for the states in the North Central and South Central regions. According to Meat & Poultry Facts 2011, cattle feedlots with capacity of 16,000 head or more marketed approximately 70.5% of all feedlot cattle in 2010.

5.2.2 Impact of Government-influenced Costs and Charges 1998-99

Heilbron provided a limited assessment of regulatory costs for the US feedlot sector in his 2001 report. He obtained public data from the USDA Census of Agriculture data for 1997 and supplemented this with private data from a small feedlot in the US[8] to conclude that regulatory costs (including environmental charges) accounted for approximately 3.3% of revenues for small feedlots and 2.1 % of revenues for large feedlot operations. The report did not break down these estimates by cost centres.

5.2.3 Review of Contemporary Data, Literature and Consultation Outcomes

The current study uses financial and business data from the 2007 Census of Agriculture with a total population of approximately 31,000 feedlots. This was supplemented by limited data from three feedlots, each with a capacity of 16,000 or more head.

5.2.4 Identification of Regulatory Cost Items for Analysis

Feedlot companies providing supplementary financial and business information for this report advised the three main regulatory burdens from their perspective are:

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[7] [7] Under USDA definitions, a CAFO has more than 1,000 animal units, and 1 beef cow = 1 animal unit.

[8] Heilbron 2001, p. 44.

- Environmental compliance – mainly compliance with federal EPA regulations which are, in the most part, administered by state counterpart bodies. These obligations relate to air, water and soil pollution, as well as traffic movement through semi-rural and low density urban neighbourhoods;
- Marketing transparency compliance – in regard to federal laws about sale prices for fed cattle, concentration of sales, destination for fed livestock; and
- Emerging food safety regulatory issues –lot feeders are increasingly obliged to collect and maintain records about antibiotic use in individual feedlot cattle, as well as bacteriological testing on live animals in order to supply pre-delivery data for livestock going through integrated supply agreements with fast food chains and other foodservice customers.

Using USDA Census data, Table 24 provides some basic information on typical US feedlot operations in the two most populous zones (North Central and South Central).

Table 24: USDA Census of Agriculture Data – Cattle Feedlots 2008-09

	ALL US	North Central	South Central
Survey population	31,065	9,800	7,100
Farm area (ha) average	201	215	210
Total cash receipts ($)	977,048	993,478	
Farm production expenses - average per farm ($)	917,419	886,430	
Farm cash income ($)	59,629	107,048	

Source: Meat and Poultry Facts 2010.

5.2.5 Analysis Description

Table 25 provides a breakdown of feedlot costs derived from the Agriculture Census 2007 of the feedlot industry. As noted above, feedlots with fewer than 1,000 head of capacity comprise the vast majority of US feedlots by number, but market a relatively small share of total number of fed cattle.

Table 25: US Beef Feedlot – North Central and South Central Aggregated ($)

Item	US Beef Feedlot Operations $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer cattle sales	926,258	Most enterprises would record revenue income from crop sales, however, their main revenue income would be derived from sale of livestock to other feeders or to beef packers.
Other receipts (mostly crop sales)	38,521	
Total receipts	**964,779**	
Cash costs		
Cattle / Other livestock purchases	563,979	
Fertiliser, seed, pasture, chemicals	13,028	

Item	US Beef Feedlot Operations $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Fodder	211,589	Rebate on diesel excise tax available to this category of business, therefore assume no cost incurred.
Seed and crop materials	5,404	
Freight	3,316	Rebate on diesel excise tax (federal and state) is usually available to livestock feeders and haulers, therefore assume no cost incurred.
Fuel, oil and grease	13,000	Combined federal and average state excise taxes for diesel fuel in 2008-09 were 12.6 cents/litre. Lotfeeders may apply for rebate on diesel usage on farm, therefore assumed, no cost incurred.
Utilities	14,705	Most utilities are deregulated and no government charges remain.
Interest	12,700	
R&M of Buildings and Plant	13,500	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations.
Hired labour - wages	18,888	Assume 10% of total for on-costs.
Hired labour – workers' compensation and Social Security.	4,300	Social Security and worker safety costs are legislated.
Contract Labour	990	
Accounting	1,000	Majority of tasks is to comply with state and federal tax compliance cost: total cost is applicable.
Property Taxes	2,700	Included at 100% for consistency with Heilbron.
Leasing (e.g. equipment)	880	
Land leasing rent	7,800	Lease payments payable to range land leases to Dept of Interior, particularly in western state regions. Lease may be for primary plots where enterprise is situated, or additional land may need to be secured for grazing. Assume 20% is relevant.
Vehicle registrations	690	Assume 100%
Other cash costs incl telephone, insurances, administration costs, marketing/agents fees, some of which are regulatory-related	29,749	Includes an estimated $11,000 p.a. of operating costs to address specific environmental issues including measuring and monitoring, manure management, air and water mitigation.

Item	US Beef Feedlot Operations $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Total cash costs	**908,218**	
Cash surplus	**56,561**	$24,489 Regulatory-influenced costs or approx. 2.4% of total revenue or 2.5% of cash costs

Source: PAA analysis of public and private data

5.2.1 Summary and Conclusions: Large Scale US Feedlot

The analysis shows costs related to labour employment, leases and record-keeping make up the bulk of the average feedlot's regulatory compliance costs. These costs were estimated to be equal to around 2.3% of revenue.

5.2.1 Representative Industry Analysis – Mid-sized US Beef Feedlot 2008-09

In addition to the Agriculture Census data, limited data was obtained from three large feedlots, each with a capacity of 16,000 or more head.

Confined Animal Feeding Operations have become increasingly contentious facilities in the US due to their perceived impact on local environmental features, impact on global warming and concentration of ownership. This situation made it difficult to get complete financial data for the specified period. Instead, feedlot operators were willing to provide estimates of regulatory costs as a percentage of total revenue levels for the 2008-09 year. These are shown in Table 26.

Table 26: US Beef Feedlots Mid-Scale (16,000 – 50,000 head capacity)

Item	Beef Feedlot Operations % of revenue	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Total receipts	100%	More than 98% of total revenue would be derived from cattle sales, with the remainder derived from crop sales and manure sales.
Cash costs		
Cattle / Other livestock purchases	55	
Fertiliser, seed, pasture, chemicals	0.01	
Fodder	24	Rebate on diesel excise tax available to this category of business, therefore assume no cost incurred.
Seed and crop materials	0.01	
Freight	1	Rebate on diesel excise tax (federal and state) is usually available to livestock feeders and haulers, therefore assume no cost incurred.
Fuel, oil and grease	0.05	Combined federal and average state excise taxes for diesel fuel in 2008-09 were 12.6 cents/litre. Lotfeeders may apply for rebate on diesel usage

Item	Beef Feedlot Operations % of revenue	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		on farm, therefore assumed, no cost incurred.
Utilities	2.5	Most utilities are deregulated and no government charges remain.
Interest	1	
R&M of Buildings and Plant	2	Estimated 10% of this cost incurred to meet the requirements of state based building codes and regulations.
Hired labour - wages	4	
Hired labour – workers' compensation and Social Security.	0.5	Social Security and worker safety costs are legislated.
Contract Labour	3	
Accounting	0.1	Majority of tasks is to comply with state and federal tax compliance cost: total cost is applicable.
Property Taxes	0.5	Included at 100% for consistency with Heilbron.
Leasing (e.g. equipment)	1	
Land leasing rent	0.4	Lease payments payable to range land leases to Dept of Interior, particularly in western state regions. Lease may be for primary plots where enterprise is situated, or additional land may need to be secured for grazing. Assume 20% is relevant.
Vehicle registrations	0.01	Assume 100%
Other cash costs incl telephone, insurances, administration costs, marketing/agents fees, some of which are regulatory-related	4.5	Addressing specific environmental compliance issues incl measuring and monitoring, manure management, air and water mitigation. Assume 20% of these costs.
Total cash costs	Not available	
Cash surplus	Not available	

Source: PAA analysis of public and private data

5.2.2 Summary and Conclusions – US Feedlots

The scale of US feedlot operations reflects the importance of the grainfeeding industry in the nation's beef complex. This is a highly competitive sector and comprises numerous operations well in excess of 100,000 head one-time capacity but also many with comparatively smaller livestock holdings than found in the Australian industry. The single biggest concern of this sector in regard to compliance obligations is the time and cost required for environmental reporting and compliance with CAFO regulations.

Regulatory costs are estimated to total around 2.2% of total revenue for larger US feedlotters and around 2.4% of revenues for the industry average with smaller holdings.

From the analysis above it can be estimated that government influenced costs totalled 2.2%-3.6% of total revenue for US feedlotters. Significant cost items include labour on-costs, property taxes and compliance – time taken to comply.

6 RANGELAND GOAT PRODUCERS AND HARVESTERS

6.1 Analysis Description

The goat sector was included in the Terms of Reference for the project as it has a distinct set of challenges regarding regulatory costs and only limited access to government support measures. The Australian goat industry has an estimated population of approximately 5.5 million head, comprising 5 million non-domesticated, or 'rangeland' goats, and the balance being farmed meat and fibre breeds.

The domestic market for goat meat is mainly confined to an ethnic customer base, with relatively low volumes of product available through mainstream retail markets. The export market for goat meat in Taiwan and Malaysia is somewhat volatile, with sudden price falls overseas effectively turning off the incentive for rangeland goat harvesters to supply animals for several months. Three enterprises (in NSW, WA and Qld) provided limited financial and production data. Each enterprise consisted of a holding yard business which handles 'unmanaged' or rangeland goats. The data provided an insight into the types of charges and costs which these businesses typically encounter.

6.2 Impact of Government-Influenced Costs and Charges 1998-1999

The Heilbron study did not address the rangeland goat sector. There has been relatively little work done on examining the costs associated with rangeland goat production.

6.3 Identification Of Regulatory Cost Items For Analysis

The rangeland (or 'unmanaged') goat production and harvesting sector is initially regarded as being largely unaffected by regulatory burden in the period under review. The main incursions from regulation relate to land use and to environmental management. Currently there is no requirement for rangeland goats to be individually identified and tagged prior to transport to the processing plant, however, industry observers expect this requirement to emerge in the short to medium term for consistency with other animals in the value chain. A high proportion of goats end up in export markets in the form of frozen carcases or frozen six-way cuts. Goats sent by truck to processors must be covered by a National Vendor Declaration (NVD).

Labour costs incurred in the sector mainly relate to direct labour used for mustering and separation tasks, including separating nannies from billies and then further separating for estimated weight ranges, poll qualities and conformation. Rangeland stock rarely require drenching or treatment for parasites. This means that labour costs tend to be lower for this type of operation than for extensive sheep production enterprises. In this instance the main regulatory imposts are in the form of labour on-costs.

Other regulatory imposts identified in the industry consultation include restrictions on vehicles' carrying weights for livestock transporters, with enterprises identifying significant discrepancies in enforcements of these standards between various states.

Also of interest is the need identified by several enterprises to lease additional land on which to run unmanaged goats. Tree-clearing laws have served to restrict long rotation or periodic clearing of mulga and other bush vegetation: reduced clearing means lower stocking rates and an increased need to source land elsewhere.

In addition, government authorities in Qld and WA are now requiring land condition assessments to be made for lease renewals in the marginal areas that have traditionally been associated with rangeland goat production. In Qld, for example, assessments are now required for rural leasehold land leases issued for terms of 20 or more years on areas of 100 hectares or more. A land management plan for three to five years may then need to be implemented: the plans are costly to commission and may entail taking some of the land out of production, besides introducing an air of uncertainty about the future of the lease itself. This may have follow-on implications for infrastructure investment levels.

A final issue raised in the consultation phase (but difficult to identify in the financial data), is the impact of tighter regulations on the use of poisons to control wild dogs in remote areas. Numbers of wild dogs and dingoes are reportedly increasing, with stronger regulations making it difficult to bait and trap them and this is perceived to be impacting the profitability of goat production enterprises.

While not included in the project's TOR, several regulatory issues at the processing level were briefly identified. The withdrawal from 1 July 2012 of government payment of AQIS fees was expected to have a major impact on profitability of goat processing. Impact of increases in electricity charges was also identified as a concern, together with higher costs for environmental licenses and truck registration fees for B-doubles and similar transport vehicles.

6.4 Representative Industry Analysis – Goat Producers 2008-2009

The representative enterprise in eastern Australia runs in excess of 15,000 'unmanaged' goats (so-called because the animals are present in large numbers on the property and require minimal inputs and husbandry). They are harvested up to five times per year depending on market demand and yield around 10,000 head annually off the property. Financial data for the enterprise is summarised at Table 27 below.

Table 27: Rangeland Goat Production and Harvesting: Government-influenced Costs and Charges 2008-09

Item	Rangeland Goats $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Producer goat sales (10,000 head)	380,000	
Other receipts	na	
Total receipts	**380,000**	
Cash costs		
Goat / Other livestock purchases	144,000	Top-up for contract for domestic market
MLA Levy	3,770	$0.377 cents/hd i.e. $3,770
Mustering, yarding, other work	9,990	Includes labour on-costs: 15% of total contracts value i.e. $1,498.
Supplementary Fodder	2,550	Fuel excise and fodder transport regulations. Fuel excise payable by fodder transport company which also incurs costs associated with state fodder transportation regulation – estimated at 10% of total fodder cost (NB: excise is 30% of fuel cost) i.e. $255
Freight	3,200	Excise and animal welfare: 30% of fuel cost for excise as primary producers are not eligible for rebate. Animal welfare and OHS estimated at a further 10% (40% in total) to meet new time off water and driver fatigue requirements for transported livestock, i.e. total government related cost of $644 i.e. $640 freight and $640 for animal welfare.
Fuel, oil and grease	36,000	Excise: fuel used on-farm is assumed to be diesel and eligible for primary producer rebate,

Item	Rangeland Goats $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
		no cost incurred.
Electricity	1,800	To some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total cost i.e. $360.
Interest	4,800	
Hired labour - wages	6,950	This figure is net of superannuation and OHS costs which are presented in the rows below
Hired labour - other (super A)	700	Superannuation is legislated: total cost is applicable.
Hired labour - workers' comp.	230	OHS is legislated: total cost is applicable.
Accounting	1,900	Tax and superannuation compliance cost - total is applicable
Bank and Legal Fees	460	Included at 100% for consistency with Heilbron
Other Services and Admin Costs	11,000	Office and administrative records maintenance, phone and communications.
Shire rates - land	5,100	Included at 100% for consistency with Heilbron
Licensing and permits	950	Includes water licences, 100% relevant
Land leasing rent	4,805	Leasing of additional land to offset production lost through restrictions on Mulga clearing and lower stocking rates – 100% of this cost included as regulatory related.
Land maintenance, Landcare or similar	580	Land stewardship is underpinned with regulation controlling invasive plants/animals, include 100%
Vehicles, plant hire, equip leasing	23,000	Vehicle registration-costs: estimated at $1,500 for a single vehicle
Other cash costs	2,900	
Total cash costs	**$264,685**	
Cash surplus	**$112,855**	

Source: PAA analysis of private data

6.5 Qualitative Analysis of Regulatory Benefits

There are minimal benefits payable through regulatory methods to the rangeland goat industry.

Production and mustering of these animals is mainly perceived to be a tool for reducing feral pests in remote and marginal country: there has been to date little research completed on the environmental benefits which may stem from rangeland goats e.g. weed control.

The research team was unable to identify regulatory assistance aimed specifically at this sector.

6.6 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalling **$26,208 ($26,168** in cash costs and $2,500 for imputed compliance labour**)** is made for goat harvesting operations in 2008-09. This total estimate is equivalent to:

- 6.98% of enterprise revenue of $380,000
- 8.8% of enterprise expenses of $267,145

Significant cost items for rangeland goat operations are land rates and leases as well as labour on-costs. The rangeland goat industry appears to have a higher than expected regulatory cost burden along with the challenges of a volatile set of international markets.

7 PROCESSING SECTOR

This section of the report examines the historical impact of government-related costs and charges in 1998-99. It then provides an analysis of the impact on revenue and expenses of government costs and charges for specialist beef processors in the period 2008-09. The assessment also provides a qualitative assessment of benefits associates with relevant costs and charges. The US beef processing industry is later addressed in the same approach. A similar analysis is presented for the lamb processing sector in Australia and NZ.

7.1 Beef Processing - Australia

7.1.1 Impact of Government Influenced Costs and Charges 1998-99

Heilbron's analysis in 2001 ranked the impact of regulatory costs by the scale of processing plant rather than type of species processed. His analysis noted the slim margins for the processing sector (estimated to be in the range of 2%-4%) and noted that the order of regulatory costs could for many firms be roughly equivalent to their operating profit before tax.

Heilbron used privately-sourced data for his analysis of Australian processors' regulatory costs. His report found Australian meat processors incurred government-influenced costs and charges equal to approximately 4%-5% of revenue (for larger plants) and up to 7% of revenue for smaller plants. Estimates of regulatory costs for service works (such as public sector/council works) were far higher, at around 25% of revenue. Table 28 presents the figures drawn from Heilbron's text.

Table 28: Processors (private, mixed species): government influenced costs and share of total revenue (1998-99)

Government Influenced Cost / Charge 1998-99	Share of Total Revenue (%)
Labour on-costs	4.0
Utilities	1.0
Inspection	0.7
Total Government Influenced Cost % of revenue	**5.7**

Source: ProAnd analysis of Heilbron 2001

In 1998-99, the major source of government-influenced cost according to Heilbron was labour on-costs, followed by utilities. Regulatory costs for animal welfare, environmental management, carbon issues or transport did not figure in the Heilbron report.

7.1.2 Representative Industry Enterprise - Large Scale Beef Processor 2008-09

Seven beef processors were consulted to ensure identification of the full range and impact of regulatory issues. Financial data was obtained for three plants, each operating as a single-species, export-registered facility.

This example of a representative industry enterprise is a beef processing company which operates a beef-only facility in northern Australia. It operates two shifts per day and slaughters approximately 170,000 cattle per year. The facility is export-registered and comprises a slaughtering and boning operation. It employs approximately 480 workers.

Table 29: Regulatory Costs for Large Scale Beef Processor - Australia

Item	Beef Processor $	Effect of regulation, extent of effect and type of regulation (from consultation)
Revenue - Sales and Charges	**$290,000,000**	
Costs:		
Cost of Livestock	220,000,000	Includes $1,100,000 as representative of combined regulatory costs in livestock purchases e.g. NLIS, documentation, impact of trucking restrictions
Bank charges	12,826	100% as compatible with Heilbron
Contract Hire	4,209,132	Assume 10% as on-costs and other charges ($420,900).
General Employee Costs	158,196	
Fuel & Water	730,000	
Energy	1,423,119	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total i.e. $285,000
Environmental Costs	267,061	Comprises annual testing obligations, development of monitoring plans and annual returns, National Pollutant Inventory (NPI) returns, laboratory tests for water and soil, etc.
Fees	103,303	Licenses and inspection fees
Freight	398,000	Excise applicable in this case: $71,640 with fuel costs assumed to be 60% of total charges (primary producer rebate not relevant to livestock transport companies).
Inspection costs	415,911	100%. Routine plant inspection and product inspection costs
Insurances	861,323	Includes fire and property insurance
On-costs leave	2,450,180	100% mandated
On-costs payroll	933,253	100% mandated
On-costs superannuation	2,176,728	100% mandated
On-costs training	294,814	Training and skilling courses
On-costs workers' compensation	784,806	Compulsory for workplace-100%. Includes premiums and other charges in line with WC provision
Labour	$16,000,000	
Land Taxes	11,708	100% as compatible with Heilbron
Leases	103,623	
Legal/accounting	154,910	Assume 50% to ensure compliance with regulatory obligations.
Levies	370,216	Slaughter levies-100% regulatory cost.
MV fuel	84,146	Fuel excise tax applicable $25,240: rebate not available to this sector.
MV leases	101,923	Assume 3% as stamp duty costs.
Office expenses	1,573,949	Incl motor vehicle registration at $400 each= $6000
OHS	1,540,160	100% related to regulatory cost. Includes clothing, personal protection equipment, other non-capital purchases
Production costs	10,245,660	

Export market quota	2,190	Company purchases quote to enable shipment to selected markets. Quota scheme administered by govt: 100%
Repairs & Maintenance	3,121,477	
Rates	17,587	Assume 100% as with Heilbron; rates on premises plus irrigation areas maintained by company.
Salaries	$4,400,000	(on-costs included in items above).
TOTAL COSTS	$272,946,201.00	Total regulatory costs amount to $11,043,468

Source: PAA analysis of private data

7.1.3 Identification of Regulatory Cost Items for Analysis

Consultation with beef processors identified a range of issues and concerns not in existence during Heilbron's time. Regulatory requirements have been introduced to manage issues such as animal welfare, worker safety, livestock identification and environmental factors. Often, the financial impact of the new regulations is difficult to estimate, as these are more likely to involve additional tasks or reporting obligations, rather than direct payments to a government authority or department. Several regulatory issues require additional worker and staff training and education to gain competency and accreditation: aside from training fees, there is also the cost of substitute labour to be considered. Therefore the range of regulatory imposts which must now be met by processors has grown substantially and no longer relates simply to industry funding, food safety and hygiene as identified by Heilbron, but also encompasses social good issues and environmental reporting obligations and liabilities, as well as duty of care obligations as illustrated by driver fatigue regulations and other provisions in this category.

Regulatory impact from fuel excise charges, labour on-costs and inspection/food safety costs are the major points identified in this enterprise's financial data. Excise charges relate to fuel used in delivery vehicles and livestock transporters, in addition to the company's passenger vehicle fleet.

Reforms of the export meat inspection system will likely result in fee increases of up to 70% for some processors as AQIS moves towards a fully cost recovered arrangement within the framework of the new Australian Export Meat Inspection System. The cessation of the partially government-funded inspection programme proved a challenging issue for all processors contacted and could be expected to significantly impact processors' costs in the 2011-12 year and beyond.

Recent changes in worker health and safety provisions, along with requirements for more staff to be educated in health and safety training issues and awareness have also served to increase compliance costs for processors.

Environmental costs were an obvious source of regulatory cost and time-consuming compliance obligations. Meat processing facilities are required to be licensed by state environmental bodies and must submit annual (sometimes quarterly) reports on water and soil tests. Increases in production levels may require license amendment in regard to wastewater volumes. Annual reports for federal departments are also required in the form of National Pollutant Inventory (NPI). From 2010 plants are also required to provide estimates of greenhouse gas emissions under regulations relating to the carbon tax and greenhouse gas mitigation. Preliminary estimates of levies payable under the carbon tax legislation were being calculated during the course of the investigation for this project and form an entirely separate literature.

7.1.4 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalled $11,043,468 is made for a large scale beef processor in Australia in 2008-09. This total estimate is equivalent to:

- 3.8% of enterprise revenue of $290,000,000
- 4.1% of enterprise expenses of $272,946,201

Significant cost items for the processors are labour on-costs, industry levies and charges, embedded costs in livestock transport charges, environmental monitoring and reporting charges as well as provisions for worker safety and animal welfare.

7.1.5 Representative Industry Enterprise - Medium Scale Beef Processor – Australia

The following example of a representative industry enterprise is a beef processing company which operates a beef-only facility in southern Australia. It operates one shift per day and slaughters approximately 95,000 cattle per year. The facility is export-registered and comprises a slaughtering and boning operation. It employs over 250 workers.

Table 30: Regulatory Costs for Medium Scale Beef Processor, Australia

Item	Beef Processor $	Effect of regulation, extent of effect and type of regulation (from consultation)
Revenue - Sales and Charges	**$57,000,000.00**	
Costs:		
Cost of Livestock	41,000,000	includes $1,000,000 as representative cost of NLIS, documentation and transport regulatory burdens.
Bank charges	2,840	100% as compatible with Heilbron
Contract Hire	51,000	Assume 10% as on-costs and other charges ($5,100).
General Employee Costs	70,000	
Fuel & Water	401,000	assume 10% regulatory costs
Energy	516,000	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total i.e. $103,200
Environmental Costs	27,630	Comprises annual testing obligations, development of monitoring plans and annual returns, NPI returns, laboratory tests for water and soil, etc.
Fees	65,000	Licenses and inspection fees
Freight	23,000	Excise applicable in this case: $6,900 with fuel costs assumed to be 60% of total charges (primary producer rebate not relevant to livestock transport companies).
AQIS Inspection costs	249,000	100%. Routine plant inspection and product inspection costs
Insurances	61,840	Includes fire and property insurance
On-costs leave	496,320	100% mandated
On-costs superannuation	532,755	100% mandated
On-costs training	72,000	Training and skilling courses
On-costs workers' compensation	99,000	Compulsory for workplace-100%. Includes premiums and other charges in line with WC provision
Labour	$4,454,000	
Land Taxes	5,980	100% as compatible with Heilbron
Leases	75,000	

Item	Beef Processor $	Effect of regulation, extent of effect and type of regulation (from consultation)
Legal/accounting	123,000	Assume 50% to ensure compliance with regulatory obligations.
Levies	475,000	Slaughter levies-100% regulatory cost.
MV fuel	25,000	Fuel excise tax applicable $7,500: rebate not available to this sector.
MV leases	47,000	Assume 3% as stamp duty costs.
Office expenses	558,000	
OHS	145,000	100% related to regulatory cost. Includes clothing, personal protection equipment, other non-capital purchases
Production costs	1,595,000	
Repairs & Maintenance	1,750,000	
Rates	9,989	Assume 100% as with Heilbron; rates on premises plus irrigation areas.
Salaries	$1,125,000	(on-costs included in items above).
TOTAL COSTS	$54,055,354.00	Total regulatory costs amount to $3,372,064

Source: PAA analysis of private data

Regulatory costs were higher for this example, due mainly to the lower total revenue and the substantial contribution from environmental and labour on-costs. Inspection fees, labour on-costs and environmental management all registered as significant costs, as well as indirect regulatory compliance which is inherent in items such as livestock pricing and transport but which is difficult to quantify.

Table 31: Benefits Attributable to Government-influenced Costs and Charges – Australian Beef Processors

Regulation Type	Industry Benefits	Community Benefits
Animal welfare	Retention of the industry's good corporate citizenship standing.	Increase in utility for those concerned about the humane treatment of animals.
Carbon pricing and abatement	Opportunities to sequester carbon produced in processing and wastewater treatment.	A lower carbon emission Australian economy.
Disease control	Access to premium markets worldwide due to superior animal health and food safety standards.	High value for exports of beef and sheep meat products. Animal welfare enhanced.
Environment	Retention of the industry's good corporate citizenship standing.	Responsible management of water use and of air, soil and water pollution; local amenity protected.
Food safety	Consumer confidence in beef and additional long term sales.	Mitigate outbreaks of food-borne illnesses.
Indigenous	Not applicable	Not applicable
Land use	Not applicable	Not applicable

Regulation Type	Industry Benefits	Community Benefits
Labour on-costs	Coverage in the event of a work related accident. Superannuation to fund employee retirement. Safe delivery of livestock and lower long term freight costs (e.g. transport insurance cost savings)	Better outcomes for people employed in the industry. Lower costs for compensating injured workers and old age pensions. Safer roads with lower accident related costs.
Regulation of the industry, Inspection fees and industry levies	Revenue streams for red meat marketing, research, development and disease control.	Spillover benefits associated with industry R&D.
Transport	Safe delivery of livestock and lower long term freight costs (e.g. transport insurance cost savings)	General government revenue for community priorities.
Utilities	Controls that prevent price gouging on electricity.	Revenue from state owned utilities plus controls that prevent price gouging on electricity.
Rates	Services including maintenance of property access roads	Revenue for local services
Miscellaneous regulatory costs	Registration - Safe personal vehicles	Registration - Safe vehicles on public roads

Source: PAA analysis

7.1.6 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalled **$3,372,064** is made for a medium scale beef processor in Australia in 2008-09. This total estimate is equivalent to:

- 5.9% of enterprise revenue of $57,000,000
- 6.2% of enterprise expenses of $53,905,354

Significant regulatory cost items for this category of processor are labour on-costs, environmental monitoring and reporting charges, industry levies and systems along with provisions for worker safety and animal welfare. Regulatory costs for inspection systems and certification will increase in subsequent reporting years.

7.2 Beef Processing Sector – US

7.2.1 Impact of Government Influenced Costs and Charges 1998-99

Heilbron's 2001 report provided a limited description of regulatory costs for the US beef processing sector which was confined mainly to labour on-costs.[9] It estimated the impact of regulatory burden to be between 0.5%-2.0% of revenue. The report on processors' costs used mainly private data as well as imputed data from the Bureau of Labor Statistics for the year 2000-2001.[10]

[9] Heilbron 2001, p. 48.
[10] Heilbron 2001, p. 44.

7.2.2 Processing Industry Overview

There are 632 federally inspected beef plants in the U.S.[11] with 97% of the cattle processed through approximately 60 large plants that represent only around 3% of the total number of plants.[12] Consolidation has been a major characteristic in the US beef industry: the four largest beef packers process approximately 80% of the cattle. Much of this consolidation has been driven by the need to achieve economies of scale as costs have risen and the industry has aggressively restructured toward value-added product marketing.

Following the discovery in 2003 of a beast infected with BSE, the US was barred from many export markets. To re-gain access to those markets, the industry has made significant and costly adjustments. These adjustments are largely food safety interventions driven by regulations that show up on the cost side of the business, but can also be perceived as an investment in positive benefit towards value-added marketing. Costs tend to vary significantly across the industry not only between firms as might be anticipated, but also often between plants owned by the same firm. This makes analysis and comparisons about cost components between plants and firms somewhat difficult. Consolidation is the watchword for the packing industry and this is not only across the industry but also within a company.

Nominally, major firms in the US industry are involved to a high degree in further processing, particularly case-ready products, manufactured and cooked and cured products. To the greatest extent possible, processors which provided data for this report confined their observations and financial analysis to the slaughter and primary processing stages only of their operations to ensure compatibility with the Australian industry which features less value adding by the major processors than in the US industry.

7.2.3 Identification of Regulatory Cost Items for Analysis

Consultation with these enterprises identified that the dashboards of the relevant processing companies include the following regulatory issues:

- Compliance costs for environmental licenses
- Food safety and inspection obligations
- Worker health and safety costs
- Immigration law procedures and protocols
- Livestock pricing and oversight.

Lower order priorities include the following:

- Country of origin labelling
- Tracking livestock treated with antibiotics through the value chain
- Packer contracting and integrated supply chains
- Animal welfare
- California's Proposition 2 ballot initiative, seeking to regulate animal rearing practices.

7.2.4 Representative Industry Analysis – Large Beef Processor - US 2008-09

The data set presented here is from one of three beef slaughtering establishments as described in section 7.2.1 which provided data for the regulatory costs project. Each of the three plants had an annual slaughtering capacity in 2009 of between 100,000-250,000 head of cattle and do not process other species). As noted earlier in the report, approximately 61 federally-inspected plants handled around 97% of the US adult cattle kill of 32 million head that year.

Plants with a capacity of 100,000-250,000 head p.a. were targeted because they represent the median range of processors at around 200,000 head per annum per plant; there were almost 30

[11] American Meat Institute. Meat and Poultry Facts 2011.
[12] American Meat Institute. Meat and Poultry Facts 2011.

companies to approach (this reassured management their data would remain anonymous); and because they were considered to be representative of the US processing industry.[13] The three plants have different owners; have been under federal inspection for more than eight years; and each plant is owned by an entity that owns at least one other US processing plant.

[13] There are around 450 plants slaughtering fewer than 1000 head p.a. and around 23 'mega plants' each of which slaughters 500,000 or more head per annum.

Table 32: US Large Scale Beef Processor – Revenue and Selected Costs

Item	% of revenue	PAYEE/Issue
Total Revenue	100%	
Livestock Costs $275,000,000 [14]	70%	
Leases and rates, utilities	0.01	County rate and lease payments, assume 100% as consistent with Heilbron.
Meat inspection costs, testing requirements	0.07	FSIS (inspection, documentation e.g. health certificates) 100% applicable
Environmental licenses and agreements including environmental testing	0.5	State and federal EPA regulations including costs of licenses, reports, tests for air, soil, water , wastewater disposal and related issues 100% applicable
Reporting compliance costs	0.01	Staff time to comply with reporting obligations
Labour On-costs	1.7	Leave, Social Security, Medicare & workers' compensation plus pension, 100% applicable
Total	2.3%	

Source: ProAnd analysis of private data

7.2.1 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalling 2.3% of revenue is made for a large scale US beef processor in 2008-09.

Main regulatory cost items for this category are labour on-costs and environmental management. There is no explicit provision for industry levies and systems, nor for issues such as worker safety and animal welfare.

7.2.2 Representative Industry Analysis – Medium Scale Processor - US 2008-09

Table 33: US Medium Scale Beef Processor – Revenue and Selected Costs

Item	% of revenue	PAYEE/Issue
Revenue:	100%	
Livestock Costs	67.8	
Leases and rates, utilities	0.02	County lease payments.
Meat inspection costs, testing requirements	0.15	FSIS (inspection, documentation e.g. health certificates)
Environmental licenses and agreements including environmental testing	0.9	State and federal EPA regulations including costs of licenses, reports, tests for air, soil, water , wastewater disposal and related issues
Labour On-costs	1.9	Leave, Social Security, Medicare & workers' compensation plus pension
Total	2.8%	

Source: ProAnd analysis of private data

[14] Also see: USDA, Sales, Expenses and Operating Income of 4, 8 and 20 Largest Meat Packing Companies 2006-2009. Meat and Poultry Facts 2010.

Regulation arguably raises the cost structure of the US beef industry. From a practical standpoint, however, adjustments are made, mostly through consolidation and economies of scale. Economies of scale are extremely important in the US livestock industry and, more specifically, in the US beef processing industry.

In fact, the loss of many small packing plants during the late 1980s and into the early 1990s was the direct result of the packing industry's inclusion of the Hazard Analysis and Critical Control Point process (HAACP) as an industry standard to begin to effectively address food safety. Smaller plants were simply unable to absorb the added cost and closed as a result. While this may have been regrettable at the time, it can be argued many of these plants were old and would not have been able to comply with higher standard for food safety issues. While HAACP can be considered regulatory, it certainly has benefitted the industry and therefore, it can be argued it falls under the category of investment rather than cost.

From a global perspective and more specifically when addressing Australia and the US participation in global beef trade, there appear to be two critical factors: 1) comparative advantage in producing specific product and 2) currency values between major trading partners. The US has had an absolute comparative advantage in the world for producing grain-fed beef. While the industry has become more regulated, the value of the grain-fed beef produced has exceeded the cost associated with those regulations.

Capturing and furthermore, validating, the costs of regulation is difficult. With regard to global trade, while there are cost differences between countries in producing beef, where individual countries have a distinct comparative advantage, that comparative advantage has not been dislodged by regulatory costs. For the most part, comparative advantage in agriculture is driven by the base of natural resources and ability to produce crops. All the developed countries involved in meat production are increasingly affected by environmental and food safety regulation. And, lastly, the beef industry has become increasingly global in nature and currency values are critical.

7.2.3 Summary and Conclusions

From the above analysis an estimate is made of government-influenced costs and charges for a medium scale processor in the US of 2.8% of revenue.

The main regulatory cost items for processor of this scale is again labour on-costs, environmental monitoring and reporting charges.

7.3 Sheep Processing Sector – Australia

7.3.1 Impact of Government Influenced Costs and Charges 1998-99

Heilbron 2001 used privately-sourced data for his analysis of processor costs. His report found Australian meat processors incurred government-influenced costs and charges equal to approximately 4%-5% of revenue (for larger plants) and up to 7% of revenue for smaller plants. (Estimates of regulatory costs for service works were far higher, at around 25% of revenue.) Heilbron did not distinguish between beef-only and sheep-only processing plants.

In the intervening 10 years there has been considerably more specialization by species occurring in the industry to the point where the number of mixed species export -registered plants has fallen by 60% compared to 1999.

7.3.2 Representative Industry Analysis – Sheep Processing – Australia 2008-09

Table 34 provides financial data for a large scale sheep-only processor, export-registered, slaughtering in excess of 1 million head per annum. The combined regulatory costs for the enterprise of $6,387,300 was equal to 3.1% of cash costs or 2.7% of sales revenue.

Table 34: Regulatory Costs for Large Scale Sheep Processor, Australia

Item	Sheep Processor $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Revenue – Sales	230,000,000	

Item	Sheep Processor $	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Livestock costs	189,000,000	Include $1,090,000 as representative cost of documentation and transport regulatory burdens.
AQIS inspection	272,018	$272,018 100% regulatory cost. Routine plant inspection and product inspection costs
Bank charges	2,726	2726 100% compatible with Heilbron
Energy	282,391	Utilities: to some extent still regulated and subject to additional cost impost (e.g. renewable energy policy). Regulation impact estimated at 20% of the total i.e. $56,478
Environmental costs	207,700	$167,700 Comprises annual testing obligations, development of monitoring plans and annual returns, NPI returns, laboratory tests for water and soil, etc.
Freight	12,075	Excise applicable in this case: $3,622 with fuel costs assumed to be 60% of total charges (primary producer rebate not relevant to livestock transport companies).
Fuel & Water	243,876	$24,387 assume 10% regulatory costs
MV fuel	37,000	$11,100 Fuel excise tax applicable, rebate not available to this sector.
Insurance	101,501	
Leases	85,990	
Levies	225,000	100% mandated
Legal	28,353	
Licenses	105,333	
Office	145,915	
OHS	306,021	$306021 - 100% related to regulatory cost. Includes clothing, personal protection equipment, other non-capital purchases
Production Costs	574,983	
Repairs & Maintenance	1,040,550	
Training	75,687	75,687 Training and skilling courses.
Work Cover	48,748	48,748
Salaries	4,500,000	
Labour	8,500,000	
On-costs superannuation	1,170,000	1,170,000 100% mandated
On-costs Work Cover	595,000	595,000 100% mandated
On-costs Leave	1,625,000	1,625,000 100% mandated
On-costs payroll tax	643,500	643,500 100% mandated
Total cash costs:	$209,829,367.00	Regulatory cost total of $6,337,300

Source: PAA analysis of private data

From the above analysis it can be estimated that government-influenced costs totalled $6.337 million**.** The focus areas of regulatory burden for sheep processors was very similar to those identified for beef processors, with inspection fees and charges as well as labour on-costs forming the bulk of the imposts. There was discussion from some processors that lamb inspection costs are more onerous on a per head basis due to sheep-specific diseases however this was difficult to quantify. The impact of changes to costing for the AQIS inspection system from 2011 will undoubtedly have an impact on the percentage of revenue paid for these services. It is interesting to note that costs associated with environmental management and licence compliance equaled less that 1% of total cash costs, although many most processors find these requirements to be particularly burdensome and time-consuming to manage effectively.

7.3.3 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalled **$6,337,300** is made for a lamb processor in Australia in 2008-09. This total estimate is equivalent to:

- 2.7% of enterprise revenue of $230,000,000
- 3.1% of enterprise expenses

Significantly, the above analysis suggests that regulatory costs for sheep meat processors has in fact declined compared to the costs reported in Heilbron. Moreover, estimated compliance costs for sheep meat processors were some 1%-1.3% lower than for beef processors included in the report This is surprising as there has been a gradual increase over the period in labour on-costs (for example compulsory superannuation contributions rising from 6%-9%). It is difficult to identify other areas of difference because the earlier report did not supply any disaggregation of costs. This may be an area for further investigation.

7.4 Sheep Processing Sector - NZ

7.4.1 Impact of Government Influenced Costs and Charges 1998-99

Heilbron presented a limited set of data for the NZ processing industry in the 2001 study, gathered exclusively from private sources. The data covered mixed species processors and concluded that NZ firms were ‘‘probably operating under an effectively lower burden of charges than their Australian counterparts overall’ (Heilbron 2001 p 45). The Heilbron study also concluded that NZ firms’ inspection costs were considerably higher than those for Australian firms and represented around 1.2%-3.1% of their revenues, and included direct costs of inspection as well as indirect costs such as MAF running costs for international negotiations, legal costs, etc. (The NZ industry moved to a full user-pays inspection scheme some years ago.) At the same time, Australian industry’s inspection fees were only partly ‘recovered’ (approximately 30% or less) from companies. Heilbron did not note other regulatory costs apart from inspection fees and utilities (approximately 1.8%-2% of total revenues). No data about the level of labour on-costs was provided.

7.4.2 Government influenced costs and charges

The cost of compliance in the NZ meat sector for 2008-09 is based on information from three major lamb processing companies which comprise approximately 75% of the country’s total sheepmeat production. This information was supplemented by the off-farm business compliance cost survey undertaken by the New Zealand Institute of Economic Research for the Ministry of Agriculture and Forestry (NZIER, 2007). The report applied the same framework as the Nimmo-Bell (2006) study on farming compliance costs.

The metrics of the relevant meat companies consulted in the project are outlined in Table 35.

Table 35: Summary of key NZ meat processors

Enterprise No.	Ownership	Employee numbers (peak)	Key export markets	No. of Sheep Processing Plants
1	Co-operative	7,000	US, EU, UK, China	>5
2	Co-operative	5,500	UK, Middle East, EU, US	>5
3	Private	3,000	Japan, EU, Taiwan, Australia, UK, US	<5

Source: company publications and industry records

Processors reported that the primary regulatory issue which is problematic for their enterprises relates to resource management, specifically the provisions of the Resource Management Act 1991 (RMA) as it affects their businesses. The RMA addresses the sustainable management of

natural and physical resources in NZ but has reportedly imposed greater liability for businesses from myriad factors occurring in their operations, including for example:

- Air and water emissions from skin and hide processing;
- Disposal of effluent from livestock trucks delivering animals for slaughter;[15]
- Requirement for Resource Consents for virtually all types of works on-site which also entails costly consulting time with local authorities and councils in preliminary stages; and
- Extended delays before Consents are issued.

Amendments to the Act in 2009 reportedly did little to ease the regulatory burden on processors.

Non-wage costs (or labour on-costs) were estimated to be between 2.1%-3.0% of revenue. Total workers' compensation costs (e.g. ACC levy and related costs) equated to 0.5% of revenue while compulsory superannuation – KiwiSaver[16] - and holiday/leave entitlement taken as a sum were around 2.6%-2.7% of revenue.

Information provided by processors indicated the total costs related to meat inspection at their export facilities was in the range of 1.02%-1.06% of total 2008-09 revenues. Together with mandatory industry slaughter levies to Beef & Lamb New Zealand, as well as payments to AsureQuality (a privatised inspection scheme), these payments totalled around 1.1%-1.8% of total turnover, lower than the amount identified by Heilbron for 1999. This may be partly attributable to greater company revenue in 2008-09 but would also likely be associated with increased integration of inspection requirements into company employees' procedures and tasks, compared to the previous time period.

Table 36 shows government-influenced costs and charges as a percentage of total revenues of the meat companies for 2008-09.

Table 36: Lamb processor government-influenced costs and charges – NZ (2008-09)

Item/Area of Focus	NZ Lamb Processor $NZ	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Revenue – Sales $'000	1,500,000,000	
Total operating costs including livestock $'000	1,475,000,000	
Transaction levy	3,200,000	Sheep levy of 40 cents/head
Environmental costs	5,375,000	Compliance with Resources Management Act; water. Includes external consultants, testing and monitoring, application fees and other.
Meat inspection and food safety	8,000,000	Cost of meat inspection services from B +L NZ; provision of vets and inspectors, area management. Costs of testing and operating costs for equipment, external consultants.
Motor Vehicle fuel: fuel excise taxes and Road User Levies	$17,500,000	Approx. $0.60/litre tax as fuel excise tax; additional Diesel use attracts Road User Charge (RUC) of approx. $220/1,000 km travelled. 0.2%. No rebate applicable.

[15] Stock Effluent From Trucks: Resource Management Guidelines For Local Authorities. The National Stock Effluent Working Group. July 2010. Accessed at http://www.rcaforum.org.nz/assets/working-groups/national-stock-effluent-working-group/resource-management-guidelines/PlanningGuidelines.pdf

[16] KiwiSaver denotes compulsory contributions to employee superannuation account or complying fund of 2% of employee's gross salary or wage.

Item/Area of Focus	NZ Lamb Processor $NZ	Effect of regulation, extent of effect and type of regulation (from literature and consultation)
Labour on-costs-workers' compensation (ACC levy and related costs)	7,000,000	ACC levy (workers' compensation); non-wage costs account for approx. 12%-15% of labour costs.
Labour on-costs-leave and superannuation	11,000,000	Compulsory contributions of 2% of wages/salary to KiwiSaver, (superannuation) plus holiday/leave payments.
Other compliance costs e.g. safety and health	$5,550,000	Combination of other costs attributed to regulatory compliance requirements
Estimated total compliance costs:	$58,715,000	

Source: PAA analysis of private data

All three processors nominated that extensive capital investment have been and will be required to comply with new compliance requirements that have emerged in the past five years. On an enterprise basis, the provisions of the new Emissions Trading Scheme (ETS) will require in the order of $8 million - $10 million to meet compliance requirements. These will include mitigation of greenhouse gas emissions from existing wastewater treatment schemes.

7.4.3 Time taken for compliance

The compliance cost survey in 2007 that included 11 large processing firms (51+ workers on a FTE17 basis) showed an average of 2,323 hours per year spent by firms for compliance-related tasks (NZIER, 2007). The hourly rate used is $NZ43.70 consistent with the approach of the NZIER (2007) study which applied the farmer-owner hourly rate. The adjusted cost per large firm in 2008-09 is estimated at $101,515.

7.4.4 Summary and Conclusions

From the above analysis an estimate of government-influenced costs and charges totalled **$47,625,0000** is made for a lamb processor in NZ in 2008-09. This total estimate is equivalent to:

- 3.2% of enterprise revenue of $1,500,000,000
- 3.0% of enterprise expenses

Resource management costs, industry charges and labour on-costs form the majority of sheep processors' regulatory burdens.

[17] FTE – full-time equivalent

8 GOVERNMENT ASSISTANCE TO MEAT AND LIVESTOCK PRODUCTION

8.1 Background on Government Assistance from Heilbron (2001)

Heilbron noted that assistance for agriculture had increased internationally in the 1990s and that the gains of the Uruguay Round (which had entailed improved market access, reduced export subsidies and less domestic assistance), were being eroded, especially by increased market price support measures.

Heilbron identified two types of assistance:

- Financial assistance – payments from government programs to producers and processors
- Economic assistance – assistance via supporting prices above market prices for outputs or below market prices for inputs

Heilbron's main basis of comparison for assistance to livestock producers was the Producer Support Estimate (PSE) in 1999 as measured by the Organisation for Economic Co-operation and Development (OECD), and reproduced in Table 37.

Table 37: Producer Support Estimates – 1999 (Heilbron)

	Beef per tonne	Beef %	Sheep per tonne	Sheep %
Australia	A$52.20	2.7	A$33.90	2.5
NZ	NZ$21.90	1	NZ$8.90	0.4
US	US$90.70	3.5	US$415.90	12.8
European Union	ECU 2674	60.1	ECU 2839	53.8

*Of farm receipts

Heilbron also reported that the General Service Support Estimate (GSSE) for Australian agriculture in 1999 was A$802 m (A$578 m for R&D; A$161 m in infrastructure assistance; A$47 m for inspection services; A$10 m in marketing and promotion). For the US the GSSE was estimated at US$ 21.579 billion and for NZ NZ$190 m.

The Heilbron report collected information on assistance received from government by feedlotters and meat processors when collecting cost data from these sectors, and also checked with relevant government departments for details of assistance being provided to these sectors. However no detailed comparative data regarding support was provided in the Heilbron report for feedlotters or processors. Heilbron did note that feedlotter assistance was likely to be similar to that provided to producers and provided some examples of assistance provided to processors in the US, and by the NSW Government to processors in that state.

Heilbron recommended that industry should focus Australian trade policy on increasing the scope and accuracy of information on assistance provided by state and local governments (sub-national governments) internationally, in order to ensure that trade negotiations to reduce subsidies can properly take such assistance into account. It also urged government to ensure OECD and WTO have sufficient resources to accomplish this aim.

8.2 OECD Data[18] on Government Assistance to Agriculture

The project team used OECD data sources to provide a basis for international comparison of support for producers. The OECD provides data at two levels:

- It provides a Total Support Estimate (TSE) for the agriculture sector of each member country, disaggregated into Producer Support Estimate (PSE), General Services Support Estimate (GSSE), and Consumer Support Estimate (CSE).
- A PSE estimate only is provided for the main commodities within the agriculture sector, including beef production and sheep production.

Recent estimates were obtained from OECD to update the information on assistance measures provided by Heilbron. These comprise:

- The publication Agricultural Policies in OECD Countries – Monitoring and Evaluation published in 2009 which provides commentary and data on trends in assistance to agriculture across the OECD and for each OECD member country. It includes data on the two indicators used by Heilbron – PSE and GSSE – and also CSE and TSE for the periods 1986-88, 2006-2008, 2006, 2007, & 2008.
- Detailed spreadsheets by OECD for Australia, NZ and US to provide the PSE (including its various elements) for the beef and sheepmeat sectors for each year from 1986 to 2009.

8.3 Broad Trends in Government Assistance to Agriculture

The OECD reported that producer support (as measured by PSE) was, in 2008, at its lowest level since 1986, although this was largely due to the very high agricultural commodity prices then prevailing rather than explicit policy reform. Producer support provided by all OECD members totalled US$265 billion, equivalent to 21% of gross farm receipts for OECD producers. This was down from 22% in 2007.

Total support for the agricultural sector, including PSE, GSSE, and CSE was estimated to average US$368 billion for 2006-08, equivalent to 0.9% of OECD GDP. Although this was down from 2.5% in 1986-88, this primarily reflected agriculture's declining share of GDP.

There have been some, generally positive, changes in the way support is provided to the agricultural sector in OECD countries, particularly in the important area of decoupling support from production:

- Less support is provided on the basis of commodity output or variable input, and increasingly provided on the basis of historical or fixed levels of parameters such as land area or livestock numbers. An important contributor to this improvement has been the narrowing of the gap between domestic and border prices – down from 50% in 1986-88 to 16% in 2006-08.
- Payments are less tied to production of a specific commodity, and increasingly made without any obligation to produce any commodity (although notably the OECD finds that commodity-specific support remains significant for some livestock products, along with rice and sugar).
- Support is becoming increasingly tied to requirements that producers follow certain practices in pursuit of broader objectives such as environmental protection, animal welfare or food safety. In 1986-88 support with such ties comprised only 4% of OECD aggregate PSE, but this had risen to 32% in 2006-08.

[18] The OECD publication covers data from OECD members Australia, European Union, Canada, Iceland, Japan, Korea, Mexico, New Zealand, Norway, Switzerland, Turkey, US.

Despite these improvements, the OECD noted that support based on output (including border protection measures) and support based on unconstrained use of variable inputs still accounted for 56% of OECD aggregate PSE in 2006-08. It also noted that reform was uneven across countries and there was a wide range of producer support levels across OECD members – NZ 1%, Australia 6%, US 10%, Canada 18%, EU 27%, Japan 48%, and Korea 61%.

8.4 Changes in Government Assistance to Agriculture in Australia – 1986-88 to 2006-08

Australian agriculture receives the second lowest level of government support of all OECD countries, second only to NZ. In Australia, while government assistance to the agriculture sector has remained low and trended downwards over the past 20 years, there have been significant shifts in the type of assistance provided.

Table 38: Government Assistance to Agriculture in Australia

	1986-88 A$ million	2006-08 A$ million
Total value of production at farm gate (TVP)	19,888	40,016
Producer support estimate (PSE)	1,327	2,696
PSE as a % of TVP	7%	6%
General Services Support Estimate (GSSE)	132	1,132
Research & Development	132	619
Inspection Services	0	86
Infrastructure	0	411
Marketing & promotion	0	14
GSSE as % of TSE	10%	32%
Consumer Support Estimate (CSE)	-547	-250
Transfers to producers from consumers	-424	-1
Transfers to consumer from taxpayer	-123	-240
CSE as % of consumer expenditure on agricultural commodities	-7%	-1%
Total Support Estimate (TSE)	1,337	3,578
Transfer from consumers	424	9

	1986-88 A$ million	2006-08 A$ million
Transfer from taxpayers	913	3,576
TSE as % of GDP	0.44%	0.33%

Source: PAA analysis from public data.

Annual total government support for Australian agriculture increased from just under A$1 billion in 1986-88 to just over A$3.5 billion in 2006-08. However, as a proportion of Australia's GDP, support declined from 0.44%-0.33%. There were a number of significant changes in the type of support provided:

- Although direct producer support (PSE as a % of TVP) remained relatively low and stable, there was a big decline in the most distorting forms of support – output linked support – and greater use of support not specific to a commodity.
- A higher proportion of support was provided by way of R&D and infrastructure expenditure. The percentage of TSE provided through general services (GSSE) increased from 10% in 1986-88 to 32% in 2006-08.
- Costs imposed on consumers declined significantly from 7% in 1986-88 to 1% in 2006-08 largely as a result of liberalisation of the dairy sector in 2000.
- Almost all support now comprises much more transparent transfers from taxpayers to producers, rather than transfers from consumers to producers via price support schemes.

8.5 Comparison of Government Assistance to Agriculture in Australia, US & NZ

OECD provides a comprehensive set of measures, at the agricultural sector level, to allow the level and type of support provided to producers in Australia to be compared with that provided to producers in the US and NZ, two major competitors in international beef and sheepmeat markets.

Table 39: Government Assistance to Agriculture in Australia, US and NZ – 2006-08

	Australia $A million	US US$ million	New Zealand NZ$ million
Total value of production at farm gate (TVP)	40,016	254,548	15,755
Producer support estimate (PSE)	2,696	29,473	147
PSE as a % of TVP	6%	10%	1%
General Services Support Estimate (GSSE)	1,132	42,830	272
GSSE as % of TSE	32%	43%	65%
Consumer Support	-250	20,087	-87

	Australia $A million	US US$ million	New Zealand NZ$ million
Estimate (CSE)			
CSE as % of consumer expenditure on agric commodities	-1%	9%	-3%
Total Support Estimate (TSE)	3,578	99,390	419
TSE as % of GDP	0.33%	0.72%	0.24%

Source: PAA analysis from OECD data

Overall, the US provides approximately double the level of government assistance to its producers compared with Australia, while NZ provides significantly less assistance than both countries.

Both the US and NZ (especially) governments provide a higher percentage of their support for their agriculture sector by way of general services than does the Australian Government. Both, like Australia, provide a much higher percentage of this type of support than in the past: US 27% in 1986-88, 43% in 2006-08; NZ 21% in 1986-88, 65% in 2006-08.

In US, 77% of general services support was for marketing and promotion in 2006-08, an area of support seen as much less important by the Australian and NZ governments that have concentrated their support more on R&D and infrastructure.

8.6 Comparison of Government Assistance to the Livestock Production Sectors in Australia, US and NZ

As previously mentioned the OECD provides Producer Support Estimate (PSE) data for commodities within the agriculture sector. PSE data is available for each year from 1986 to 2009 for cattle and sheep producers in Australia, and for cattle producers in the US, and sheep producers in NZ. The data confirms that historically livestock producers in all three countries have received very low levels of direct government assistance, dropping to zero levels in recent years.

The PSE data, comparing Australian and US beef producers, and Australian and NZ sheep producers, can be summarised as follows:

Support to Beef producers

Australia - zero direct government assistance from 1986 to 2009

US – low level PSE as % of farm gate production from 1986 to 1993 (1986 1.31%, 1987 2.17%, 1988 to 1992 negative or less than 1%, 1993 1.8%) and thereafter negative or zero NB Direct payment subsidies in the US for grain production (particularly corn) distort the generally low level of PSE to the beef sector.

Support to Sheep producers

Australia – low level PSE as % of farm gate production from 1986 to 1990 (1986 1.48%, 1987 0.89%, 1988 1.67%, 1989 1.96%, 1990 2.91%), thereafter, following the demise of the wool reserve price scheme, zero

NZ – zero direct government assistance from 1986 to 2009

Although livestock producers in the US no longer receive direct government assistance, they are likely to benefit indirectly from assistance provided for other agricultural products. In particular

they are likely to benefit indirectly from government assistance provided to producers of a large number of crops, including fodder crops such as corn, sorghum, wheat, barley, and oats, as indicated in the US Census of Agriculture farm financial data.

The current Farm Bill, legislated in 2008, provides significant levels of assistance for the cropping sector in the US. This assistance covers a wide range of crops including all the major livestock fodder crops. It comprises two primary forms of assistance:

a) Direct payments that are tied to an established set of crops, base acres and yields for an eligible producer. They are not based on producers' current production choices. The direct payment rates for the major fodder crops are (in US$):

    - Corn - $0.28 per bushel ($7.56/metric tonne)
    - Sorghum - $0.35 per bushel ($9.45/metric tonne)
    - Wheat - $0.52 per bushel ($14.04/metric tonne)
    - Barley - $0.24 per bushel ($6.48/metric tonne)
    - Oats - $0.024 per bushel ($6.48/metric tonne)

b) Counter-cyclical payments, that effectively set minimum price guarantees for each crop. These minimum prices are set at relatively modest levels – for example, as at the end of May 2012 the current wheat price is US$6.80 per bushel, while the 'target price' under the counter-cyclical payment scheme is US$4.17 – so payments are likely to be made only rarely.

Some livestock producers in the US may also benefit from other provisions of the Farm Bill – for example through the disaster assistance program, the market loss assistance program, or through subsidised loan programs. Producers (including livestock producers) in Alaska, Hawaii, Puerto Rico, and the Pacific island territories administered by the US ('geographically disadvantaged' producers) are reimbursed a proportion of their costs of transporting their inputs or products. However these other provisions of the Farm Bill would provide only a very small amount of assistance to US livestock producers.

The current Farm Bill expires in September 2012. The 2012 Farm Bill is in the final stages of the legislative process, but its final form is still unclear because of the current highly volatile political environment in the US, and the immense pressure to reduce the Federal budget deficit. The situation is further complicated by the provision for automatic across-the-board budget cuts that will come into effect in January 2013 as a result of a failure of the Democrats and Republicans to reach a compromise on a deficit reduction strategy earlier this year. It is inevitable that budget pressures will significantly reduce the level of government assistance provided in the 2012 Farm Bill to the US farm sector. In a speech in late 2011, the USDA Secretary, Tom Vilsack, identified the following priories for the new Bill:

a) A safety net for producers affected by natural disasters
b) Research and development to improve agricultural productivity
c) Support for locally driven conservation projects
d) Promoting strong agricultural markets at home, and abroad

Secretary Vilsack also indicated on-going support for the nutrition programme (subsidised meals for the poor) and for the biofuels program. There was no mention of on-going direct assistance and minimum price support for the cropping sector. The strong message was that assistance will be 'more targeted and more limited in the future'.

8.7 General Information on Government Assistance to Agriculture

OECD data does not always account for some types of government assistance provided at farm level in Australia, particularly assistance from sub-national levels of government. It may not include some of the following assistance measures:

- Exceptional Circumstances Programmes (federal government)

- Federal and state expenditures related to the provision of information, training and services directly to farmers. This category includes technical assistance components of other programmes, such as conservation programmes
- Programs such as FarmBis which provide financial support for farmer participation in learning activities to improve business management and natural resources
- Fuel tax rebates for the production sector
- Deferral of interest charges on business loans in the agricultural sector
- Government payments related to animal identification systems and disease eradication programs

9 MAJOR AREAS OF REGULATORY IMPACT

This chapter brings together results from the analysis in Chapters 2 to 8 of representative industry enterprises to answer key questions posed in the study's terms of reference. The chapter includes:

- An analysis of regulation and Australia's international competitiveness;
- Opportunities to dismantle regulation;
- New regulations on the horizon; and
- Conclusions and recommendations on areas for further regulatory research.

9.1 Comparison of Results

9.1.1 Beef Production Northern and Southern Australia Compared to the US

Utilities, industry levies, labour on-costs and rates dominated Australian regulatory costs in 1998-99. In 2008-09 government influenced costs and charges are spread over a much wider set of interventions. While no single cost item constitutes a 'large' impact (i.e. greater than 5% of total enterprise revenue, multiple items constitute a 'medium' impact including land use, labour on-costs, transport (but only for the northern beef producer), rates (but only for the southern beef producer) and time taken to comply (but only for the southern beef producer). Total compliance costs for beef producers in the Australian situation are between 11.3% and 12.0%.

Beef producers in the US face slightly lower regulatory costs compared with Australian beef producers. Analysis of costs from the USDA's 2007 Census of Agriculture for the North Central and South Central regions (accounting for 81% total cow-calf operations) indicates that regulatory costs account for approximately 8.4% of total revenue. This is lower than the 10% estimated by Heilbron from the 1997 Census. By far the most significant regulatory cost is property taxes which account for 48% of total regulatory costs. Other areas of regulation that significantly affect costs for US cow-calf operators include state based building codes, social security and worker safety, state and federal tax compliance, and range land leasing.

9.1.2 Sheep Production in Southern Australia Compared to NZ

Heilbron identified utilities, rates and levies and labour on-costs as the major regulatory costs impacting Australian sheep producers in 1998-99. At this time regulatory costs were estimated at 18.3% of total farm revenue, and a crushing 56.8% of sheepmeat revenue – i.e. excluding wool and other farm receipts. In 2008-09 the impact of government influenced costs had declined somewhat, accounting for 14.4% of total enterprise revenue and 42.2% of sheepmeat revenue. The most significant cost items were land use, labour on-costs, rates, and the imputed cost of time taken to comply with government regulations.

NZ sheep producers incur significantly lower regulatory costs compared with Australian sheep producers. In 2008-09 government influenced costs were estimated at 10.7% of total enterprise revenue, slightly higher than the 9% estimated by Heilbron for 1998-99, although his estimate did not include the imputed cost of the time taken for compliance. NZ sheep producers do not face the land use costs imposed on Australian sheep producers, however they receive no rebates on fuel excise, and face similar costs such as rates, and labour on-costs.

9.1.3 Cattle Feedlots in Australia Compared to the US

Heilbron estimated that government charges accounted for 3.1%-3.3% of total revenue on the basis of 'private data from a number of large commercial feedlots' in Australia in 1998-99. By 2008-09 government influenced costs, for a large (25,000 head capacity) accounted for 2.7% of feedlot revenue, a slight decline from 10 years earlier. The most significant regulatory cost items were disease control, environmental management, labour on-costs, industry levies and transport. Not surprisingly, for a small feedlot of 2,000 head the regulatory cost impost increased to 3.2% of feedlot revenue.

In the US regulatory costs as a percentage of feedlot revenue is generally lower than for the Australian industry, partly as a result of the much larger scale of operations in the US where there are many 100,000 head capacity feedlots. Regulatory costs are estimated at 2.2% of feedlot

revenue for larger feedlots and at around 2.4% of revenue across the feedlot sector. Almost half of all regulatory costs relate to management and monitoring of environmental issues. Other significant regulatory costs include workers compensation and social security, property taxes, and land leasing.

9.1.4 Beef Processors in Australia Compared to the US

Using privately sourced data Heilbron estimated that, for 1998-99, large Australian meat processors incurred government regulatory costs equivalent to 4%- 5% of revenue, rising to up to 7% for smaller processors. Heilbron did not differentiate processors by species. Ten years later it is estimated that large beef processors were incurring regulatory costs equivalent to 3.8% of revenue. The major regulatory cost items were fuel excise, labour on-costs and inspection/food safety charges. Although the impact of regulatory costs has apparently declined slightly since 1998-99, processors identified a number of regulatory cost areas that did not exist at the time of Heilbronn's analysis – e.g. animal welfare, worker safety, animal identification, and some environmental issues. For medium scale beef processors in Australia, with operations about half the scale of large processors, regulatory costs accounted for 6.8% of revenue. Clearly many regulatory costs do not vary greatly with increased scale.

Heilbron's report provided only limited data on regulatory costs imposed on US processors, and estimated their impact at 0.5%-2.0% of revenue in 1998-99. Ten years later, US beef processors retain their significant advantage over Australian processors with respect to regulatory costs. Government influenced costs are estimated to account for only 2.3% of revenue for large US beef processors, and 2.7% for medium scale processors. US processors face relatively low inspection charges, but also have the advantage of larger scale on average compared with Australian processors. In addition US beef processors are producing mainly for the domestic market, whereas most Australian beef processors face the higher regulatory burden of export production. In the US the major areas of regulatory costs for beef processors are labour on-costs and environmental management.

9.1.5 Sheep Processors in Australia Compared to NZ

In Australia in 2008-09, a large scale, export registered sheep processor, slaughtering in excess of 1 million head per annum, incurred government influenced costs equal to 2.7% of revenue. The major regulatory costs were similar to beef processors – labour on-costs and inspection/food safety.

As mentioned above, Heilbron provided no separate estimates of processor regulatory costs by species, either for Australia or NZ. However he did state that, for 1998-99, that NZ processors were 'probably operating under an effectively lower burden of charges than their Australian counterparts overall.' This was despite his conclusion that NZ inspection charges were described as 'considerably higher' than for Australian processors. In 2008-09, government influenced costs are estimated to equal 3.2% of sheep processors' revenue. This is significantly higher than for Australian sheep processors, although the major regulatory cost areas are similar. For NZ sheep processors, fuel excise and labour on-costs are a combined 55%-60% of total regulatory costs. Inspection/food safety account for another 14% of these regulatory costs.

9.2 Time taken for regulatory compliance

Short of conducting a forensic accounting exercise (which would necessarily have reduced the access to the financial data which the project team had across a wide range of enterprises), it was difficult to accurately quantify the amount of time taken by producers, processors and feedlotters in complying with myriad regulatory reporting requirements. Instead, the study assessed the impact of time taken for compliance at enterprise level in terms of small, medium and large impact (as shown in the key at Table 40). This allowed some comparison between jurisdictions and between regulatory issues as to how much labour and time is required to meet regulatory obligations.

Table 40: Estimates of Time Taken to Comply, by Regulatory Focus

Area of Focus	Northern Beef Producer	Southern Beef Producer	US Beef Producer	Sheep Producer	NZ Sheep Producer	Feedlot Large	Feedlot Small	US Feedlot	Live Export Cattle	Live Export Sheep	Beef Processor	US Beef Processor	Lamb Processor	NZ Lamb Processor	Rangeland Goat Producer
Animal welfare									H	H	M	L	M	M	L
Carbon pricing															
Disease control						L	L		M	M	L		L	L	
Environment & Land Use	M	M	H	H	L	H	H	H			H	H	H	M	M
Food safety						L	L	M			M	H	M	M	
Indigenous															
Inspection fees															
Land use						L	L	M							
OHS	L	M	L	L	L	L	L	L	L	L	M	M	M	M	L
Regulation of the industry	L	L						M	M	M	L				L
Transport	M	L	M	M		L	L	L	M	M	L	L	L	M	M
Labour on-costs	M	M	M	L	M	L	L	L	M	M	L	L	L	L	L
Utilities	L	L	M	S		M	M				L		L		L
Rates	L	M	H	H	M										
Levies	L	L		M	M				L	L					
Building code compliance	L	L	H	M		L	L	L	M	M	L	L			
Admin, accounting, bank fees, legal	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Vehicle registration	L	L		M	L				L	L					M

KEY:	L	Low Impact (< 5 mandays per annum)	M	Medium Impact (5-10 mandays per annun	H	High Impact (>10 mandays per annum)

9.3 Forthcoming regulatory requirements - Australia

The following are emerging issues in the regulatory landscape for Australian meat and livestock producers and processors.

9.3.1 Carbon tax

The legislation introduced and passed in 2011 is expected to have a significant and direct impact on meat processors as the cost of carbon is levied on their business activities. This is the result of estimates of greenhouse gas emissions resulting from energy usage (in the form of fossil fuels for boilers and other plant needs) as well as carbon emissions from uncovered wastewater treatment systems. Stakeholder groups have had this issue under consideration for the past 12 months and plants emitting carbon gases in excess of the threshold of 25,000 tonnes/annum will receive assessment notices based on the standard price of $23/tonne. Capital expenditure in the form of covered anaerobic ponds and partial conversion to biofuels and co-generation plants are expected to be the main ways in which larger-scale processors seek to mitigate their exposure to the carbon tax.

9.3.2 User pays for inspection and certification

The withdrawal of federal government funding for meat inspection services at export plants was introduced on 1 July 2011 and is expected to have a major impact on profitability for meat processors of all scales.

9.3.3 Animal welfare

Greater scrutiny of in-plant and on-board treatment of livestock is anticipated as animal welfare groups gain more solid ground and the rise of social media enables consumers to register their concerns in this area. Installation of video surveillance cameras particularly in lairages and livestock slaughter areas may become part of private quality assurance and certification programs, although mandated monitoring of this kind is currently unlikely.

9.3.4 Biosecurity levy

The South Australian parliament has recently debated legislation to impose a $1 levy on producers for the introduction of special biosecurity measures in the state. While horticulture and other producers have resisted the move as a further regulatory impost, the concept seems to have gained some ground also in Victoria as a means of supplementing the state's inspection and surveillance capacities for the industry good.

9.4 Forthcoming regulatory requirements - NZ

9.4.1 National Animal Identification and Tracing Scheme

The National Animal Identification and Tracing (NAIT) Scheme is an industry-wide programme to develop a system of accessing timely and quality information on the current location, movement history and other key attributes associated with livestock. Integral to the NAIT programme is the tagging of all cattle (from November 2011) and deer (from June 2012) with NAIT-approved radio frequency identification device (RFID) ear tags. It is important to note that sheep are currently not scheduled to be included in the NAIT programme as individual cost of RFID tags (and the shorter lifespan of lambs) makes it cost prohibitive.

In order to comply with NAIT, and correctly identify and record livestock, processors will be required to install an RFID reader at each processing plant to accurately read NAIT-approved RFID tags. In addition, they may need to modify their premises and amend their data capture and storage processes and management systems. Processors will need to update their software and systems to record and report back to NAIT. The total one□off costs for NZ's 45 meat processors to comply with NAIT are estimated to be NZ$1.2 million. Subsequent annual costs for processors are estimated to be NZ$0.25 million (NAIT, 2010).

9.4.2 Emissions Trading Scheme

The NZ Emissions Trading Scheme (NZETS) is the NZ Government's primary response to global climate change, and its obligations under the Kyoto Protocol. The NZ ETS is a market-based approach for the reduction of greenhouse gas emissions. Participants within the scheme will face an obligation to surrender New Zealand Units (NZUs) to the government for emissions from their activities. The responsibility and participation for agriculture in the NZETS currently lies with the processor (farmers and growers will not participate directly in the NZETS). As currently regulated, agricultural processors will be required to surrender to the government NZUs based upon their emission volumes (in tonnes of carbon dioxide equivalents) from 1 January 2015. However, inclusion of agriculture into the NZETS is subject to a review in 2014.

In order to calculate emissions volumes, 'emissions factors' for each stock type have been developed as a constant to be used in calculating the carbon dioxide-equivalent emissions for each unit of product produced.[19] Each class of stock and production process has its own emissions factor. Emissions from the slaughter of livestock are calculated on a 'per head factor' and a 'per tonne of product factor' which ranges from 4.5 for lambs to 23.5 for rams.[20] Based on the headcount and tonnage of stock processed in the year to 30 June 2011, and the emissions factors, the red meat sector produced just over 24 million tonnes of CO2-e, of which sheepmeat accounted for approximately 10.3 million tonnes).

The NZETS currently incorporates a transition phase that covers the first 5 years of inclusion. During the transition phase, processors will have the option to buy NZUs from the government for a fixed price of $25 per NZU, which acts as a price cap (latest market trade prices[21] are between $14 and $16). At this price cap of $25, based upon 2011 production levels, the red meat sector would have a total ETS liability of approximately NZ$602 million per year, with sheepmeat processors accountable for NZ$259 million.

In order to buffer agricultural industries from the full cost of the ETS at its introduction in 2015, the government will allocate NZUs to agricultural processors equivalent to 90 percent of their baseline (industry average/standard) emissions. This free allocation will be phased out at 1.3 percent per annum on a straight line basis from 2016. In addition, for the 10 percent of NZU obligation, processors will only need to surrender 1 NZU to the government for every 2 tonnes of CO2□e emitted (a surrender rate of 50%). This surrender rate will increase over the first 5 years of agriculture's inclusion in the scheme, until the sector is required to surrender 1 NZU for each tonne of CO-2e it is liable for.

Table 41 shows an estimation of what red meat processors will be liable for per year under NZETS; based upon 2011 production levels, free allocations of NZUs from the government, gradual surrender rates and a capped price of $25 per CO2-e/NZU. This cost is estimated at around NZ$30 in 2015, increasing up to near NZ$100 in 2020. ETS costs associated with sheepmeat production are estimated to be around NZ$13 million in 2015, increasing out to NZ$43 million by 2020.

Table 41: Red Meat sector NZETS cost estimate (using 30 June 2011 production)

Year	Free allocation from Govt.	Surrender rate to Govt.	Actual NZUs needed to surrender (000s)	Actual value needed to surrender @ $25/CO2-e ($m)	Actual value surrendered as % of total value @ $25/CO2-e ($602m)
2015	90.0%	50%	1,204	$30.11	5.0%
2016	88.7%	50%	1,361	$34.02	5.7%
2017	87.4%	67%	2,033	$50.83	8.4%

[19] Emissions Factors are presented in terms of tonnes CO2-e per unit of output
[20] For details of the Emissions Factors, see www.maf.govt.nz
[21] Sourced from Carbon Match.

Year	Free allocation from Govt.	Surrender rate to Govt.	Actual NZUs needed to surrender (000s)	Actual value needed to surrender @ $25/CO2-e ($m)	Actual value surrendered as % of total value @ $25/CO2-e ($602m)
2018	86.1%	83%	2,779	$69.47	11.5%
2019	84.8%	100%	3,661	$91.52	15.2%
2020	83.5%	100%	3,974	$99.35	16.5%

Source: Nimmo-Bell

The meat sector is opposed to the introduction of agriculture into the ETS. In a combined submission to a recent government ETS Review Panel, Beef + Lamb NZ along with MIA and Deer Industry NZ, stated that they believe that NZ's competiveness in international meat markets will be compromised if agriculture is included in the ETS. They stated that with no practical method of reducing emissions, increased costs of production will reduce exporters' ability to compete profitably in international markets against meat producing countries where no cost of agricultural emissions is incurred.

Trade-exposed exporters which conduct industrial processes that have experienced increased costs due to the inclusion of other sectors (namely energy and heavy industry, such as steel and iron production) in the ETS are able to obtain a free allocation of NZUs from the government as compensation. In gaining recognition of rendering as an industrial process eligible for free NZU allocations, meat processors incurred set-up costs of several hundred man-days for data collection and preparation plus capital investment in measurement equipment (B+LNZ/MIA/DINZ 2011).

9.4.3 Biosecurity Government-Industry Agreement

In early 2011, MAF released a paper proposing that government and industry enter into joint agreements in order to develop and fund biosecurity programmes. Government Industry Agreements (GIA) would be an agreement between government and a willing primary industry to work together in preparing for and responding to biosecurity threats. GIAs would provide an opportunity for industry groups to identify the biosecurity risks of greatest concern to them, and to jointly invest with government to better manage those risks through readiness and response activities.

The GIAs are not intended to reduce overall government spending on biosecurity; rather, the intention is to better leverage existing funding through the redirection of funding towards programmes that individual primary industries deem most important. Through co-funding projects, the pool of government funding can be extended to cover new programmes or expand upon critical existing programmes. This is a change from the existing method, where government has a limited pool of funding, and deems programme allocations independently of industry.

For example, the avocado industry, which is a relatively small industry compared to dairy, red meat or apples, may have a particular biosecurity concern that is not currently of national significance and as such was not receiving attention or funding that the industry desired. Under a GIA, the Avocado industry could join with the government to jointly invest in preparation and responding to a particular biosecurity concern.

In order to help facilitate GIA funding from industry groups, the government, apart from government's co-funding of 50 percent, is also proposing to cover 60 percent of an industries' 'readiness'[22] costs for each of the first two years of a GIA, 40 percent for the following two years, and 20 percent for the third two years. After this point, the industry group would be required to fund all of its readiness cost commitments under the agreement (the government will continue to fund its contribution to the agreement). Where industries enter into agreements, biosecurity 'response'[23] costs will be fully funded by the government for the first three years of the GIA, with the same

[22] 'Readiness' costs are those costs associated with activities such as planning, monitoring and surveillance.
[23] 'Response' costs are those costs associated with a biosecurity event or disease outbreak.

subsidisation scheme as outlined for readiness costs, from the fourth to the ninth year (6 years) of the agreement.

9.5 Forthcoming regulatory requirements – US

Three major areas where more regulation will potentially emerge in the US industry are discussed below.

9.5.1 Animal Production Conditions On-Farm

The first area relates to efforts by specific lobby groups to introduce more legislation about animal production conditions on-farm and on feedlots. Proposed amendment 2252 to the US Farm Bill, in the form of Egg Inspection Amendments 2012 would have given federal government agencies specific powers about instructing on-farm production practices to be followed. While initially targeted at the egg production sector, US cattle interests particularly cattlemen fear more of these amendments will come before the federal legislature and view them as being 'a slippery slope to allow the federal government to mandate on-farm production practices for all sectors of the agricultural industry,'[24] including aspects about animal welfare, animal housing, livestock feeding and, significantly, antibiotic use on-farm and on feedlots. The Farm Bill eventually went through the House of Representatives unamended and is currently (June 2012) before the Senate, however, further efforts of this kind to regulate animal production are fully expected by industry stakeholders.

9.5.2 Mandatory National Animal Identification System

The second area where regulation may be introduced is for a mandatory national animal identification system (NAIS). The US is one of the only major international beef producers without such a system. The discovery in 2003 of a BSE-infected animal in a northern processing plant convinced many stakeholders and consumer groups of the need for an electronic ID system for livestock which could be managed at state level but overseen by USDA. Nevertheless there has been sufficiently strong opposition to the USDA's NAIS blueprint from specific parts of the production and domestic processing sectors which see electronic ID as an expensive and unwanted complication for their operations. These groups will continue to try and block the introduction of such a scheme, but pressure will also come from groups like US Meat Export Federation which believe an ID scheme would provide a comparative advantage for US red meat exports.[25]

9.5.3 Further Regulation of the Environment

The US EPA will attempt to regulate greenhouse gas emissions under its 'Tailoring' Rule and related Title V operating permit. These provisions are stridently opposed by the farm bureau lobby because they apply a relatively low threshold of 100 tons of GHG per annum, which means many ranchers and feedlotters will be caught in the reporting requirements. The Energy Tax Prevention Act of 2011 which would counter the GHG regulation moves has been passed by the House but is still under discussion in the Senate and the Executive has already voiced opposition to legislation which potentially reduces EPA might in this area.

Concerns that the US Environmental Protection Agency (EPA) has become draconian about environmental regulations in rural communities prompted the introduction of a bill which passed by the House of Representatives in December 201126 preventing the agency from issuing regulations about so-called 'farm dust' (or coarse particulate matter) for 12 months. Groups such as the American Farm Bureau Federation and the Agriculture Coalition supported the bill's passage in order to give ranchers and farmers some relief from over-regulation of small businesses in rural and semi-rural communities.

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[24] Beltway Beef blog. http://www.beltwaybeef.com/ (weblog for the National Cattlemen's Beef Association). Retrieved June 18 2012.
[25] 'USMEF releases livestock ID/traceability economic assessment,' Western Livestock Journal 3 Oct 2011.
[26] Farm Dust Regulation Prevention Act, H.R. 1633. The Bill has not come before the Senate (as at June 2012).

10 STUDY CONCLUSIONS AND RECOMMENDATIONS

The report offers a comprehensive analysis of regulatory costs in three international jurisdictions for six distinct sectors, all of which are represented in the Australian industry by significant numbers of stakeholders and high to extremely high levels of investment, whether in livestock, plant and equipment or marketing channels.

Australia's international competitiveness is affected by numerous factors – exchange rates, market reputation, range of products, time to market – but regulatory costs is potentially one of the most important. It is clear not all international suppliers that Australia competes against in supply of live animals, chilled and frozen meats and offal products operate under the same level of complexity in regulations, legislations and codes of practice. To this end, the report's terms of reference are highly relevant as they seek to identify where Australian suppliers may be at a disadvantage through charges and levies covering a diverse range of subjects and issues. Many of these issues do not appear on the 'radar' in competing supplier countries, although it must be said that the two other countries given close attention in this report – NZ and US – are familiar with many if not all of the types of drivers that have been identified in the literature.

Implicit, or subtle, regulatory costs were apparent in virtually every sector examined by the study. While it is relatively easy to quantify the impact of an explicit tax, levy or charge, it is more difficult to estimate the impact at enterprise and industry level that often result from increased reporting obligations to federal, state or local authorities; or altered requirements for parties further up the supply chain. Invariably the differences are borne by additional tasks for clerical/ administrative staff and are not necessarily captured in the company's profit and loss reports. Yet the regulatory burden has increased all the same, just not resulting in a tax invoice or receipt.

The intention with this report has been to provide a better understanding about the scope and nature of regulatory costs and assistance that affect enterprises in various production and processing sectors across the three competitors.

Conclusions from the report are as follows:

For beef producers, regulatory costs between the US and Australia are around 8.4% of revenue and 11.5% of revenue respectively and arise mainly from labour on-costs, rates and general administration obligations.

For sheep producers, there was a significant gap between Australian operations and counterparts in NZ, being approximately 14.4% of revenue and 10.7% of revenue respectively. The high order regulatory costs in NZ are associated with environmental and land management issues while Australian operations incurred costs associated with land use, rates and labour on-costs.

For goat producers, the report indicated that regulatory costs are relatively low in terms of revenue for operations at around 6.5%, however, the range of revenues can vary significantly across the industry.

For beef feedlot operators, Australian enterprise examples suggested that government influenced costs and charges equated to roughly 2.7% of revenue, comprised mostly of disease control, waste and water management and labour on-costs. Companies in the US feedlot industry indicated roughly similar costs equal to around 2.2% of revenue, this time mainly owing to environmental obligations.

For live sheep exporters, regulatory costs equaled around 11.3% of revenue, stemming mainly from animal welfare regulations. For live cattle exporters, regulatory costs as a percentage of revenue was lower at approximately 6.4% of revenue, again with many costs in line with animal welfare precautions. In both cases it is important to note that these are essentially trading enterprises and that around 70% of total costs are incurred in livestock purchases, so government-influenced costs and charges account for a far higher percentage of costs after livestock purchases are taken into account.

For beef processors, regulatory costs equate to between 3.8%-6.8% of revenue, with scale of operations having a significant impact. Management of environmental issues, labour on-costs and

general industry compliance obligations formed the bulk of the regulatory costs observed. By comparison, a large-scale processing operation in the US recorded regulatory costs of approximately 2.3% and medium-scale processing operations of approximately 2.7%.

Anticipated capital expenditure in most instances for producers was of a low order. For processors, anticipated expenditure in Australia related mainly to OHS matters and carbon mitigation measures. In the US, anticipated expenditure in relation to regulatory costs was mainly associated with work safety requirements but few plants reported major issues needing to be addressed immediately.

Time taken for regulatory compliance was observed to be highest for companies in the feedlot and processing sectors in all three markets. Incremental reporting requirements including animal identification, environmental reporting and biosecurity comprised most of this activity. Environmental reporting in virtually all sectors was reported as the single biggest 'time-taken' issue, with most enterprises describing compliance in the Medium to Heavy criteria.

The benefits of regulation in the wider sense must also be considered: in many instances compliance with meat and hygiene inspection standards, animal health standards and other measures effectively provide Australia's beef, sheep meat and live animals with ongoing access to the world's premium markets. Attaining and 'raising the bar' on environmental standards, as well as worker safety measures, could also be described as desirable goals for all industry sectors to aspire to.

The report provides the following recommendations:

i. Transparency – high priority should be given to ensuring that governments and their instrumentalities (at state and federal level) be required to provide greater transparency in how costs that they wish to recover from industry are actually calculated.

ii. Rollback of regulation – while prospects of rolling back regulations may be low due to myriad technical, economic and social factors, nevertheless efforts to reduce the costs on industry of regulation should still be a priority. This is particularly the case in regard to reform of charges for inspection systems.

iii. Environmental reporting – scope for streamlining of federal and state reporting obligations for feedlots and processors may be possible. Duplication of reporting results through the federal NPI and state EPA license system can be onerous for enterprises across the board.

iv. Time taken - Stakeholders liaise closely in order to observe and monitor the time taken and recordkeeping obligations which will flow from the carbon tax scheme's introduction after 1 July 2012. Together with already- existing obligations the obligations in this area may be seen as onerous and unproductive.

v. Land use change charges - Investigation into costs associated with changes in land use particularly in the northern regions may be beneficial. Efforts to improve enterprise productivity are reportedly being stymied by the magnitude of some charges and fees.

vi. Transport regulation - State based livestock transport regulations are regarded as having a negative effect on productivity due to discrepancies between jurisdictions. This is also related to agricultural vehicle dimensions permitted on public roads. Stakeholder groups should redouble efforts to get accord on this issue as it seems to unfairly impact producers in remote areas and points to significant differences in regulations between the states.

vii. Ancillary sectors – While not part of the project Terms of Reference, it was observed that two other industry sectors – saleyards and rendering facilities – are often impacted by the type of regulatory compliance issues raised in this report. These could also affect the competitiveness of Australian meat and livestock products. Both these sectors are important links in the livestock production value chain. Specific examples include livestock identification schemes, biosecurity, environmental reporting and carbon tax implications. It is recommended that discussions be held with appropriate industry bodies to explore

areas where regulations might be streamlined or other measures might be taken to reduce the overall reporting obligation.

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Appendix 1 - List of Significant Legislation And Regulations

A. Australia

(NPI) National Environment Protection Measure (NEPM)
Age Discrimination Act 2004
Agricultural and Veterinary Chemicals (Control of Use) Act 1992
Agricultural and Veterinary Chemicals Act 1994, and Code
Animal Diseases Bill 2005 (ACT)
Animal Research Act 1985
Animals Protection Act 1925
Anti-Discrimination Act 1977, and Regulation 2004
Australian Fair Pay & Conditions Standard (and Fairness Test)
Australian Maritime Safety Authority Act 1990
Australian Meat and Live-stock Industry (Export Licensing) Regulations 1998
Australian Meat and Live-stock Industry (High Quality Beef and USA Order 2006 Exports to the EU) Order 2007
Australian Meat and Live-stock Industry (Quotas) Act 1990
Australian Meat and Live-stock Industry (Sheepmeat and Goatmeat Export to EU Quota Year 2007) Order 2006
Australian Meat and Live-stock Industry (Standards) Order 2005
Australian Meat and Live-stock Industry Act 1997
Australian Meat and Live-stock Industry Act 1997, and Regulations 2000
Australian Meat and Live-stock Industry Regulations 1998
Australian Standards for the Export of Livestock (ASEL v2.1)
Australian Transport Safety Bureau: Shipping incident investigations, safety promotion
Australian Workplace Agreements
Biological Control Act 1985
Catchment Management Authorities Act 2003
Chemical Usage (Agricultural & Veterinary) Control Regs 1989 (Qld)
Clean Energy Act 2011 and Amendments
Department of Environment and Climate Change NSW incorporating Environment Protection Agency EPA
Dept of Transport and Regional Services (Maritime): international and domestic shipping policy, coastal trade permits
Disability Discrimination Act 1992
Dividing Fences Act 1991
EC (Animal) Orders 2004
EC (Animals) Order 2004
EC (Organic Produce Certification) Orders
EC (Prescribed Goods - General) Order 2005
ECl (Meat and Meat Products) Orders 2005
Employment Protection Act 1982, and Regulation 2001 Industrial Relations (Child Employment) Act 2006, regulation
Environment Planning and Assessment Act 1979
Environment Planning and Assessment Act 1979, and regulations including State Environmental Planning Policies eg. SEPP 30 Intensive Agriculture (feedlots > 50 head
Environment Protection and Biodiversity Conservation Act 1999, EPBC Regulations 2000
Environmental Protection (Interim Waste) Regulation 1996
Environmental Protection (Waste) Policy and Regulation 2000

Environmental Protection Act 1994, and Regulation 1998
Environmental Protection Agency
Environmental Protection Policies 1997: Water, Noise, Air.
Environmentally Hazardous Chemicals Act 1985 + regulation
Environmentally Hazardous Chemicals Act 1985, regulations
Exotic Animals Disease Control Act 1989
Exotic Diseases in Animals Act 1981 (WA)
Exotic Diseases of Animals Act 1991, and regulations
Export Control Act 1982, and EC (Orders) Regulations 1982
Export Inspection (Establishment Registration Charges) Act 1985, and Regulations 1985
Export Inspection (Service Charge) Act 1985, and Regulations
Export Inspection and Meat Charges Collection Act 1985, and Regulations 1985
FAO-WHO - Codex Alimentarius Commission food standards, guidelines and codes of practice
Farm Water Supplies Act 1946
Federal Pastoral Industry Award
Fertilisers Act 1985
Food Production (Meat Food Safety Scheme) Regulation 2000
Food Production (Safety) Act 2000 Qld
Gene Technology (GM Crop Moratorium) Act 2003
Gene Technology Act 2000
Guidelines for EU New Entrant Quota - 2007/2008
Guidelines for the Establishment and Operation of cattle feedlots in South Australia 2006
Human Rights and Equal Opportunity Commission Act 1986
Industry QA and welfare programs
International Maritime Law
Interstate Road Transport Act 9185 (Commonwealth) and Regulations
Irrigation Act 1912
LEPs (Local Environmental Plans) Environmental Protection (Waste Management) Regulation 2000
Livestock Disease Control Act 1994, and regulations 2006
Livestock Production Assurance
Local Government Act 1993
Marine Navigation Levy Act 1989
Meat Industry Act 1987
MI (Modification) Regulations, and MI (Orders) Regulations
Migration Act 1958 and Regulations
Multiple Animal Welfare Codes
National Environment Protection Council (NEPC) of Ministers
National Johnes Disease rules
National Parks and Wildlife Act 1974
National Pollution Inventory (sic)
National Saleyards Quality Assurance programme NSQA
National Standard for the Construction and Operation of Australian Saleyards
National Transport Commission (Model Legislation-Intelligent Access Program) Regulations 2006
National Vendor Declarations & MLA Guide to the NVD Waybill
Native Title (NSW) Act 1994
Native Vegetation Act 2003
Native Vegetation Conservation Act 1997
NFAS: National Feedlot Accreditation Scheme and associated Codes)
Non-Indigenous Animals Act 1987 and Regulation 2006
Noxious Weeds Act 1993

NRS Administration Act 1992
NTC (Road Transport Legislation - Compliance And Enforcement Bill) Regulations 2006 (Model)
Occupational Health and Safety Act 2000, and regulations 2001
Pastoral Employees Award
Pesticides Act 1999 + regulation
Pesticides Act 1999 + regulations
Plant Diseases Act 1924
Plantations and Reafforestation Act 1999
Poisons and Therapeutic Goods Act 1966 and regulations
Prevention of Cruelty to Animals Act 1979 and regulations
Prevention of Cruelty to Animals Act 1986
Protection of the Environment Operations Act 1997 (POEO Act) incl PEO (Clean Air) Regulation 2002 PEO (Noise Control) Reg'n 2000 PEO (Waste) Regulation 2005
Race Discrimination Act 1975 and Regulations
Reference Manual for the establishment and operation of beef cattle feedlots in Qld (Qld DPI&F)
Rivers and Foreshores Improvement Act 1948
Road Safety (Heavy Vehicle Safety) Act 2003 (Vic)
Road Transport (General) Act 2005 (NSW) and regulations
Road Transport (General) Amendment (Intelligent Access Program) Act 2006
Road Transport (Safety and Traffic Management) Act 1999 (NSW), and Roads Act 1993
Rural Fires Act 1997
Rural lands Protection Act 1985 (Qld)
Rural Lands Protection Act 1998
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Safety Net Bill (AWAs)
Sex Discrimination Act 1984 and Regulations
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Stock Diseases Act 1923
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Stock Medicines Act 1989
The Australian Ruminant Feed Ban
The National Pollutant Inventory
Threatened Species Conservation Act 1995
Trade Practices Act 1974
Veterinary Practice Act 2003, and regulations 2006
Water Management Act 2000
Western Australian Meat Industry Authority Regulations 1985
Western Lands Act 1901
Wild Dog Destruction Act 1921
Wilderness Act 1987
Workers Compensation Act 1987

Workers Compensation Commission
Workplace Injury Management and Workers Compensation Act 1998, WC Regulation 2003
Workplace Relations Act 1996 Formerly known as the Industrial Relations Act 1988; incorporates
Workplace Relations Amendment (Work Choices) Act 2005 and Regulations 2006
World Organisation for Animal Health (OIE) rules, standards

B. New Zealand

Resource Management Act 1991 (RMA)
Climate Change Response Act 2002
New Zealand Emissions Trading Scheme
Accident Insurance Act
Employment Relations Act, Holidays Act, Parental Leave Act
Health & Safety in Employment Act
Hazardous Substances & New Organisms Act
TB National Pest Management Strategy
National Animal Welfare Advisory Council
Maori/Treaty issues
Commodity Levy Act
National Animal Welfare Code

C. United States

Agricultural Marketing Service
Alternative Motor Fuels Act
Animal Welfare Act
Asbestos Hazard Emergency Response Act
Beef Promotion and Research Order and Final Rule
Clean Air Act
Clean Water Act
Code of Federal Regulations 40 (Effluent Limitation Guidelines)
Consumer Product Safety Improvement Act
Corporate Average Fuel Economy
Discrimination against Employees Exercising Rights under the Williams-Steiger OSH Act
Endangered Species Act
Endangered Species Act
Energy Independence and Security Act
Energy Policy Act
EPA Feedlot Effluent Guidelines
Fair Labor Standards Act
Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations
Federal Food, Drug and Cosmetic Act
Federal Land Policy & Management Act
Federal Meat Inspection Act
Federal Regulation 40 CFR , CFR 122, CFR 123 [Animal Feeding Operations]
Food Security Act
Forest and Range Renewable Resources Act
Forest Service Rangeland Management Directives

FSIS Notice 50-12 (Inspection Responsibilities and Authorities for Reducing Slaughter or Evisceration Line Speed)
Grazing and Rangeland Management Regulations, Colorado
Humane Methods of Slaughter Act
Illegal Immigration Reform and Immigrant Responsibility Act
Immigration Reform and Control Act
Instructions for Modified Sample Size for National Residue System Scheduled Muscle Samples
International Safe Container Act
Multiple Use Sustained Yield Act
National Ambient Air Quality Standards
National Environmental Policy Act
National Environmental Policy Act
National Forest Management Act
National Forest Management Act
National Highway Traffic Safety Administration Regulations
National Pollutant Discharge Elimination System (NPDES) Regulations
National Residue Program Regulations
Occupational Safety and Health Act
Office of Workers' Compensation Program Regulations
Organic Administration Act
Packers and Stockyards Act Regulations
Packers and Stockyards Administration
Paperwork Reduction Act
Safe Drinking Water Act
Solid Waste Disposal Act (Resource Conservation and Recovery Act)
Surface Transportation Assistance Act
Toxic Substances Control Act
USDA Quality of Information Guidelines