INDUSTRY
COMMISSION

Research Project

Pigs and Pigmeat

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ABBREVIATIONS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ACS	Australian Customs Service
ADA	Anti–Dumping Authority
APC	Australian Pork Corporation
AQIS	Australian Quarantine Inspection Service
CAP	Common Agricultural Policy
cif	cost insurance and freight
CPC	Canadian Pork Council
CSE	Consumer Subsidy Equivalent
DDB	Darling Downs Bacon
DFAT	Department of Foreign Affairs and Trade
DPIE	Department of Primary Industries and Energy
DPM & C	Department of Prime Minister and Cabinet
ECU	European Currency Unit
EEP	Export Enhancement Program (of the United States)
EMABA	(ABARE's) Econometric Model of Australian Broad Acre Agriculture
EU	European Union
FAO	Food and Agriculture Organisation
fob	free on board
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
IC	Industry Commission
OECD	Organisation for Economic Cooperation and Development
PCA	Pork Council of Australia

PRDC	Pig Research and Development Corporation
PSE	Producer Subsidy Equivalent
QDPI	Queensland Department of Primary Industries
QPPO	Queensland Pork Producers' Organisation
RAS	Rural Adjustment Scheme
USDA	United States Department of Agriculture
WTO	World Trade Organisation

TERMS OF REFERENCE

The Industry Commission is requested to undertake a study of the effects of pigmeat imports on the performance of the domestic pig farming, pigmeat and processed pigmeat industries and on the overall performance of the Australian economy.

In undertaking this study, the Commission should specifically examine:

- the effects of imports on pigmeat prices, investment, incomes, and profits in the domestic industries; and
- the effects on Australia of government assistance provided by other countries to their pigmeat industries.

The Commission should also take account of Commonwealth and State Government policies towards the industries.

The Commission is requested to report within three months of receiving these terms of reference.

GEORGE GEAR

KEY FINDINGS

1. The pig and pigmeat industries have been undergoing profound structural changes for many decades. Between 1960 and 1994, the number of pig producers fell by 90 per cent to about 4700, while the average herd size and productivity in pig production increased significantly. Those leaving the industry were mostly small and medium sized producers; the numbers of large producers have increased. In 1994 pigmeat output was a record 347 kilotonnes.

2. Feed constitutes more than half the cost of producing pigs. The latest drought has increased feed prices by up to 40 per cent and many producers are making losses. In the seven months to July 1995, 1100 pig producers left the industry, about 95 per cent of whom were small, non-specialist producers.

3. Quarantine prohibits pig or pigmeat imports except for canned pigmeat, pigmeat from New Zealand, and frozen pigmeat from Canada for manufacturing. Denmark and the United States (US) have applied for access.

4. Since being permitted in 1990, Canadian imports have supplied less than 3 per cent of annual Australian pigmeat consumption. In this period domestic output rose 9 per cent.

5. If Canadian import prices remain low relative to Australian prices, imports may increase. However, Canadian pig prices have firmed recently from being well below their long term trend.

6. Imports have the potential to suppress Australian prices for pigs and pigmeat: ABARE estimates suggest a sustained doubling of imports could reduce pig prices by no more than 4 per cent. However, the prices of beef, sheepmeat, chicken and other meats have proven to be more influential on domestic pigmeat prices than prices of pigmeat imports.

7. So far, pigmeat imports do not appear to have had an appreciable effect on the level or seasonality of domestic pig prices, on the prices of local pigmeat for manufacturing, on the performance of the pig and pigmeat industries, or on the Australian economy generally.

8. While the most efficient producers in Australia are internationally competitive, there is scope to reduce the average cost of domestic pig production. There are well-identified and substantial inefficiencies in abattoirs and boning rooms in Australia.

9. According to OECD estimates, assistance to pig *producers* in 1994 was equivalent to about 15 per cent of the farmgate value of pig production in Canada, 10 per cent in the European Union, 5 per cent in the US, and 4 per cent

in Australia. These estimates do not measure assistance due to quarantine. Policy changes in Canada and the European Union are reducing their assistance.

10. Pigmeat *processors* in Canada and the US receive little assistance. Some assistance is given in the European Union but is being reduced.

11. Assistance to pig and pigmeat producers in Canada is unlikely to have had an appreciable effect on Canadian export prices for pigmeat. The pig and pigmeat markets in Canada and the US are highly integrated and prices in Canada tend to be dominated by developments in the much larger US market. In addition the forms of assistance in Canada are no more than weakly linked to pigmeat production.

12. Assistance to pig and pigmeat producers in the US is unlikely to have an appreciable effect on either US or Canadian export prices for pigmeat.

13. Drought and long term structural adjustment have been more significant to the Australian pig industry than imports. Action to protect the local pig and pigmeat industries from imports could conflict with Australia's international trade objectives and obligations.

OVERVIEW

In July 1990, the quarantine prohibitions on imported pigs and pigmeat were revised to permit imports of frozen uncooked pigmeat from Canada for further processing. Apart from this Canadian meat and canned ham and some product from New Zealand, quarantine prohibits the import of pigs and pigmeat.

In 1992, the Australian Customs Service investigated claims that Canadian pork was being dumped and subsidised on to the Australian market, and was causing or threatening material injury to the Australian pigmeat industry. The finding of no injury by Customs was subsequently upheld by the Anti-Dumping Authority and by the Federal Court.

This research project was the result of an offer made by the Minister for Primary Industries and Energy to the pig industry. The offer was in response to a rally of pig farmers held in Canberra on 28 June 1995 to express concerns about pigmeat imports and the continuing fall in pig farmer numbers.

Imports are only one of many factors affecting the performance of the Australian pig and pigmeat industries. The Commission's approach has been to assess imports in conjunction with these other factors, and against the backdrop of existing policy on the economy, agriculture, industry and trade.

Significant trends in industry structure

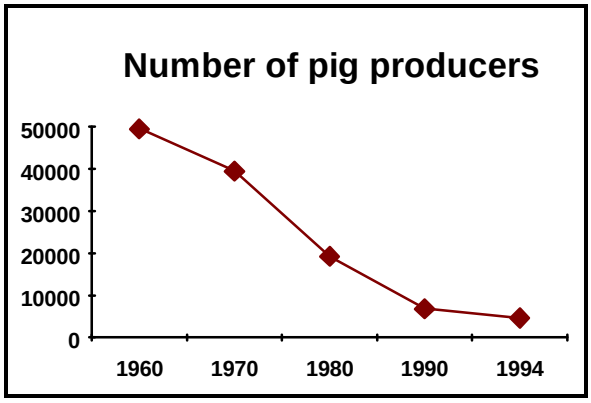
Three separate industry sectors are involved in the production of pigs and pigmeat: the farming sector; the abattoir and boning room sector; and the bacon, ham and smallgoods manufacturing sector.

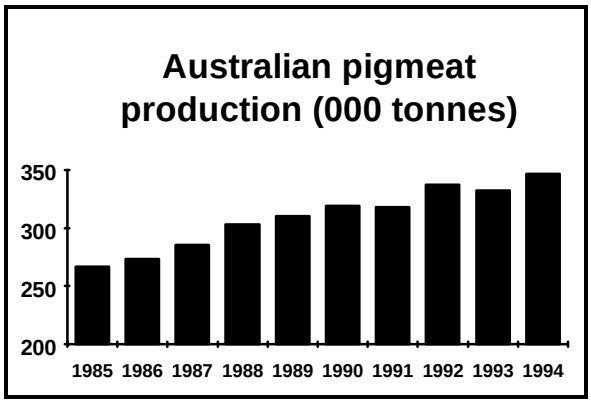
The pig farming sector, in particular, has been changing in response to longer term factors such as adoption of new technology, and shorter term factors such as drought.

Pig farming

Between 1960 and 1994, the number of pig farmers dropped by about 90 per cent — an average of some 1300 producers per year. Since Canadian imports commenced in July 1990, the average yearly decline to the end of 1994 has been about 540 producers. In the seven months to July 1995, numbers fell by a further 1100, about 95 per cent of whom were small, non-specialist producers.

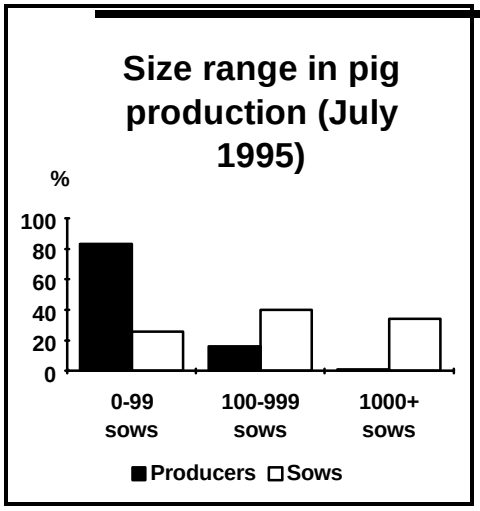
As the number of pig producers has declined over the last few decades, farm productivity has increased markedly. With fewer breeding sows, and as a result of increases in slaughterings per sow and average slaughter weight of pigs, total Australian pigmeat output has increased significantly. Output increased by almost 30 per cent from 267 000 tonnes in 1985 to a record 347 000 tonnes in 1994.





The average herd size increased from under five sows in 1960, to 30 in 1985, and to nearly 70 in 1994. At present about one per cent of pig herds have more than 1000 sows, and these accounted for about 34 per cent of sows in July 1995. Eighty five per cent of pig herds have fewer than 100 sows and such herds have 26 per cent of all sows.

Most producers who left pig farming were not pig specialists but had small herds to supplement other agricultural income. In the seven months to July 1995, around 82 per cent of the producers leaving the industry had fewer than 50 sows in their pig herd, while another 12 per cent had between 50 and 100 sows.



Abattoirs and boning rooms

The processing of pigmeat is undertaken in two stages. First, pigs are slaughtered in abattoirs and the carcases broken up in boning rooms. Second, some of this pigmeat is further processed by bacon, ham and smallgoods manufacturers.

In 1994, about 140 abattoirs slaughtered pigs. Of these, only 9 were specialist pig abattoirs, and pigs were generally the minor species at the multi-species abattoirs. While they fluctuated, pig slaughterings increased over the decade to 1994 by some 14 per cent.

An Industry Commission inquiry in 1994 examined the processing of all meat, including pigmeat. It found the industry's costs were significantly higher than processing in other countries. The reasons were high labour costs in abattoirs and boning rooms, a poor industrial relations climate, a poor occupational health and safety record, and low capacity utilisation. Although the Commission recommended that labour market reform be pursued as a matter of priority, little progress has been made since it reported. Significant inefficiency remains.

Bacon, ham and smallgoods manufacturing

In 1991–92, the last full year for which data are available, this industry consisted of approximately 128 bacon, ham and smallgoods manufacturers. These manufacturers use other meats as well as pigmeat, although pigmeat accounts for most of the meat used. The total use of pigmeat in manufactured products has remained relatively static in recent years.

Most bacon, ham and smallgoods manufacturers are small establishments, although there are some large producers including Don Smallgoods, Darling Downs Bacon, Watsonia and Chisholm Manufacturing.

In line with recent changes in the food and meat processing industries generally, there has been a good deal of restructuring and ownership change in smallgoods manufacturing. In particular, overseas owned firms now have significant interests. For example, George Weston Foods, a UK group, owns Watsonia in Western Australia and George Chapman in South Australia. Bunge Australia, a subsidiary of the Brazilian Bunge group, owns Don Smallgoods.

Demand for pigmeat

The Australian Pork Corporation indicated that about 35 to 40 per cent of domestic pigmeat is sold as fresh meat in competition with other meats such as beef, lamb, mutton and chicken. Most is processed into bacon, ham and smallgoods.

Smaller pigs (porkers) generally go to the fresh pork market and bigger pigs (baconers) are more likely to be processed into manufactured products, although some baconers are used on the fresh market. Porkers bring a higher price per kilogram than baconers. Which type brings the higher net returns depends on price and cost relativities — these change over time. Some producers concentrate on supplying one market or the other.

Australian pigmeat consumption per capita has grown quite substantially since the late 1970s. Since 1990 it has been relatively static at around 19 kilograms per head per year, with total consumption increasing with population growth. The fresh pork market has absorbed the growth in output in recent years, with sales of pigmeat for processing remaining fairly static.

ABARE (the Australian Bureau of Agricultural and Resource Economics) pointed to the important influence which beef has on pigmeat consumption. After noting that total consumption of all meats per head has recently remained relatively static, ABARE said that 'prices of different meat types in Australia are strongly linked through substitution relationships in meat consumption ... the composition of meats consumed has varied substantially as consumers have reacted to changes in relative prices of meat' (Sub. 31, p. 36).

In 1994–95, exports of unprocessed pigmeat from Australia totalled almost 8000 tonnes. It is believed more than half of this was accounted for by feral pigmeat.

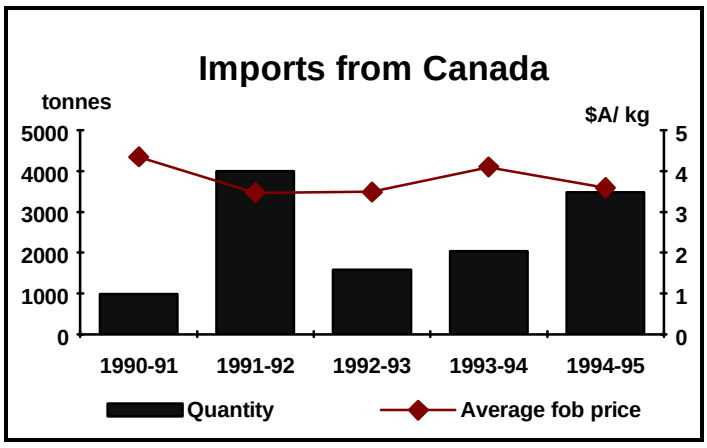
Australian markets and imports

Due to quarantine prohibitions, the Australian markets for pigmeat and pigmeat products have been supplied almost exclusively from locally produced pigmeat. The major exceptions to this have been some pigmeat from New Zealand, canned pigmeat and, since July 1990, frozen uncooked pigmeat from Canada. The relevant quarantine protocols require that Canadian pigmeat must be processed on arrival in Australia — it cannot go to the fresh pork market.

Imports of uncooked frozen pigmeat from Canada accounted for about 92 per cent of imports of uncooked pigmeat in 1994–95.

Imports and market share

Imports of pigmeat from Canada have been variable. Imports peaked in 1991–92 at just over 4000 tonnes, equivalent to 1 per cent of Australian pigmeat volume. In 1994–95 imports were just under 3500 tonnes. In monthly terms, imports peaked in May 1992 at 696 tonnes, with the second largest monthly total of 684 tonnes in May 1995. Domestic output of pigmeat has risen by some 9 per cent since 1990 when Canadian imports were allowed. This increase implies that at least 80 per cent of the increased consumption since that time has been supplied from domestic production.



Although some middles and other cuts are imported for manufacturing, most imports have been boneless, skinless leg pork for manufacture into ham. Several participants claimed that market shares should be calculated in terms of boneless skinless leg pork. On this latter basis, Canadian imports in 1994–95 appeared to account for about 10 per cent, in volume terms, of leg pork for manufacturing.

Pig farmers produce whole pigs, not just legs, so of more relevance is what legs represent in overall business. For this reason it is more appropriate to relate imports to pigmeat production — not just leg production — either in total or on a boneless, skinless basis. On this latter basis, imports account for less than 2.5 per cent in volume terms in 1994–95. As noted, import volumes fluctuate and the market shares of imports in the two previous years were significantly lower.

Prices

Since imports from Canada commenced, their average prices have varied month by month, ranging between about $2.90 and $5.30 fob per kilogram. In the last few months, the average monthly fob prices for Canadian imports have been at the lower end of the range between about $3.30 and $3.70 per kilogram. Many participants claimed that Canadian imports were significantly cheaper than equivalent local cuts.

Before comparing them with Australian prices, these import prices need to be put on to a comparable basis. The table on the next page gives details.

After making these adjustments, it appears that Canadian imports are about 15 to 30 per cent cheaper than comparable Australian product. This difference needs to be viewed in the context that prices of imports and the local product both fluctuate quite markedly — there have been times when the prices of imports have exceeded those of the local product. The current apparent price advantage to Canadian imports reflects the fact that Canadian prices for pigs have recently been below their long term trend.

Comparison of import prices with comparable local product (July – September 1995)

	$ per kg
Imports	
Fob price	3.30 - 3.70
Cif basis (add say 8 %)	3.60 - 4.00
Importer's margin (add say 2.5%)	3.70 - 4.10
Adjust to fresh basis (add say 8%)	4.00 - 4.40
Quality adjustment (no conclusive evidence on quality difference)	4.00 - 4.40
Local price	5.20 - 6.00

A price difference between imports and the local product tells little about whether, or to what extent, imports have influenced local prices. Equally a price difference on one cut — say leg pork — does not mean that similar differences will exist for all other cuts. These matters are discussed below.

Scope for further imports

While the exact margin is difficult to pin down, Canadian leg imports have usually been cheaper than comparable Australian cuts. So why does the level of imported leg pork remain so low? And why are imports concentrated on legs?

Four major manufacturers of hams, bacon and smallgoods — Darling Downs Bacon, Watsonia, Don Smallgoods and Chisholm Manufacturing — have reportedly given assurances that they will not use imported pigmeat.

Darling Downs Bacon is a cooperative owned by some Queensland pig producers and, as such, would be expected to operate in accordance with the wishes of its shareholders. The assurances of the other manufacturers may reflect the commercial advantages, at least in the short term, to those organisations of buying and being seen to buy Australian. These advantages include security of supply, including the opportunity to negotiate purchase and sale contracts, easier control over quality and any consumer sentiment favouring the domestic product.

Leg pork accounts for most imports at present. Its predominance appears to reflect different price relativities for the different cuts of pigmeat in North America compared with Australia. Middles and rib prices are reported as being higher priced, relative to legs, in the North American market than in Australia.

Another possible reason relates to the quarantine requirement that imports of frozen uncooked pigmeat from Canada must be boneless. Removing the bone from legs could be relatively less expensive than removing it from other cuts.

While Canadian leg pork continues to be cheaper than Australian leg pork, there is pressure on processors to import more. Whether Canadian imports remain relatively attractive depends in large part on what happens to pig prices in Australia and in Canada, and the exchange rate between the Australian and Canadian currencies. As the drought ends in Australia, production costs for pigs and pigmeat should fall relative to Canadian costs. Further, pig prices in Canada have begun to firm from their recent low levels. Both these occurrences should help to discourage Canadian imports.

The Australian Quarantine Inspection Service (AQIS) is examining requests to reduce the quarantine restrictions on imports of Canadian pigmeat, and to relax the prohibition on imports from Denmark and the United States. Easing quarantine restrictions can be expected to increase the pressure from imports.

Effects of imports on local prices

Industry representatives claimed that a major effect of imports was to suppress domestic price rises. In particular, they claimed that: Australian prices of legs for ham at Christmas were no longer able to rise as much as they did in the past in response to the seasonal increase in demand; further, but for imports, pig prices would have risen in response to higher feed costs during drought.

Evaluating such claims and making an assessment of the nature of the relationship between imports and local prices is a difficult exercise. The analysis needs to take account of all factors which might affect the interrelationship of import prices and volumes with Australian prices and volumes. For example, beef prices and/or volumes would need to be factored in because of the association between the demand for beef and the demand for pork. Supply lags are also important.

A particular difficulty in such analysis is the absence of comprehensive and reliable data. There is no reliable time series price information directly relating Australian and imported prices for comparable cuts and qualities of pigmeat. Further, the available information is conflicting — for instance, retail price information compiled by different organisations conflicts in levels and trends.

The Commission did not undertake its own analyses of the available data as it possessed neither the models with the required detail nor the resources required for their application in the time available for this project. Instead, it decided to

rely on ABARE and the NSW Department of Agriculture (as included in the NSW Government's submission), both of which have relevant expertise.

ABARE pointed to the strong relationship that exists between the price of beef and the price of other meats, including pigmeat. It said that 'the statistical evidence indicates that domestic pigmeat prices are determined by domestic market conditions rather than import prices' (Sub. 31, p. 9). In supplementary analysis, it established that there was no significant influence of import values or volumes on domestic saleyard or wholesale prices. There was weak evidence of an impact of import values on retail pork prices.

In interpreting these results, ABARE commented that an absence of a stable relationship between import and domestic prices on average does not suggest that domestic prices in import competing segments of the market have not been affected on a short term or one-off basis by imports. Neither does it mean that there has not been an impact on other domestic segments due to the flow of displaced product.

To illustrate these points, ABARE presented the results of a simulation undertaken with its EMABA model to examine the effects of a doubling of the existing level of imports for one year only. These result suggested that 'saleyard prices for pigmeat could have been up to around 6.5 per cent lower than otherwise as a result of diversion of product away from the import competing segment' (Sub. 31, p. 8).

In supplementary analysis, ABARE reported the projected effects of a sustained doubling of imports. The first year effect was the same as the once off simulation; in subsequent years, saleyard pig prices remained about 3.6 per cent lower than they otherwise would be, and domestic pigmeat supply about 2 per cent lower.

The relevance of the EMABA modelling results in portraying the effect to date of existing imports can be questioned, however. For example, as ABARE noted, the price impacts are likely to be exaggerated.

Actual imports have fluctuated from year to year and month to month by 100 per cent or more and yet, in its statistical analyses, ABARE found no evidence of a relationship between import prices and domestic pigmeat prices. Thus, while interesting, the EMABA result is difficult to reconcile with other analyses of the effects of imports.

The NSW Government's analysis used NSW farm price data and found no statistical evidence of causality between Canadian imports and pig prices or wholesale prices for pigmeat. This analysis did find evidence of a relationship

between the volume of imports and the retail prices of fresh pork leg chops (even though these are not imported).

The NSW results offer a plausible explanation of a mechanism through which Canadian imports may affect Australian markets for pigmeat. Importation results in a relative oversupply of fresh pork legs which have to be discounted to sell; but these price impacts are not transmitted to other retail cuts or to other levels of the market. In other words, the retail fresh pork leg market clears the market for pigmeat, and retailers absorb any short term price fluctuations in that market. ABARE also commented that Australian production could be diverted from the import competing segment of the market.

Because of deficiencies in their data, both ABARE and the NSW Government regarded their results on the effects of imports as indicative, rather than conclusive. The results suggest that imports can have an impact on retail prices for fresh leg pork meat. Neither study examined directly the effects of imports on the prices for bacon and ham.

Imports clearly have the potential to suppress Australian prices for pigs and pigmeat. The Commission considers that the ABARE estimates that the difference in pig prices could have been up to 4 per cent provide a plausible order of magnitude for the size of the potential.

That said the Commission's examination of all the available price and quantity data for domestic pig and pigmeat both before and after the entry of Canadian imports suggested that imports to date do not appear to have had an appreciable effect on the level or seasonality of domestic pig prices, or on the prices of local pigmeat for manufacturing.

Effects of imports on performance

Any effects so far of pigmeat imports on the performance of the Australian pigmeat industries in terms of pigmeat prices, investment, incomes and profit, and on the overall performance of the Australian economy have been slight. However, they could increase in importance if imports were to increase and cause Australian prices to fall and be more in line with world trade prices.

Pig farming

In the last couple of years, pig producers in Australia have been severely hit by high grain prices as a result of drought. The effects on profitability from the increased feed grain prices greatly exceed in magnitude the effects so far of any price reduction due to import competition.

According to the Australian Pork Corporation's drought survey, feed prices paid by pig producers rose nationally by over 30 per cent in the year to April 1995, some regional increases being higher. Nationally, prices in April 1995 were slightly lower than in March 1995. One Queensland participant indicated that whereas in a 'normal' year feed grain would cost $130 tonne, in September 1995 it was in excess of $200 per tonne. This translates to an additional cost of over $15 per pig. To have an equivalent effect on profitability, imports would have had to reduce prices by nearly $2.50 per kilogram for boneless, skinless leg pork. While prices have been below their long term trend as a result of record supplies of pigmeat and competition from other meats, there is little evidence of any price reduction of pigs or pigmeat specifically due to imports.

Abattoirs and boning rooms

The number of pigs slaughtered and the total quantities of pigmeat processed by abattoirs and boning rooms has been increasing despite pigmeat imports. No evidence suggested that abattoir investment, incomes or profits has been adversely affected by imports of pigmeat.

As imports so far mainly consist of boneless skinless leg pork, their most immediate effect could be felt by independent boning room operators through loss of sales or reduction of price. Indeed, there was some evidence that some particular boning rooms had been adversely affected by imports. However, legs for processing represent only a small part of boning room output, and total throughput of pigmeat has been increasing.

Bacon, ham and smallgoods manufacturers

There was virtually no up-to-date performance information available for this sector. Some of the major processors use only Australian pigmeat, and the volume of imports is small. Manufacturers using lower priced Canadian imports have benefited whether or not they reduced prices to consumers. Overall, the effects of imports on incomes, investment and profits in this sector should be positive.

Implications for the Australian economy

Opening the Australian economy to imports benefits the community overall. There is greater choice and access to cheaper products for producers and consumers alike. Competition from imports can stimulate efficiency and cost improvements in domestic industry and free resources for more productive uses.

As a general conclusion, the enduring benefits from imports should offset any shorter term adverse consequences on particular industry sectors or producers.

The Pork Council of Australia believes that the export market will be the industry's most important objective for its continued economic viability. If the Australian pig industry is to become export oriented, it is vital that it compete successfully with imports. Sheltering it from imports will not assist its development. Several participants, including the Pork Council of Australia, recognised that imports could encourage greater competitiveness in local industry.

So far the effects of Canadian imports appear to have been small, even on the pig farming and pigmeat industries themselves. However, changes in institutional arrangements and market pressures could lead over time to a marked increase in the level of imports. If this were to occur, then the future effects of imports might be much greater. As noted above, AQIS is examining requests to ease quarantine restrictions.

Continuing low market prices for Canadian imports of pigmeat for manufacturing into ham could erode some existing local processors' resolve to buy only Australian, or lead to new pigmeat processors establishing in Australia. If one or more of the larger Australian processors were to turn to imports for supply of boneless skinless leg pork, then import volumes could increase markedly, and local pigmeat prices for processing could become more aligned to world trade prices.

Although this could create some short term difficulty for some sections of the pig and pigmeat industries, it would further benefit bacon, ham and smallgoods manufacturers, and consumers of those products. Overall, the economy-wide effects should be positive, especially if those increased imports were also to stimulate reductions in costs in the pig and pigmeat industries.

Overseas assistance measures

The Commission was asked to examine the effects on Australia of government assistance provided by other countries to their pigmeat industries.

Although no participant provided specific up-to-date information, local industry representatives claimed that overseas assistance measures had reduced import prices to Australia. Countervailing duties currently apply to imports of canned ham from Denmark, the Netherlands and Ireland. Although material injury was not established, the Australian Customs Service in late 1992 found that some Canadian assistance measures may have had some minor flow-through effect on the price of pork exported to Australia.

Canada

Canada is the second or third largest world exporter of pigmeat, with exports in 1995 expected to be about 310 000 tonnes, representing about 25 per cent of its total expected production of about 1.2 million tonnes. However, trade in pigmeat worldwide is very regional, and Canada directs 78 per cent of its exports to the United States. Canadian exports to Australia in 1994–95 totalled about 3500 tonnes, or about 1 per cent of Canadian exports. Evidence suggests that Canada is a lower cost pigmeat producer on average than Australia.

Information obtained by the Commission confirms that there are no direct domestic or export subsidies to pigmeat processing in Canada. However, it is clear that pig farmers in Canada receive assistance from a number of different Federal and Provincial schemes. OECD estimates for 1994 suggest that assistance to pig production in Canada totals about 15 per cent of the farmgate value of production (compared with about 4 per cent for Australia).

While this assistance undoubtedly makes Canadian pig farmers better off than they otherwise would be, it does not necessarily follow that it leads to reduced prices for pigs and pigmeat. The issue which the Commission has addressed is the extent to which such assistance affects the price of imports by Australia.

Assistance to pig production 1994— Producer subsidy equivalent (PSE)*

Assistance measure	*Australia*	*Canada*	*European Union*	*United States*
Total PSE	A$25 m	C$326 m	ECU1686 m	US$501 m
Percentage PSE	4%	15%	10%	5%

* These estimates do not measure assistance due to quarantine.

In determining how assistance affects export prices, the key issues are: does assistance directly or indirectly affect the supply of pigs; and are changes in supply passed through into the price of pigmeat, domestically and for export.

Addressing these issues requires an understanding of how assistance is provided, and how Canadian pig and pigmeat prices are formed. Assistance in the form of cheaper inputs to pig production, for example feed grain, is likely to stimulate production. Assistance to the specialised assets used on pig farms may simply raise the price of these assets rather than the number of pigs produced with them. Some assistance directly adds to farmer income and does not affect supply.

Many of the Canadian schemes are scaling down, and many provide assistance in a way which is not likely to affect the supply of pigs. However, some

arrangements are likely to affect the supply of pigs, albeit to a minor extent, and to a lesser degree than at the time of the Customs investigation in 1992.

As noted above, Canada exports significant quantities of pigmeat to the United States. This is true also for live pigs. Further, the United States exports pigmeat and pigs to Canada. The two markets are highly integrated and respond to the same market signals. United States and Canadian prices for live pigs track each other closely. As the total North American market in aggregate is about seven to eight times larger than the Canadian market, supply changes in Canada should have little effect on prices in either Canada or the United States. The available empirical evidence suggests that this is the case.

The Commission has concluded that Canadian assistance is unlikely to have a significant effect on export prices of pigmeat to Australia.

United States

Given the dominance of the United States in the North American market, the nature and extent of assistance to pigmeat in the United States may be more relevant to Australia than assistance provided in Canada.

Pigmeat output in the United States is forecast to be over 8.1 million tonnes in 1995, with exports of some 225 000 tonnes. There are significant exports to Canada. Imports into the US are expected to exceed 330 000 tonnes, the vast majority being from Canada. The United States has requested the Commonwealth Government to allow imports of its pigmeat into Australia. The evidence suggests that the average cost of pig production in the United States is lower than in Australia.

The OECD estimates suggest that assistance to pigmeat production totalled about 5 per cent of the farmgate value of production in the United States in 1994, but that domestic prices were not affected. In the past export subsidies have been provided for exports to the former USSR. However, there are no apparent plans for export subsidies to pigmeat in future.

No United States assistance measures, direct or indirect, appear to affect North American domestic prices to any significant degree, although the non-recovery of meat inspection costs in the United States may marginally lower prices. There is thus nothing to suggest the United States assistance significantly affects prices of Canadian exports to Australia.

European Union

Pigmeat output in the European Union (EU) in 1995 is estimated to total about 14.7 million tonnes. Exports to non-EU countries are expected to be around 690 000 tonnes. Denmark accounts for about 10 per cent of EU production, and more than half of EU exports to non-EU countries. AQIS is currently examining requests from Denmark to allow imports of its pigmeat.

OECD estimated that assistance to pigmeat producers in the EU is about 10 per cent of the farmgate value of production. In contrast to Canada and the United States, export subsidies apply in the EU to pigmeat and products manufactured from it. These so-called 'export refunds' are announced from time to time for specific products to specific markets. They are intended to offset the difference between internal EU prices and world prices, making exporting economic.

As noted above, Australia imposes countervailing duties on imports of canned pigmeat from Ireland, the Netherlands and Denmark. These duties are intended to offset the EU's export refunds on that product, and were applied after injury was found to the Australian industry producing canned ham.

Following implementation of the Agricultural Agreement of the Uruguay Round, both the volume of subsidised pigmeat exports and the level of refund expenditure will fall over the period to 2001. Already, some subsidies have ended. For example, they no longer apply to exports of bone-out product.

Responses under existing policy

Several participants requested action to protect Australian pig farmers and pigmeat producers from import competition. It is not the Commission's task in this research project to make recommendations for changes to existing government policy. However, the Commission has looked at the implications of some existing policy arrangements.

Government policy in recent years has been directed towards encouraging Australian industry to become internationally competitive and outward looking. In the recently concluded Uruguay Round, for instance, Australia took a strong stand against trade restrictions on agricultural products, particularly import quotas and export subsidies. The agreements reached in these negotiations are of major interest to Australia.

Australia's international commitments constrain the action that it can take. Tariffs on imports of frozen pork are bound at zero and tariffs on imports of canned pigmeat at 10 per cent. 'Emergency action', anti-dumping and countervailing action must be in accordance the agreements reached at the

Uruguay Round. Such actions are harder to justify than before, especially for agriculture. Further, quarantine restrictions — including the continuation of existing restrictions — must be based on sound scientific analysis of likely risks, and must not discriminate between countries.

Existing assistance

Although perhaps more abrupt than may have been foreseen, the recent decline in the number of pig producers is helping to ensure that the pig and pigmeat industries are better able to survive and compete. A consultant's report prepared in 1990 for the Australian Pork Corporation concluded that 'marginal producers should exit the industry to raise average quality and lower cost'. It considered that 'some four thousand producers have to be assisted to leave the industry in the next ten years'. As it has turned out, over 3000 producers have left in only five years.

Pig producers with difficulties in adjusting are eligible for a range of assistance measures under the Rural Adjustment Scheme (RAS), a scheme which applies generally to rural industry in Australia. Also pig producers and their families are eligible for the welfare assistance available to primary producers generally.

The current drought has caused hardship and social disruption to many pig farmers and their families.

Current RAS measures include some drought assistance under 'exceptional circumstances' provisions. Where the Minister for Primary Industries and Energy determines that exceptional circumstances exist, interest rate subsidies can be made available. While some pig producers receive this assistance, according to the Pork Council of Australia, most are ineligible for drought relief.

A range of State Government assistance measures has also been available under schemes which apply to primary production generally, including specific assistance to cope with drought.

Several participants claimed that freight subsidies on feed grains provided by State Governments to graziers disadvantage pig farming. The Pork Council of Australia said that these subsidies increase feed costs for the intensive livestock industries, which are not eligible for them because grains are a normal feed source for pigs. As the Pork Council of Australia indicated, the National Drought Policy is phasing out such subsidies in recognition of their distorting effect. The Pork Council of Australia requested that, in the meantime, fodder subsidies should be made available to pig producers.

Participants mentioned other areas where governments can take action to overcome barriers and impediments to the industry's development. These were the cost of meat inspection, inspection standards for pigmeat exports, labelling issues, greater access to imported genetic material, and greater access to imports of feed grains.

Improving efficiency and cost competitiveness

To prosper in an environment of freer trade, many sections of Australia's pig and pigmeat industries will need to become more efficient and internationally competitive.

In terms of the use of genetic material and in herd management, Australia's best pig producers are on a par with the world's best. Cresap commented in 1990 that it appears that 'the most efficient Australian producers are at or close to world cost levels'. However, indications are that the average cost of pig production in Australia is higher than in Canada and the United States.

There are positive signs for the Australian pig industry. As the drought ends, and the domestic cost of feed grain in Australia returns to its historic relationship with world market prices, the relative cost disadvantage of Australia's pig producers should lessen. In the longer term, if arrangements are put in place to facilitate imports of feed grains, this would limit feed cost rises during future droughts.

It is likely that the industry's average costs overall will fall as the industry becomes more specialised and concentrated. Evidence from the United States indicates that production economies continue to accrue as the size of the pig production unit increases. The growing influence of overseas ownership should also help introduce best practice from overseas and reduce costs, as well as open up possible avenues of export trade.

A study by Hassall & Associates in 1994 for the Pig Research and Development Corporation and the Agri-Food Council Secretariat concluded that there were wide gaps between current practice in Australian pig abattoir and boning rooms and world best practice. For example, the study identified a cost disadvantage in abattoirs in Australia against the United States of about 40 per cent per pig (or about 65 per cent on a kilogram basis). This disadvantage was related to the relatively inefficient use of labour in Australia. The study commented that there appears to be significant scope to narrow most of the performance gaps. Suggested improvements included increased plant size and modernisation, increased hours of operation, and better quality of product. As well, the study considered that increased slaughter weights and more uniform carcases would reduce pigmeat production costs significantly.

The recommendations of the Industry Commission's 1994 report into Meat Processing sought to improve the efficiency and competitiveness of abattoirs and boning rooms. The Commission noted that labour was by far the largest component of cost and made a number of recommendations to advance labour market reform in the sector as a matter of priority. It also suggested changes to quarantine and inspection arrangements to facilitate exports of Australian meat. Since completion of that report, there is no evidence that reforms of any major significance in these areas have been implemented.

The Commission has no comparative information about the cost competitiveness of the bacon, ham and smallgoods sector. It notes, however, that a benchmarking study on that sector is currently being undertaken by Hassall & Associates, which should shed more light on this matter.

1 INTRODUCTION

Over the past few decades, the Australian pig farming industry has been adopting new technologies and undergoing substantial structural change. In the last couple of years, pig farming has been adversely affected by drought which has raised costs of feed grains significantly. In response to these longer term and shorter term factors, pig production has become much more concentrated in fewer, larger, units. Pig farmer numbers have declined significantly, although pigmeat production has continued to increase.

Many in the industry believe that one of the most significant factors leading to falls in pig farmer numbers was the opening of the Australian market in July 1990 to imports of frozen pork for processing from Canada. No import duties apply to these imports. Apart from canned ham, and some product from New Zealand, quarantine prohibitions remain on all other pigmeat and processed pigmeat.

In 1992, at the request of industry, the Australian Customs Service (ACS) investigated claims that Canadian pork was being dumped and subsidised on to the Australian market, and was causing or threatening material injury to Australian industry (ACS 1992). The ACS's negative finding on injury was subsequently upheld by the Anti-Dumping Authority (ADA 1993), and by the Federal Court.

A rally of pig farmers was held in Canberra on 28 June 1995 to express concerns about pigmeat imports and the continuing fall in pig farmer numbers. In response, the Minister for Primary Industries and Energy offered the industry an inquiry into pigmeat imports (see Collins and Gear 1995). This research project is the result of that offer. The full terms of reference are set out before the Key Findings.

1.1 Consultations and submissions

Although this study is not a formal inquiry under the *Industry Commission Act 1989*, the Commission has sought and encouraged public participation from interested parties. During the study period, it held a number of informal discussions with a range of interested parties, including industry representatives, individual pig farmers, pigmeat processors, and users and consumers. A meeting was held with representatives of the Pork Council of Australia to give them the opportunity to elaborate on the Council's submission. Parties consulted are listed in Appendix A.

In early August, the Commission called for submissions addressing topics of relevance to this study. A total of 35 submissions were received. Public sections of submissions were made available to participants for further comment. A list of submissions is given in Appendix A.

1.2 Report structure

In responding to the specific questions raised in the terms of reference, the Commission is mindful of the need to assess them in relation to other factors affecting the pig and pigmeat industries, and in relation to the development of agriculture, industry and trade policies more generally.

Chapter 2 describes the major characteristics of and recent trends in the pig and pigmeat industries in Australia. It goes on to place pigmeat imports in the context of the Australian markets for pigs, pigmeat and pigmeat products. Prices of imports are compared with prices for comparable local production. The Commission endeavours to assess the relative importance of import prices in affecting pigmeat prices in Australia, and to assess the effects of imports on the performance of the pig and pigmeat industries, and on the overall performance of the Australian economy. This chapter also examines whether import volumes are as high as might be expected.

In Chapter 3 the nature and extent of government assistance affecting the pig and pigmeat industries in Canada, the United States and the European Union is examined. The chapter assesses whether such assistance affects prices of pigmeat imported into Australia.

It is not the Commission's task in this research project to make recommendations for changes to existing government policy. However, Chapter 4 looks at the implications of existing policy. The chapter considers possible responses under existing policy arrangements, and actions which the pig and pigmeat industries themselves can take to improve efficiency and cost competitiveness.

2 AUSTRALIAN MARKETS, IMPORTS AND INDUSTRY PERFORMANCE

This chapter focuses on the domestic markets for pigs and pigmeat and the effects of pigmeat imports on prices and industry performance. Three industries are involved: the pig farming industry, which produces pigs; the meat processing industry, including abattoirs and boning rooms, which produces pigmeat for sale as fresh pork and for further processing; and the manufacturing sector, which uses pigmeat in the production of bacon, ham and smallgoods.

Before July 1990, quarantine prohibited the import of pigs and fresh or processed pigmeat except for canned hams, and some imports from New Zealand. Since then, however, imports from Canada of frozen, uncooked pigmeat for processing have been allowed. These imports have caused much concern to the Australian pig farming industry.

2.1 Industry characteristics and trends

Australia's pig and pigmeat industries and changes to them in recent times are described below. This is followed with an outline of the Australian markets for pigmeat, and the place taken by imports. The effects of imports on prices and on pig and pigmeat industry performance are the subject of the subsequent two sections. The chapter concludes with comments on the economy-wide effects of imports.

Additional information about the structural characteristics of these industries is provided in Appendices B and C.

Pig farming

Significant changes have been occurring in the structure of Australian pig farming for many years, and a continuation of past trends is forecast by industry commentators.

The number of pig herds has fallen from almost 50 000 in 1960 to around 4 700 at the end of 1994 (see Figure B1 in Appendix B), an overall decline of approximately 90 per cent. This decline represents an average of some 1300 herds per year. Since Canadian imports commenced in 1990, the average yearly decline to the end of 1994 was about 540. In the seven months to July

1995, the number of producers with pigs fell by a further 1100, with most of the fall being during the May–July period.

While the number of producers has been declining rapidly, the number of breeding sows is now about 50 per cent above 1960 levels, although lower than in the early 1970s. Pigs produced per sow, total slaughterings, and average weight at slaughter have been increasing. Between 1984 and 1994, slaughterings per sow increased from 13.6 to 16.4, or by over 20 per cent. The total number of pigs slaughtered has increased by about 14 per cent since 1985, and the average slaughter weight of pigs increased by almost 17 per cent in the same period. The combined effect is that Australian pigmeat production increased by almost 30 per cent from 267 000 tonnes in 1985 to 347 000 tonnes in 1994 — see Figure C1 in Appendix C.

There have been significant changes in the average size and distribution of Australian piggeries. The long term trend involves a substantial fall in the number of small to medium sized producers and a gradual increase in the number of large scale producers. For instance, in the seven month period to July 1995, around 82 per cent of the producers leaving the industry had fewer than 50 sows in their pig herd, while the number of large producers with more then 1000 sows increased by over 12 per cent. The average herd size has increased from under 5 sows in 1960, to 30 in 1985, and to nearly 70 in 1994.

Despite these ongoing structural changes, there are still a large number of very small non-specialist producers. Producers with less than 100 sows (ie those producers generally considered to be non-specialist) account for about 83 per cent of pig herds, but only 26 per cent of sows. In contrast, the 1 per cent of producers with more than 1000 sows, account for 34 per cent of sows.

Several larger producers have expanded into pig production from an original base of stockfeed manufacturing, or from slaughtering and manufacturing activities. A significant number of the larger pig and pigmeat producing enterprises in Australia are ultimately owned by overseas interests.

Abattoirs and independent boning rooms

In 1994, there were about 140 abattoirs slaughtering pigs. Of these, only 9 were specialist pig abattoirs, and pigs were generally the minor species at the multi-species abattoirs (see Appendix C). According to Cresap (1990), the specialist pig abattoirs are mostly vertically integrated with pig production and pigmeat manufacturing.

While the total number of abattoirs has been declining — from 550 in 1972 to 223 in 1992 — meat production at abattoirs, including pigmeat production, has

been increasing. Total meat production increased by 32 per cent between 1983 and 1992, while in the same period pigmeat production increased by 38 per cent (IC 1994b, APC & PRDC 1995a).

Abattoir throughput of pigs in 1994 was 5.16 million pigs, an increase from the previous year. While the number of pig slaughterings has fluctuated, there has been a general increase since 1991, and an increase of some 14 per cent in the period from 1985. This has been accompanied by a continuous increase in average carcase weight, resulting in even greater pigmeat production.

Bacon, ham and smallgoods manufacturing

In 1991–92, the last full year for which data are available, this industry consisted of approximately 128 bacon, ham and smallgoods manufacturers (ABS 1994b). These manufacturers use other meats as well as pigmeat, although pigmeat accounts for the majority of meat used. Total use of pigmeat for manufacturing in Australia has remained relatively static in recent years.

Most bacon, ham and smallgoods manufacturers are small establishments, although there are some large producers including Don Smallgoods, Darling Downs Bacon (DDB), Watsonia and Chisholm Manufacturing.

In line with changes in the food and meat processing industries generally, there has been much recent restructuring and ownership change in smallgoods manufacturing. In particular, overseas owned firms now have significant interests. For example, George Weston Foods, a UK group, owns Watsonia in Western Australia and George Chapman in South Australia. Bunge Australia, a subsidiary of the Brazilian Bunge group, owns Don Smallgoods.

2.2 Sales of domestic production

In 1994–95, exports of unprocessed pigmeat from Australia totalled almost 8000 tonnes. It is believed that more than half of this was accounted for by feral pigmeat.

Data for domestic sales of locally produced pigmeat are not available. However, as stock levels are believed to be relatively low and as exports are also low, production data give a good indication of the volume of local sales.

As mentioned above, pigmeat production in Australia has generally been increasing. From 1985 to 1994, for example, production increased by 30 per cent to about 347 000 tonnes. Production in the 1994–95 financial year was about the same as in calendar year 1994.

Producers sell their stock through two main markets. Smaller pigs (porkers) generally go to the fresh market and bigger pigs (baconers) are more likely to be used in manufacturing, although some baconers are now processed into 'new fashioned pork' for the fresh market. Which type brings the higher net returns depends on price and cost relativities — these change over time. Some producers concentrate on supplying one market or the other.

Fresh pork is sold to food service outlets (such as restaurants and institutions) or retailed through butchers and supermarkets, in competition with other meats such as beef, lamb, mutton and chicken. Estimates from the Australian Pork Corporation (APC) suggest that between about 35 and 40 per cent by volume of pigmeat production is sold as fresh meat, and the remainder used in manufacturing. This means that in 1994 about 140 000 tonnes was used fresh, with 210 000 tonnes further processed. The volume of pigmeat being used for manufacturing has remained fairly static in recent years, with the growth in pigmeat production going to the fresh market (see Appendix C).

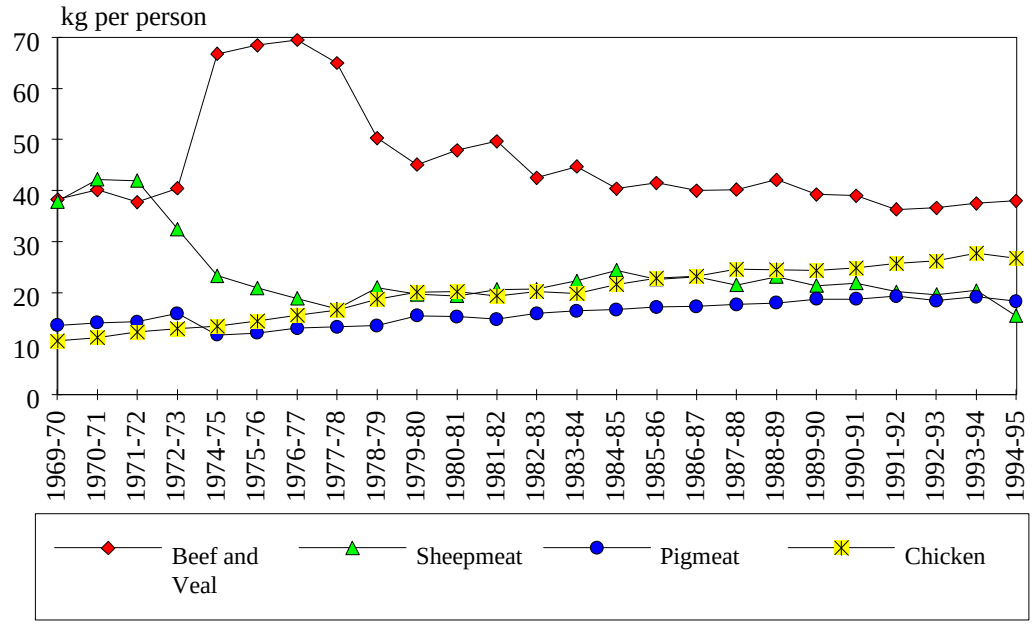
Demand for some types of pigmeat in Australia is distinctly seasonal. Retail sales of ham at Christmas account for almost 40 per cent of annual ham sales, and fresh pork sales at Christmas for almost 20 per cent of annual fresh pork sales (Whan 1993). Prices for ham and fresh pork leg generally rise significantly each year before Christmas. Bacon sales, however, are not very seasonal.

Per capita annual pigmeat consumption in Australia is low compared with other major pig producing countries. It is also lower than Australian beef and chicken consumption, although higher than lamb. Trends in per capita consumption are shown in Figure 2.1. Per capita consumption of pigmeat has been relatively steady during the 1990s at around 19 kilograms per year. This is significantly higher than the level prevailing during the 1970s and early 1980s.

In its submission, ABARE pointed to the important influence which beef has on Australian pigmeat consumption:

> prices of different meat types in Australia are strongly linked through substitution relationships in meat consumption ... the composition of meats consumed has varied substantially as consumers have reacted to changes in relative prices of meat. (Sub. 31, p. 36)

Figure 2.1: **Per capita consumption of beef and veal, sheepmeat, pigmeat and chicken, 1969–70 to 1994–95**



Source: ABARE Sub. 31, p. 14.

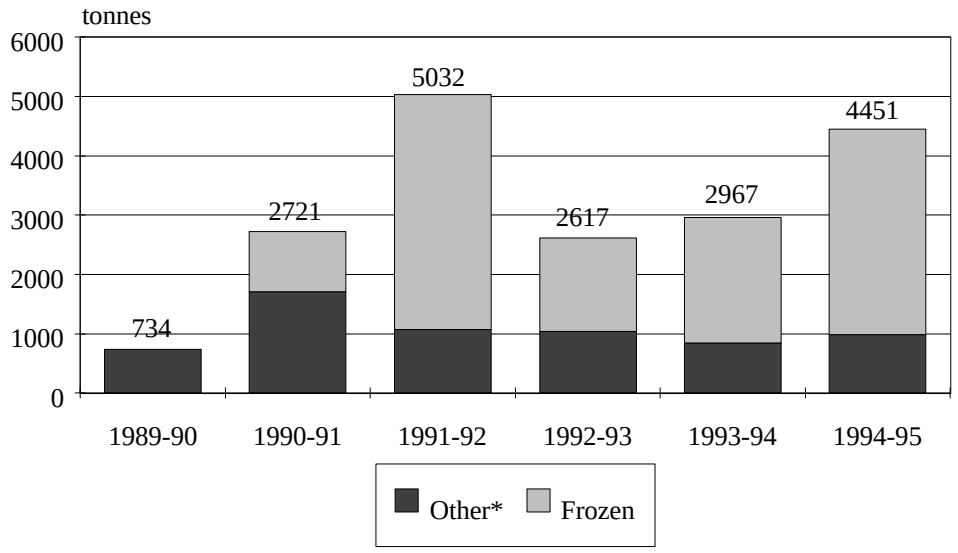
Using funds levied on the slaughter of pigs, the APC endeavours to expand Australian demand for pigmeat and improve returns for pig producers. To date, the APC has concentrated its promotion and marketing efforts on fresh pork, but has indicated its intention to increase promotion of manufactured products. According to the APC, the main elements of its strategy have been advertising, in-store merchandising and demonstration, and participation in retail promotions and line extension.

2.3 Imports

In addition to domestic production, Australian market supplies of pigmeat have been supplemented by imports.

Until the middle of 1990 when quarantine restrictions were liberalised on imports of frozen pigmeat from Canada for processing, imports consisted mainly of canned ham from Europe. Figure 2.2 indicates that total imports increased from about 700 tonnes in 1989–90 to 2700 tonnes in 1990–91, the first year in which Canadian imports were allowed. Annual import volumes have since fluctuated between 2600 and 5000 tonnes.

Figure 2.2: **Total volume of pigmeat imports, 1989–90 to 1994–95**



* Preserved, fresh, chilled, salted, dried or smoked, including canned.
Figures indicate annual totals.
Source: ABS.

In 1989–90, canned meat accounted for all imports. However by 1994–95, frozen pigmeat accounted for almost 80 per cent by volume. Other imports largely consist of canned hams and shoulders from Ireland and the Netherlands and small quantities of fresh pigmeat from New Zealand. Under existing regulations, fresh meat imports are only allowed from the South Island of New Zealand. Currently, anti-dumping and countervailing measures are in place against canned ham products from Ireland and the Netherlands. In addition, countervailing measures are also in place on Danish canned ham products. Details of quarantine regulations are provided in Appendix D.

Table 2.1 provides details of pigmeat imports in 1994–95 by country, volume and value. Almost 80 per cent (in volume terms) of imports were sourced from Canada, with the Netherlands (with canned ham) being the next most important at just over 10 per cent. Much concern was expressed by participants about Canadian imports, but none about imports from the Netherlands or other countries.

Table 2.1: **Volume and value of pigmeat imports, 1994–95**

	Volume		*Value*	
	kg	*per cent*	*$A*	*per cent*
Canada	3 486 309	78.3	12 501 834	74.8
Netherlands	483 327	10.9	2 764 611	16.5
New Zealand	294 935	6.6	568 302	3.4
Ireland	139 455	3.1	628 646	3.8
Germany	19 674	0.4	142 701	0.9
USA	10 264	0.2	36 205	0.2
Denmark	8 400	0.2	37 863	0.2
China	3 970	0.1	19 551	0.1
Croatia	3 300	0.1	3 104	..
Pakistan	720	..	1 110	..
Singapore	322	..	7 802	..
New Caledonia	132	..	849	..
Philippines	47	..	81	..
Japan	45	..	859	..
France	23	..	265	..
Indonesia	5	..	61	..
Total[a]	**4 450 928**	**100.0[a]**	**16 713 844**	**100.0[a]**

.. Negligible

a May not add due to rounding.

Source: ABS.

Table 2.2 sets out the total annual imports from Canada. In both volume and value terms, the totals have fluctuated markedly. It is noticeable that the 1994–95 total of some 3500 tonnes was below the 1991–92 total. The total annual value of imports has ranged from about $4 million to nearly $14 million.

Table 2.2: **Volume and value of Canadian pigmeat imports, 1990–91 to 1994–95**

	Volume (kg)	*Value ($A)*
1990–91	990 728	4 311 257
1991–92	4 002 741	13 888 801
1992–93	1 584 298	5 522 407
1993–94	2 040 675	8 360 223
1994–95	3 486 309	12 501 834

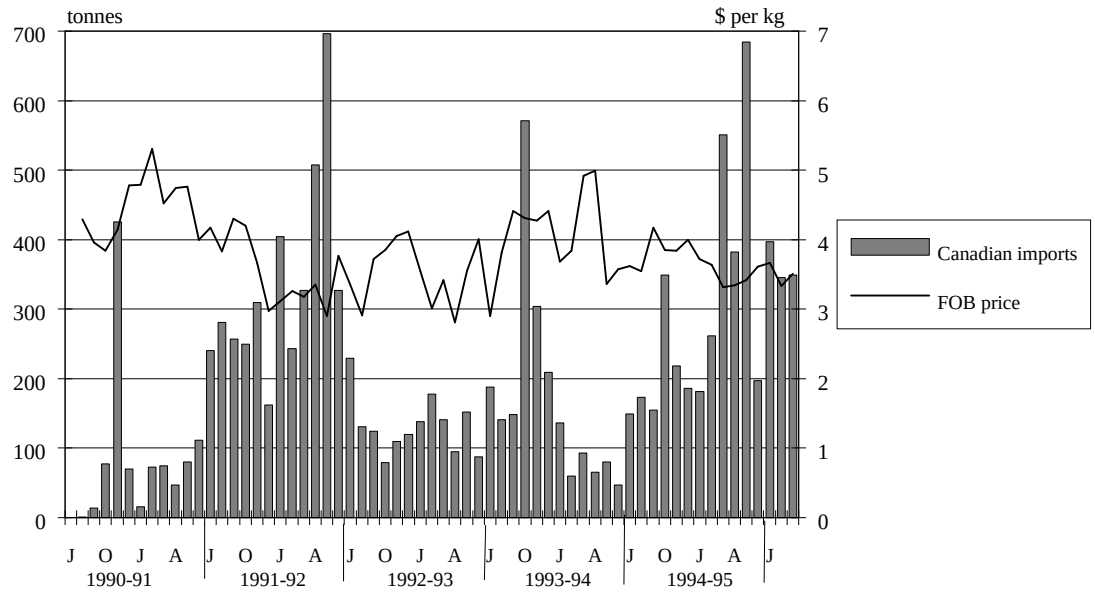
Source: APC & PRDC 1994 and 1995a, ABS.

Figure 2.3 illustrates how the monthly volume and fob prices of frozen uncooked pigmeat imports from Canada have fluctuated since quarantine

restrictions on imports from that country were liberalised. In its submission, ABARE stated:

> There has ... not been a discernible upward trend in imports since 1990–91, nor has there been a close relationship between import prices and the level of imports. (Sub. 31, p. 6)

Figure 2.3: **Canadian imports by volume and fob price, July 1990 to September 1995**



Source: ABS.

In informal discussions, the Commission was told that some processors were receiving regular shipments of pigmeat from Canada. Other imports from Canada are managed by agents and brokers who distribute pigmeat to smaller processors. Most imports are made against specific orders by processors.

The Commission received differing estimates of the composition of Canadian imports. According to BE Campbell (NSW) Pty Ltd (Sub. 17), pigmeat imports from Canada largely consist of boneless, skinless leg pork entering under various descriptions: boneless C105 leg pork; three piece ham; and buck eye. Campbell considered that 99 per cent of the imports are 'derived from the leg' (Sub. 17, p. 2). In contrast, the Queensland Pork Producers' Organisation (QPPO) quoted 'reliable industry sources' as indicating that 60 per cent were leg cuts and the balance were middles and loins (Sub. 10, p. 21). One importer stated that in his experience, legs represented between 65 and 70 per cent of

Canadian imports, with middles accounting for the remainder. A large processor provided a breakdown of 85:15 between legs and middles.

2.4 Market shares

Assessments of the volume share of Canadian imports in the domestic market can be made against various baselines, depending on the purpose of the comparison. Australian pig farmers would be most interested in the potential loss of pig sales because of imports, whereas processors and manufacturers might relate pigmeat imports to their own throughputs of particular pigmeat cuts.

Overall, the Canadian imports in 1994–95 of some 3486 tonnes account for only about 1 per cent of total Australian supplies of pigmeat. When allowance is made for the fact that imports are boneless (as quarantine rules require), and most apparently are skinless, the Canadian market share can be put at 2 to 4 per cent on the basis that the yield of boned lean meat from a carcase is generally 25 to 50 per cent depending on the mix of cuts (see Bunge Meat Industries Ltd, Sub. 20, p. 2). At the other extreme, the Canadian share is much higher when total imports are related to Australian production of boneless, skinless leg pork for manufacturing. These comparisons are set out in Table 2.3.

As indicated in Table 2.3, if fresh pork sales in Australia account for between 35 and 40 per cent of pigmeat production, and all Canadian imports are legs, then in 1994–95, Canadian imports represented about 10 per cent of supplies of boneless, skinless leg pork used for manufacture. These estimates represent an upper limit to market share calculations for that year as they assume that all Canadian imports are boneless, skinless leg pork and make no allowance for loss of weight on thawing. If legs were to account for only 70 per cent of Canadian imports, then their share of that market falls to under 8 per cent, with the remainder of imports generally being sold in the relatively bigger market for middles and shoulders.

In terms of any actual or potential loss of sales volume by local processors, it would be more appropriate to focus on market shares of total pigmeat supplies or of total boneless pigmeat supplies for processing, rather than of particular cuts such as boneless, skinless leg pork. This is because abattoirs and boning rooms all produce a wide range of pigmeat and other meat products. Pigmeat boning rooms process whole pigs into a range of cuts and products for sale. Focusing on particular qualities and cuts overestimates the effect of imports as it does not account for substitution between the various cuts and products. When Canadian pigmeat imports are related to boneless, skinless Australian pigmeat supplies available for manufacturing, the import market share comes

back to under 4 per cent, and to 2.4 per cent of the total pigmeat supply, respectively.

Table 2.3: **Canadian imports in relation to Australian pigmeat production, 1994–95**

	Australian supplies (tonnes)	*Canada's share (per cent)*
Canadian imports [a]	3 486	
Australian pigmeat production [b]	349 124	
Australian pigmeat supplies	352 610	1.0
Adjusted Australian pigmeat production [c]	139 650	
Adjusted Australian pigmeat supplies	143 136	2.4
Deduct fresh meat [d]	52 369	
Australian pigmeat for processing	87 281	
Australian processed pigmeat supplies	90 767	3.8
Deduct 66% for Australian middles and shoulder	57 605	
Australian leg production on a bone-out basis	29 676	
Australian leg supplies [a]	33 162	10.5
Australian leg production	29 676	
Canadian leg imports [e]	2 440	
Australian leg supplies [e]	32 116	7.6

a Assuming leg cuts account for 100 per cent of total Canadian imports.
b ABS preliminary estimate.
c Assuming 60 per cent deduction for head, fat, skin and bone removal.
d Assuming fresh pork accounts for 37.5 per cent of pigmeat production.
e Assuming leg imports account for 70 per cent of total Canadian imports.

2.5 Comparison of import and domestic prices

Estimates of market share do not tell the full story about the effects of imports. As well as taking away sales of domestic production, imports (or the threat of imports) can reduce prices, or cap increases which would otherwise occur. This section endeavours to compare the current price of imports (mainly boneless, skinless leg pork) with that of the equivalent Australian product. Section 2.7 (below) examines whether changes in Canadian import prices or volumes are reflected in, or cause changes in, prices for Australian pigmeat.

No published information directly compares import and domestic prices for boneless, skinless leg pork. As only limited published information is available, the Commission has had to rely on submissions and on informal discussions with interested parties for information on prices of Australian produced boneless, skinless leg pork.

In making comparisons it is important to: ensure that the products are comparable; ensure that the qualities of those products are comparable; make allowance for any differences in processing characteristics; and make comparisons at the same point of sale. In the case of pigmeat, there are difficulties in all of these areas.

It is difficult to be certain that the information provided to the Commission by participants relates to actual market prices. The major manufacturers produce boneless, skinless leg pork in their own boning rooms, as an intermediate product in the production of hams. At least some of the information provided reflects costs of production, or notional or estimated prices based on historical price relationships/relativities, rather than prices of transactions between unrelated buyers and sellers.

A number of participants indicated that Canadian boneless skinless legs are currently being offered to processors at $3.98 per kilogram fis (free in store) Sydney, Melbourne or Brisbane. It appeared that this quoted price is valid for the period June to November 1995. DDB indicated its cost for the same product was $4.76 per kilogram in June (from a $1.81 per kilogram pig) rising to $7.25 per kilogram in November (from a $2.15 per kilogram pig), with an average cost of $6 per kilogram (Sub. 9, p. 2). These figures reflect costs rather than market prices.

Campbell said that the current Canadian price for C105 boneless leg is approximately $4.15 per kilogram cif, and that to produce the same product locally it had to charge from $5.70 to $6.00 per kilogram (Sub. 17, p. 3). Campbell also provided some historical information about Canadian and Australian leg prices — see Table 2.4.

Campbell's information indicates that Canadian prices were consistently below Australian prices during the period shown. It also indicates that the size of the price difference varied, and that the difference was not necessarily greater when Canadian prices were lower.

Table 2.4: **Examples of Canadian and Australian leg meat prices**

	Canadian cif	*Australian*	*Difference*
October 1994	$4.13	$5.80	$1.67
January 1995	$3.80	$5.60	$1.80
March 1995	$4.10	$5.20	$1.10
April 1995	$3.90	$5.20	$1.30
May 1995	$3.90	$5.20	$1.30

Source: BE Campbell (NSW) Pty Ltd (Sub. 17, p. 3).

Price comparisons should take account of quality differences. The Commission received conflicting information about the relative quality of Canadian and Australian pigmeat. The Canadian Pork Council and Canada Pork International contended that 'Canadian pork has gained a worldwide reputation for superior quality' (Sub. 7, p. 2). The QPPO claimed that Canadian pigmeat was 'generally inferior' (Sub. 10, p. 21), and Campbell stated that it was 'considerably fatter' (Sub. 17, p. 4). Bunge said that Australian pork is 'at least equal' to the competition (Sub. 20, p. 2).

Further, in informal discussions, processors and manufacturers stated that there was a loss of carcase weight in the process of thawing frozen pigmeat. Estimates for this loss varied between 3 and 15 per cent, with the average estimate being around 7 to 8 per cent. The extent of loss depends on the method of thawing used, and the care taken in thawing. Obviously, price comparisons between the Canadian and Australian product need to take into account any such processing difference. But comparison is complicated by the fact that some Australian pigmeat (including leg meat) is also frozen and subject to similar losses.

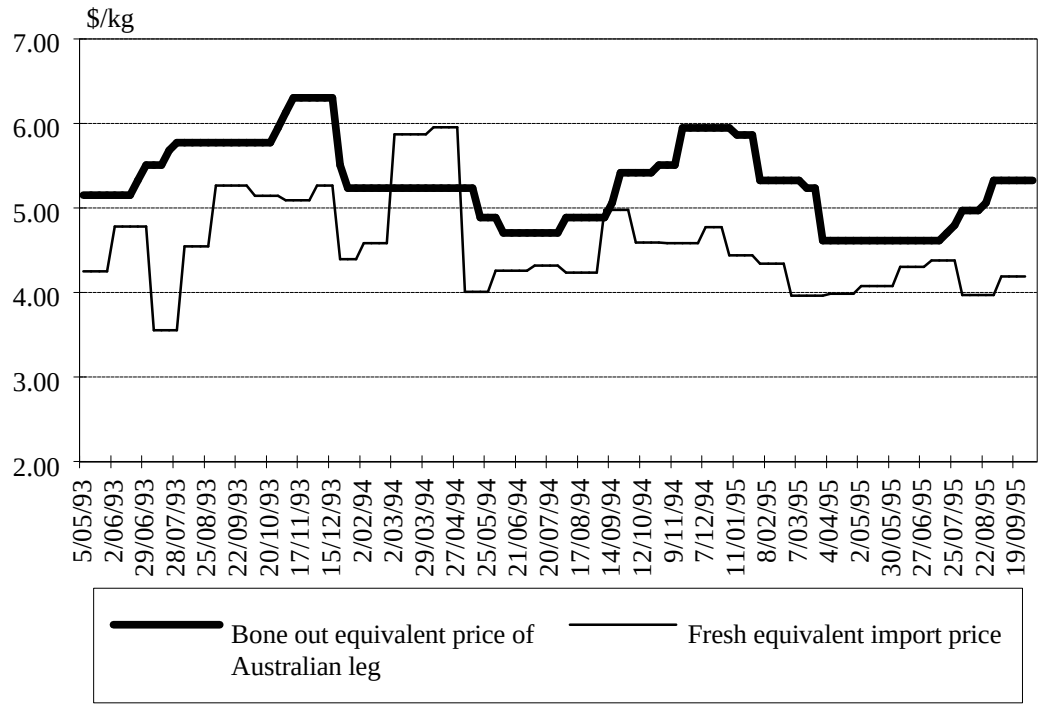
A characteristic both of Canadian import prices and Australian prices has been their variability. Figure 2.3 shows that during the 1990–91 to 1994–95 period, fob prices ranged from under $3 per kilogram to over $5 per kilogram. During 1995, monthly average fob prices per kilogram have ranged between about $3.30 and $3.70.

When adjusted for the cost of landing leg meat in Australia (ie to a cif basis), present average import prices are at about $4 per kilogram. This price level accords well with information provided by participants about the price at which Canadian pigmeat is currently available in Australia. On the basis that there is an average thawing loss of some 7 to 8 per cent in imported product, its price would be increased to about $4.30 per kilogram on a fresh or chilled basis. Allowing for an importer's margin (of about 2.5 per cent, say) would increase

price to about $4.40 per kilogram. Despite the lack of comprehensive information about Australian prices, it appears that Canadian prices for leg meat are about $4.40 per kilogram compared with Australian prices of about $5.20 to $6.00 per kilogram, or about 15 to 30 per cent cheaper.

As noted above, the prices of imports and the local product fluctuate quite markedly. To examine whether Canadian prices have consistently been below those of Australian pigmeat, the Commission constructed a time series price comparison (see Figure 2.4). The Australian price was estimated by adjusting the wholesale square leg cut price series to a boneless, skinless basis. Comparable import prices were estimated by adjusting the fob prices of imports to a cif basis, incorporating the loss of volume from thawing (say, on average 8 per cent) and adding a 2.5 per cent importer's margin. In total, these represent an upwards adjustment of about 18.5 per cent to fob prices.

Figure 2.4: **Estimated prices for comparable Australian and Canadian leg pork**



Source: NSW Meat Industry Authority, ABS, Commission estimates.

The figure shows that while the Canadian product has been generally cheaper than the Australian product, the price differences are not as great as the raw data might indicate. Indeed, as has been stated by several participants, there

have clearly been times in the past when Canadian prices have exceeded or been very close to local prices.

2.6 The scope for further imports

Given that Canadian imports and the comparable Australian product are very similar, it is perhaps surprising that the volume of imports is not greater and the price difference between imports and local product is not consistently less. In the light of Canada's apparent price advantage in leg meat, it can be asked why a greater volume of other Canadian cuts or, indeed, manufactured products, is not imported.

This latter possibility is ruled out, however, by quarantine restrictions, which currently prohibit the importation of manufactured pork products such as sandwich ham, Virginia ham and soccerball ham. (For such products, only canned, hermetically sealed product is permitted to be imported.)

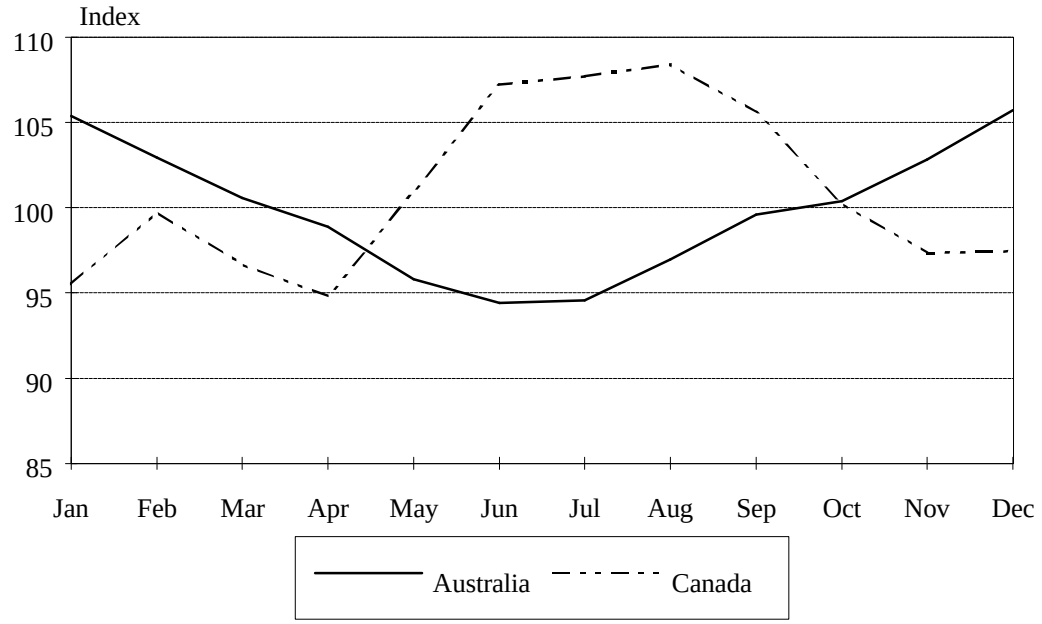
Four major manufacturers of pigmeat — DDB, Watsonia, Don Smallgoods and Chisholm Manufacturing — have reportedly given assurances that they will not use imported pigmeat. For instance, in its submission, Bunge indicated that its sister company Don Smallgoods has given 'an unequivocal undertaking that it will not use Canadian pork in manufactured products' (Sub. 20, p. 2). During 1992 when imports increased significantly, nearly 40 companies, mainly pigmeat processors and manufacturers, gave commitments to support only Australian pigs and pigmeat (PCA 1992). Thus, there is considerable support from pigmeat processors, wholesalers and retailers for the Australian pig industry.

DDB is a cooperative owned by Queensland pig producers, and as such, would be expected to operate in accordance with the wishes of its shareholders. The assurances of the other large manufacturers may reflect commercial advantages such as security of supply, greater certainty of price, the opportunity to negotiate purchasing and selling contracts, greater control over quality, and marketing benefits from buying Australian. Capturing these advantages may be one explanation for the vertical integration evident in the Australian industry. The Bunge group, for example, produces its own pigs in Australia, operates its own pig abattoir, and processes pigmeat into hams and other smallgoods.

A move towards importing could adversely affect such a vertically integrated company's own pig farming or abattoir operations. In the short to medium term, large vertically integrated organisations such as Bunge could be expected to continue to use local pigmeat, despite the availability of cheaper imports, to prevent disruption to its own pig production and slaughtering operations.

Leg pork accounts for most imports at present. Its predominance appears to reflect, in part, different price relativities for the different cuts of pigmeat in Canada (and the United States) compared to Australia. In Australia, leg meat is relatively valuable because of its importance in meeting seasonal demand at Christmas and, to a lesser extent, Easter for fresh and manufactured products. Demand for pigmeat is relatively less over the Christmas period in Canada and the United States. Rather, demand peaks in those countries over the summer months (see Figure 2.5). It is also worth noting that the seasonal pattern to Australian prices has continued despite the availability of Canadian imports (see Figure 2.4).

Figure 2.5: **Seasonal patterns in Australian and Canadian pig prices[a]**



a Indexed such that each series has a median price of 100.

Source: QPPO Boonah Rosewood Branch (Sub. 4, p. 2) data from Jan 1983 to June 1995; Statistics Canada 1995 data from Jan 1976 to Feb 1995.

Prices of middle and rib cuts were said to be higher in the North American market, on average, than similar cuts produced in Australia. This is due, in part, to substantial Japanese export demand for middle cuts. One processor estimated that Australian rib cuts were $3.50 per kilogram in comparison to the North American product which could command a price of $7 to $8 per kilogram. An Australian importer told the Commission that, generally speaking, middle cuts were too expensive to import, particularly given the

additional processing costs incurred to remove the small portion of bone in the 'tail' to meet the bone-out requirement for imports. Nonetheless, as stated above, there is some evidence that imports of Canadian middle cuts are occurring.

These considerations suggest that, while present price relativities continue to exist between North America and Australia, there is unlikely to be a large increase in imports of other cuts of pigmeat from Canada. That said, Canadian leg meat is considerably cheaper at present than Australian leg pork. Bunge (Sub 20, p. 2) indicated that 'this difference in raw material costs can translate to a finished product price difference of up to 15 per cent' and contended that 'in an industry of notoriously low margins such a difference is impossible to sustain in the long term'. This suggests that, if Canadian leg pork remains consistently cheaper, imports from Canada could significantly increase in the medium to longer term.

The future attractiveness of buying Canadian imports will depend on what happens to pig prices in Australia and Canada, and on exchange rate relativities between the Australian and Canadian currencies. As the drought ends in Australia, production costs for pigs and pigmeat should fall relative to Canadian costs. Further, as in Australia, pig prices in Canada fluctuate markedly, and they have firmed recently from being well below their long term trend. Both of these occurrences would help to reduce the incentive to import.

On the other hand, AQIS is examining requests to reduce further the quarantine restrictions on imports of Canadian pigmeat, and to allow importation of Danish pigmeat. Requests from the US have been put on hold until the Danish request is resolved. Easing quarantine restrictions could increase import pressure.

2.7 Effects of imports on prices

A central issue in this study is the nature and extent of the effects of Canadian imports on the Australian pig and pigmeat industries. This section seeks to examine the effects on Australian price levels. The next section looks at the effects on performance by examining characteristics such as investment, incomes and profits.

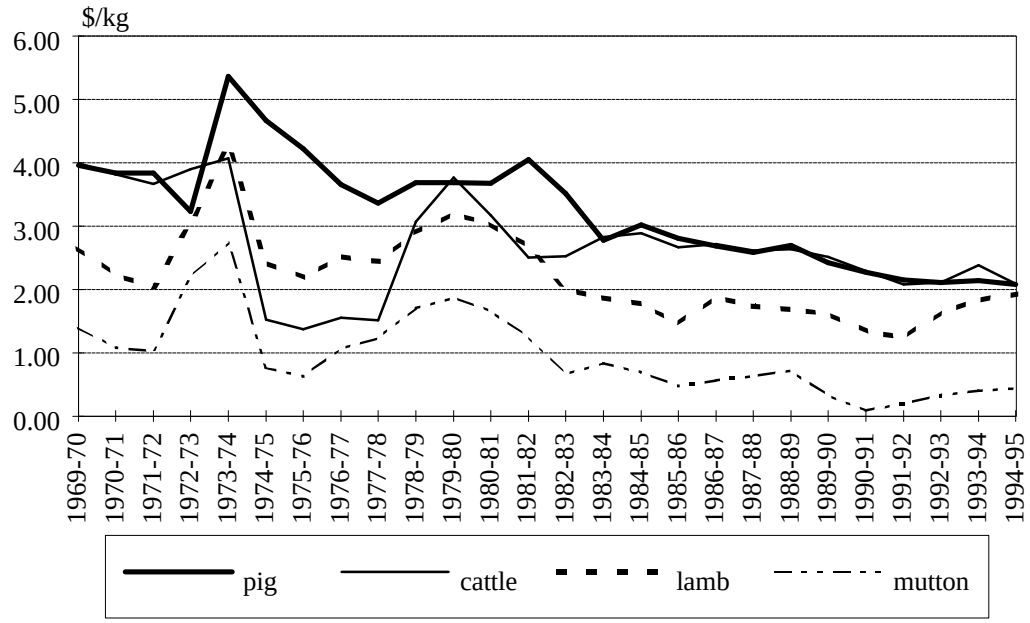
Pig industry representatives claimed that, as well as undercutting Australian prices, Canadian imports suppressed price rises which would otherwise have occurred. These participants claimed that Australian prices of ham at Christmas no longer increase as much as in the past in response to the seasonal increase in demand. It was also claimed that, but for imports, pig prices would have risen in response to higher feed costs during the latest drought.

In addressing the issue of price suppression, the Commission has endeavoured to assess whether there is any demonstrated relationship between import and local prices, and what the nature of any such relationship may be. A relationship might be evident if, for example, there was an immediate effect on Australian prices with the loosening of quarantine requirements in 1990, or if changes in Australian prices followed trends in the price of Canadian imports.

An initial examination of the available price and quantity data for imports and local production of pigs and pigmeat shows no such evidence of price suppression. Australian production has continued to increase despite imports, while Figure 2.6 indicates that the long term decline in real saleyard prices for pigs has continued. That figure also shows an apparent close relationship between pig and cattle prices in Australia in the last decade or so.

A more rigorous assessment is difficult, however, because the analysis needs to take account of all factors which might affect the interrelationship between import prices and volumes with Australian prices and volumes. Any such analysis needs to take account of all demand and supply factors which could influence prices for both fresh and processed pork. These include: seasonal factors which affect supply and demand for both types of products; and the effects of changes in the prices of substitute and complementary products. As noted above, for instance, there is evidence that the price of pigmeat is strongly influenced by the Australian price of beef. Due to world trade, the local price of beef is strongly influenced by the price of beef in North America which, in its turn, affects pork prices in North America, and thus Canadian export prices to Australia. The demand for processed pork could be affected by the price of various convenience foods. Supply lags are also important.

Figure 2.6: **Real saleyard prices for selected livestock, 1969–70 to 1994–95**



Source: ABARE (Sub. 31, p. 17).

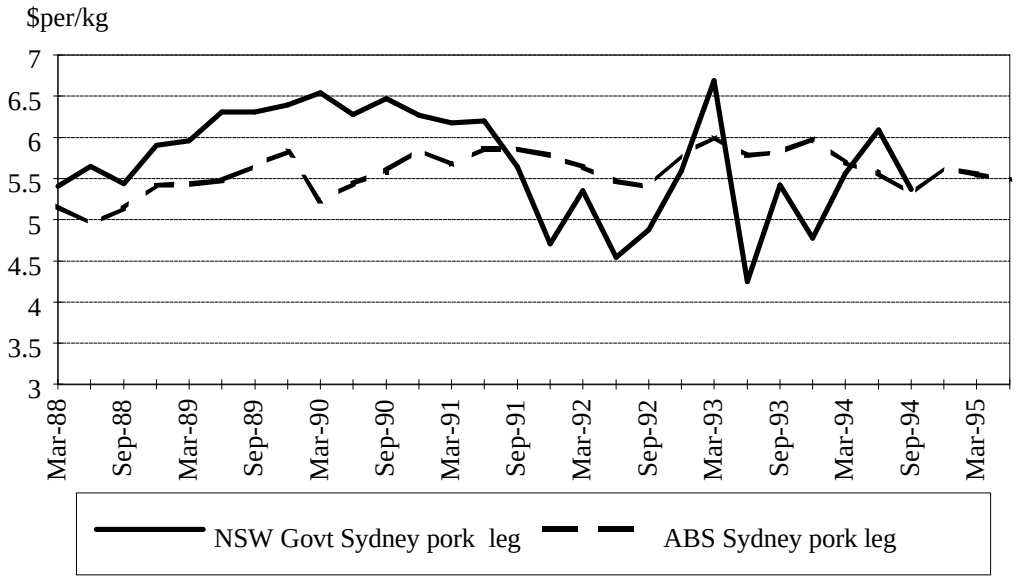
A particular difficulty in such an analysis is the absence of comprehensive and reliable disaggregated data. There is no reliable time series of Australian and import prices for comparable cuts and qualities of pigmeat. Further, some of the available information is conflicting — for instance, retail price information compiled by different organisations differs significantly in levels and trends (see Figure 2.7). It should be noted that the ABS data shown in the figure includes information for the food services sector, whereas the NSW Government's data excluded such information.

The Queensland Department of Primary Industries (QDPI) used regression analysis to see if there had been any trends in major parameters over the period January 1992 to June 1995. 'This showed that bacon prices (in 1995 dollars) and slaughterings in Queensland had remained constant' (Sub. 11, p. 4).

Regression analysis undertaken by Ingoldsby Piggery Pty Ltd compared Australian prices received for pigs (in real terms), the volume of Canadian imports, and domestic production of pigmeat. Ingoldsby reported that the analysis suggests that both the volume of domestic pigmeat production and the volume of Canadian pigmeat imported might have an effect on the pig price received (Sub. 6, p. 16). However, the study did not report enough information to establish a separate influence for Canadian imports. Further, neither the

Ingoldsby study nor the QDPI work was of a nature which could show any causal relationships between imports and local pigmeat production. They did not include potentially significant factors such as beef prices.

Figure 2.7: **Estimates of NSW retail leg pork prices, March 1988 to June 1995**



Source: ABS Cat. No. 6403.0 various, NSW Govt (Sub. 26, App. 2).

The Commission did not undertake its own analyses of the available data as it possessed neither the models with the required detail nor the resources required for their application in the time available for this project. Instead, it decided to rely on ABARE and the NSW Department of Agriculture (as included in the NSW Government's submission), both of which have relevant expertise.

ABARE originally used time series properties to argue that there could not be a long run relationship between domestic pigs or pigmeat prices at the saleyard, wholesale or retail levels, on the one hand, and imported pigmeat prices on the other. It said that 'the statistical evidence indicates that domestic pigmeat prices are determined by domestic market conditions rather than import prices' (Sub. 31, p. 9). In supplementary analysis, it established directly that there was no significant influence of import values or volumes on domestic saleyard or wholesale prices. There was weak evidence of an impact of import values on retail pork prices. ABARE also pointed out a strong relationship between the price of beef and the price of other meats, including pigmeat:

> The finding of a stable long run relationship between saleyard beef prices and saleyard pig prices implies that factors affecting movements in the beef price will be reflected, and passed onto the pig price, and that this relationship has not been altered by the introduction of pigmeat imports. (Sub. 31, p. 38)

This relationship was again established in the supplementary analysis, and would seem to be supported by data shown in Figures 2.1 and 2.6.

In interpreting these results, ABARE commented that an absence of a stable relationship between import and domestic prices on average does not suggest that domestic prices in import competing segments of the market have not been affected on a short term or one-off basis by imports. Neither does it mean that there has not been an impact on other domestic segments due to the flow of displaced product.

To illustrate these points, ABARE presented the results of a simulation, undertaken with its EMABA model, to examine the effects of a doubling of the existing level of imports for one year only. These results suggested that 'saleyard prices for pigmeat could have been up to around 6.5 per cent lower than otherwise as a result of diversion of product away from the import competing segment' (Sub. 31, p. 8).

In supplementary analysis, ABARE reported the projected effects of a sustained doubling of imports. The first year effect was the same as the once off simulation; in subsequent years, saleyard pig prices remained about 3.6 per cent lower than they otherwise would be, and domestic pigmeat supply about 2 per cent lower.

The relevance of the EMABA modelling results in portraying the effect to date of existing imports can be questioned, however. ABARE commented that:

> the price impacts reported ... are likely to exaggerate the actual impacts due to the structure of EMABA ... There is no representation of the processing sector ... As such, no allowance is made for changes in the margins and behaviours of the processing sector with the implicit assumption that all changes in supply are of a permanent nature, and hence the price signal is passed directly to the retail market. (Sub. 31, p. 41)

Actual imports have fluctuated from year to year and month to month by 100 per cent or more and yet, in its statistical analyses, ABARE found no evidence of a relationship between import prices and domestic pigmeat prices. Thus, while interesting, the EMABA result is difficult to reconcile with other analyses of the effects of imports.

ABARE itself attached several qualifications to its analysis:

> First, the statistical analysis is being conducted at a fairly aggregate level. It would be desirable to have more disaggregated data in order to undertake further analysis at the end–use level ... Second ... imports have been small to date, partly as a result of quarantine restrictions on entry. It would be expected that relaxation of restrictions to

> allow market access to other segments of the market would result in domestic prices potentially being more firmly linked to import prices ... Finally, there may be lagged relationships inherent in the data which have not been appropriately identified in the analysis. (Sub. 31, pp. 8–9)

The NSW Government's analysis, using NSW farm price data, found no statistical evidence to support a causal relationship between Canadian import volumes and farm prices for pigs or wholesale prices for pigmeat. However, this analysis found evidence of a relationship between the volume of imports and the retail prices of fresh pork leg chops (even though these are not imported). When Australian farm price data was used, the analysis also found support for a relationship between the volume of imports and farm pig prices. The submission commented that why this should be so, when no relationship was found with NSW data, 'is a mystery' (Sub. 26, App. 2, p. 10). The Commission has investigated the time series properties of the data used in the NSW Government's analysis and has found evidence that the last result, on Australian farm prices, could be spurious.

The other NSW results offer a plausible explanation of a mechanism through which Canadian imports may affect Australian markets for pigmeat. Importation results in a relative oversupply of fresh leg pork which has to be discounted to sell; but these price impacts are not transmitted to other retail cuts of fresh pork or to other levels of the market. In other words, the retail market for fresh pork leg (and possibly the retail leg ham market, though this was not tested) clears the market for pigmeat, and retailers absorb any short term price fluctuations in that market. ABARE's finding of an impact of imports on retail prices was weaker than NSW's, but ABARE used retail price data from the ABS, data including fresh pork sold to the food service industry (on one estimate, accounting for 50 per cent of fresh pork sales), while the NSW Government's analysis used retail price data excluding such sales.

Because of deficiencies in the data (and some technical statistical questions relating to the NSW study), the results of the ABARE and NSW analyses could only be regarded as indicative, rather than conclusive. The results suggest that imports can have an impact on retail prices for fresh leg pork meat. Neither study examined directly the effects of imports on the prices for bacon and ham. However, so far, pigmeat imports do not appear to have had an appreciable long term effect on the level or seasonality of pig saleyard prices or on the wholesale prices of local pigmeat for processing.

2.8 Imports and effects on industry performance

This section outlines recent developments which may have affected the performance of each section of the industry. Appendices B and C provide further information about structural characteristics, recent trends and available aggregate information on performance.

Pig producers

Participants indicated that many piggeries, large and small, have not been making a profit in recent times. According to the Pork Council of Australia (PCA):

> the relaxing of quarantine barriers in 1990 and the subsequent entry of low priced Canadian pigmeat has had the effect of undermining pigmeat prices, investment, incomes and profits in the domestic industry. The result is that 24 per cent, ie over 1000 producers, have left the industry in the past two years and the long term viability of the Australian industry is now uncertain. (Sub. 24, Exec. Summary)

The QPPO pointed to the effects of drought:

> Pig producers in Queensland are experiencing a very severe cost/price squeeze as a result of extremely high feed prices and steady pig prices. Many producers are operating at, or below, cost of production. It appears that the drought will be well into its sixth year before any significant change to the cost/price squeeze may eventuate. (Sub. 10, p. 12)

Drought and the subsequent rise in feed grain prices have had a major impact on the industry's profitability. In 1993–94, feed costs made up nearly 59 per cent of the total costs of production (APC & PRDC 1995a). While purchasing feed grain on a forward contract basis may have helped to insulate some producers from price rises in the short term, results from the APC's monthly drought surveys show that feed cost increased nationally by over 30 per cent in the 12 months to April 1995. Between April 1994 and January 1995, it was estimated that feed costs in NSW had increased by as much as 40 per cent.

Most participants commented on the adverse effects of drought on feed costs, and on producer profitability. For example, the Queensland Department of Primary Industries (QDPI) stated:

> The pig feed price ratio has fallen to a five year low of 5.7 or 80 per cent of the break even level. Feed prices have increased by 30 per cent over the last five years as a result of the drought and the expanding feed lot industry with wheat, barley and sorghum shortages. Since April 1994, feed grain prices have increased by over 40 per cent in New South Wales, 20 per cent in Western Australia, 28 per cent in Victoria and Tasmania, 24 per cent in South Australia and 30 per cent in Queensland. (Sub. 11, p. 3)

QDPI estimated that for a herd of 200 sows, with an average feed cost of $322 per tonne, the cash break-even price for bacon pig production was 213 cents per

kilogram and the break-even price to cover all expenses, including depreciation and interest was 221 cents per kilogram. The Department commented that, at an average bacon pig price of 185 cents per kilogram, these producers would be operating at 36 cents per kilogram (of pigmeat) below the break-even level.

The Kewpie Group of Companies assessed the effect on piggery returns and profitability of the current high level of grain prices. For a 100 sow piggery, an increase in grain price from a 'normal' $130 per tonne to a drought influenced $200 increased costs per pig by over $15. Net profit (before tax and finance costs) per pig reduced from almost $18 to just $2.

Some feed prices have increased by more than the $70 per tonne amount used in Kewpie's figures. For example according to ABARE (1995), market prices for feed barley reached $255 per tonne in May–June 1995 compared to $133 per tonne a year earlier.

In Kewpie's cost analysis, the return on investment falls from nearly 12 per cent to just over 1 per cent as a direct result of the increase in feed grain costs. It stated that:

> Return on investment has fallen dramatically to a level which is not economically sustainable and an exodus from the industry, some orderly and some forced, is occurring at an increasing rate ... A pig producer achieving average industry performance standards is, on a yearly average, currently achieving little divergence from a zero return on investment. (Sub. 14, p. 2)

Other submissions commented that returns from investments were not sustainable in the long term. DDB made the point that:

> Pig producers continue to improve their genetics and production efficiency but obviously cannot be world competitive during this ongoing drought that makes their major input well above world standards and leaves no profit for reinvestment. (Sub. 9, p. 3)

Although returns on capital are low or negative at present, there are some indications of confidence in the long term future of pig farming in Australia. As noted in Section 2.1, the number of larger producers has increased despite the current effects of drought. Further, some firms are continuing to make, or are planning to make, significant investments in Australian pig production. Box 2.1 gives some information about DanPork's plans. In its submission, QDPI stated that:

> The Darling Downs region is expected to undergo significant expansion in pig production with proposals under consideration for the establishment of a number of large piggery complexes, feed mills and abattoirs, amounting to approximately 30 per cent of the State herd. (Sub. 11, p. 2)

Similarly, Bunge, which was one of Australia's earliest large scale intensive pig producers and which, according to its submission, holds approximately 18 per

cent of the pigmeat market, has continued to expand since the early 1970s, is now fully vertically integrated, and has further investment plans.

Box 2.1: **DanPork**

DanPork, a Danish owned company, informed the Commission that it intended investing in a joint venture in Warwick, Queensland in the next 18 months. DanPork will hold a 50 per cent stake in this investment, worth in the vicinity of $70 million. The investment will consist of a 10 000 sow piggery with an annual output of 200 000 pigs operating in conjunction with a state of the art abattoir based on Danish technology with a throughput capacity of 800 000 pigs per year or 350 per hour. According to DanPork, the new abattoir will save 10 to 15 cents per kilogram on existing production costs. In addition, a food processing plant will produce hams and other processed food products.

DanPork plans to export 60 to 80 per cent of production to the Asian fresh pork market as well as some processed products, with the remainder of production entering the domestic market for further processing. The locational advantages of investing in a large scale operation in Warwick relate to the availability of grain and the proximity of port facilities in Brisbane, which is the last Australian container port for Asian bound shipping. This proximity to export markets in Asia will ensure a longer shelf life for the pigmeat compared to pigmeat exported from Denmark.

Source: DanPork.

The PCA believes that the export market will be the industry's most important objective for its continued economic viability. The APC has accordingly set itself the task of facilitating the development of export markets to increase exports of farm grown pork and processed pork products from their current levels (APC 1995a).

Effects of imports

Some participants gave estimates of the effects of Canadian imports on their income from the sale of pigs. For instance, the Boonah branch of the Queensland Pork Producers Organisation claimed that:

> the importation of pigmeat into Australia has resulted in a fall in pig prices of $0.24/kg. When this is applied to the average carcase weight of 68.5 kg this is a loss of $16.44/pig. For a 250 sow piggery producing 15 pigs/sow/year this is a loss of $61 650/year. (Sub. 4, p. 1)

In the Commission's view, falls in the price of pigs, and consequent drops in income, cannot be entirely or even mainly attributed to Canadian imports of

pigmeat. The available information and study results reported earlier in this chapter do not suggest anything like such a strong link. There are many factors affecting returns from pigs, of which imports is just one.

Since Canadian imports commenced in 1990, pigmeat supplies from local production have increased by nearly 9 per cent. By comparison, Canadian pigmeat imports have increased total annual Australian pigmeat supplies by 2.5 per cent or less. Australian prices for leg pork are currently 15 to 30 per cent higher than for the imports. Any reductions in prices received by producers as a result of increased supply seem far more likely to be due to domestic growth in supplies, and low prices in the meat market generally, rather than imports.

On the cost side, drought has been a most significant factor in the performance of the pig industry. Kewpie's estimate, noted above, is that an increase in feed grain prices by $70 per tonne would have reduced returns by over $15 per pig. To have an equivalent effect on profitability, imports would have had to have caused a price reduction of nearly $2.50 per kilogram of boneless, skinless leg pork. While prices have been depressed as a result of record supplies of pigmeat and competition from other meats, there is no compelling evidence of any appreciable price reduction for pigs or pigmeat specifically due to imports.

Abattoirs and independent boning rooms

The production of pigmeat in abattoirs and boning rooms is only a small part of the total meat processing industry. Although there are some specialist pig abattoirs, in 1992 pigs represented only 11 per cent of all livestock slaughtered in abattoirs while pigmeat represented 12 per cent of total meat production (IC 1994b).

There is little information available relating to profitability in pigmeat production in abattoirs and boning rooms. However, the Industry Commission (1994b) found that gross profit margins, and the ratios of earnings before interest and tax to total revenue, for the overall meat processing sector varied across a number of abattoirs. In 1992–93, for example, approximately one quarter of the abattoirs surveyed reported losses, over half of the abattoirs surveyed reported gross profit margins between 4.5 and 15 per cent, while a number of abattoirs reported much higher gross profit margins. The Commission also found that capacity utilisation in the industry was below that of its overseas competitors. This low capacity utilisation was directly attributable to an overall poor industrial relations climate across the industry due to inflexibilities in industrial awards, a poor occupational health and safety record, and low levels of training.

The major costs of abattoir operations are labour and inspection costs. Based on a composite best practice abattoir, Hassall & Associates (1994) found that labour costs on a per pig slaughtered basis accounted for 46 per cent of the processing cost, while inspection costs accounted for a further 17 per cent.

Similarly, boning room costs are dominated by labour costs, reflecting the labour intensive nature of the process. According to Hassall & Associates (1994), labour costs accounted for 64 per cent of the total costs in boning out a pig into the primal cuts and up to 72 per cent of total costs for deboning the carcase and packaging the pork ready for retail use.

As with profitability, there is limited information available on the trends and level of investment in abattoirs and boning rooms. However, prior to the lifting of quarantine restrictions in 1990, Cresap identified the need for increased investment in pigmeat production to replace outdated plant and increase automation in the industry. Specifically, the report estimated that while $2 million was being invested annually in abattoirs, a further $2 million was required each year to replace outdated plant and increase automation. Subsequently, Hassall & Associates (1994) also concluded that increased investment in this sector was needed to increase productivity.

Significant investment is planned by some of the larger firms in the sector. As mentioned above, DanPork intends to invest in a joint venture in Warwick, Queensland. One part of this venture includes the establishment of a large scale pig abattoir (see Box 2.1).

Effects of imports

Canadian imports represent less than 4 per cent of the total supply of Australian pigmeat for manufacturing on a boneless, skinless basis. To date, imports have not stopped the growth in the number of pigs slaughtered or the quantities of pigmeat produced by domestic abattoirs.

The most immediate effect of Canadian imports is likely to have been felt by independent boning room operators. One independent boning room operator, BE Campbell (NSW) Pty Ltd, claimed:

> We have lost over the past 3 years a number of customers who now source all their supplies of a particular product from Canada. The product concerned, boneless skinless leg pork ... We are now processing 10–15% fewer pigs than we were 12 months ago. (Sub. 17, pp. 1–2)

As the price of the Canadian product is significantly below that of the equivalent cut produced by domestic boning rooms, there could be some impact on boning room returns. However, legs produced by boning rooms for further processing represent only one part of boning room output. Boning rooms

produce a range of other cuts for the fresh pork, bacon, ham and smallgoods markets. And as noted previously, total throughput of pigmeat has been increasing.

Further, independent boning rooms, such as Campbell's, may be affected by structural adjustment in the pig industries. Large producers, such as Bunge, George Chapman, Watsonia and Darling Downs Bacon, which between them account for 25 per cent of all pigs slaughtered (APC & PRDC 1995a), operate their own abattoirs, boning rooms and manufacturing operations. While pigmeat throughput is increasing overall, the market share of the independent operators is likely to be lower than it would otherwise have been.

Bacon, ham and smallgoods manufacturers

About 60 per cent of Australian pigmeat production is used in the manufacture of bacon, ham and smallgoods. There was, however, no comprehensive up-to-date information available to the Commission about profitability and investment levels in the sector. Hassall & Associates have recently undertaken a benchmarking study of firms in this sector, but a report had not been publicly released at the time of this project.

Profit margins for bacon, ham and smallgoods are commonly below 5 per cent. According to industry sources, these margins are significantly lower than those earned by other food sectors (*Business Review Weekly*, 5 September 1994, p. 77). Bunge considered that the sector has 'notoriously low margins' (Sub. 20, p. 2). According to industry information, this is at least partly due to the low level of brand development for pigmeat products which has impeded the establishment of price premiums.

Cresap (1990) estimated that capital investment in this sector was approximately $20 million per annum. In contrast, the report found that the poultry processing industry's capital investment (based on a similar per capita consumption) was double that amount. As in the case of the abattoir sector, further investment was required to replace outdated plant irrespective of competition from imports.

Some larger firms do appear to be investing substantial amounts in their processing operations. DDB stated that it had:

> spent almost $4 million on new equipment over the past two years to ensure it is near world competitive standards. (Sub. 9, p. 3)

Effects of imports

Pigmeat represents between one and two thirds of input costs, depending on the particular product (eg bacon, ham, salami etc). Manufacturers of ham products can reduce costs significantly by using imported pigmeat. They benefit either through increased demand for their product by passing on the lower costs as lower prices, or through higher margins by internalising the lower input costs. The effects on incomes, investment and profit should be positive overall.

2.9 Economy-wide effects

The Commission was also requested to examine the effects of imported pigmeat on the wider economy.

The pig farming and pigmeat processing and manufacturing industries represent only a small part of the economy. Combined they contributed less than half of one per cent of Gross Domestic Product (GDP) in 1991–92. Similarly, pig farming is only a small part of Australian agricultural industry. In 1994, pig farming accounted for 3 per cent of the total gross value of Australian agricultural output (APC & PRDC 1995a). Accordingly, the effects of imported pigmeat on the wider economy could not be expected to be large.

Nonetheless, opening the Australian economy to imports is likely to benefit the community overall. There is greater choice and access to cheaper products for using industries and consumers. Competition from imports can stimulate efficiency and cost improvements in domestic industry, and free resources for more productive uses. As a general conclusion, the enduring benefits from giving the community access to imports should offset any shorter term adverse consequences on particular industry sectors or producers.

If the Australian pig industry is to become export oriented, it must be able to compete successfully with imports. Sheltering it from imports will not assist its development. The PCA stated:

> Increased competitiveness as a result of low priced imported pigmeat and pigmeat products will further push the adoption of new and improved technologies facilitating all levels of industry, from the producer to the end user. (Sub. 24, Exec. Summary)

So far the effects of Canadian imports appear to have been small, even on the pig farming and pigmeat industries themselves. However, changes in institutional arrangements and market pressures could, over time, lead to an increase in imports. If this were to occur, then the future effects of imports might be greater than they have been. As noted above, AQIS is examining requests to ease quarantine restrictions.

Continuing low market prices for Canadian imports could erode the existing local manufacturers' resolve to buy Australian. If one or more of the larger Australian manufacturers were to turn to imports, then import volumes could increase markedly, and local pigmeat prices for manufacturing become more closely aligned to world trade prices.

Although this could create some short term difficulty for some sections of the pig and pigmeat industries, it would further benefit bacon, ham and smallgoods manufacturers, and consumers of those products. Overall, the economy-wide benefits should be positive, especially if those increased imports were to stimulate reductions in costs in the pig and pigmeat industries.

3 OVERSEAS ASSISTANCE MEASURES

The terms of reference ask the Commission to examine the effects on Australia of assistance provided by other countries to their pigmeat industries.

The principal exporting economies in the world pigmeat markets are the European Union (EU), Canada, Taiwan and the United States (US). Of these, the most significant for Australia is Canada, which supplies approximately 75 per cent of Australia's imports by volume and value. The US is important because of its influence on the Canadian industry (some three quarters of Canada's pigmeat exports go to the US) and because the US has applied for a lifting of quarantine restrictions on imports into Australia. The EU is potentially important because of an application from Denmark for the relaxation of quarantine restrictions on imports from that country which is currently being processed by AQIS, and because the EU is the world's largest exporter of pigmeat.

3.1 Assistance levels in principal trading countries

A set of comprehensive estimates of assistance provided by OECD member countries to their agricultural industries, including pigmeat, is prepared annually by the OECD. These assistance measures include estimates of the assistance to producers — the Producer Subsidy Equivalent (PSE) — and an estimate of their cost, or benefits, to consumers — the Consumer Subsidy Equivalent (CSE) (see Box 3.1). It should be noted, however, that the assistance estimates do not take into account any protection provided as a by-product of quarantine restrictions.

Estimates of 1994 assistance by the OECD for pigmeat production in Australia, Canada, the EU and the US are presented below (Table 3.1).

The level and form of assistance varies between countries. Of the four sources in question, the Canadian industry receives the highest rate of assistance at 15 per cent of the value of production, and the Australian industry receives the lowest at 4 per cent.

For Australia and Canada, the OECD estimates that assistance provided to pigmeat production does not raise the prices faced by domestic consumers in these countries. In the case of Australia, the OECD estimates do not include the effect of the quarantine restrictions or their recent changes. In the EU, however, consumers are penalised by way of higher prices equivalent to 23 per cent of the value of pigmeat consumption. This is as a result of the form of

assistance provided to pigmeat producers in the EU — principally domestic price support. In addition, the EU pays export subsidies to EU pigmeat exporters. In the US, consumers are estimated to be subsidised (through measures such as purchases for welfare which do not affect market prices) at the level of 1 per cent of the value of pigmeat consumption. Box 3.1 provides more information on the OECD calculations of assistance.

Table 3.1: **OECD estimates of assistance to pigmeat producers, 1994[p]**

Measure	*Australia*	*Canada*	*European Union*	*United States*
Total net PSE	A$25 m	C$326 m	ECU1686 m	U$501 M
Unit net PSE (nc/t)	80 A$/t	254 C$/t	111 ECU/t	63 US$/t
Unit net PSE ($A/t)	80 A$/t	255 A$/t	181 A$/t	86 A$/t
Percentage PSE	4%	15%	10%	5%
Total CSE	0.0	0.0	ECU–3683 m	US$87 m
Unit CSE (nc/t)	0.0	0.0	–256 ECU/t	11 US$/t
Unit CSE ($A/t)	0.0	0.0	–443 A$/t	15 A$/t
Percentage CSE	0.0	0.0	–23.0%	1.0%

p Provisional estimates.
nc national currency.
Source: OECD 1995b, Annex III.

The effect of assistance on export prices can, however, be complex. A more detailed analysis of the schemes provided in the countries involved, and of the characteristics of the markets in which they operate, is necessary before conclusions can be reached on the impact of a country's assistance regime on export prices.

The remainder of this chapter examines these countries' assistance programs in more detail, in order to assess the extent to which they are likely to affect export prices. Particular attention is paid to Canada. In making these assessments, the Commission sought information from overseas governments, Australian overseas missions, Australian industry and inquiry participants, as well as using published sources.

Box 3.1: **OECD's PSE and CSE measures**

PSEs measure transfers to agricultural production from domestic consumers and taxpayers. A positive PSE implies a net gain by the producer. CSEs measure the effect on consumers of the assistance to the agriculture sector (net of any compensatory subsidies from taxpayers to consumers). Where the assistance for producers is provided through higher prices for consumers, the CSE is negative as it represents a cost to consumers. The PSE and CSE estimates do not explicitly take into account any assistance provided by quarantine restrictions. Where there are non-tariff barriers (NTBs) in place, their effects are estimated in terms of the difference between domestic and world prices for the commodity in question. Accordingly, when quarantine restrictions accompany NTBs, the estimates will measure the assistance accorded by them.

Gross PSEs include a range of forms of assistance outlined below. Net PSEs include an additional 'feed adjustment' to allow for any impact on the costs to livestock producers from market support to upstream producers of feed grains. Unit PSEs and CSEs are the (net) PSE and the CSE measures expressed on a per tonne basis. Percentage PSEs show the PSE as a percentage of the value of production (adjusted up by direct payments received and down by levies paid) at the farm gate. Percentage CSEs show the CSE as a percentage of the farm gate value of consumption.

The categories of agricultural policy measures included in PSE calculations are:

i) Market Price Support (measures that simultaneously affect producer and consumer prices);

ii) Direct Payments (measures that transfer money directly from taxpayers to producers);

iii) Reductions in Input Costs (measures that subsidise input costs, including capital);

iv) General Services (measures that reduce producers' costs in the long term but are not directly received by them, including such things as research, and non-payment for inspection services); and

v) Other Indirect Support (mainly subsidies funded regionally (or nationally in the case of the European Union)).

The calculations include all transfers that specifically result from agricultural policies, including those not specific to pigs. For example, they would include drought relief in Australia, but exclude measures such as subsidies specific to food processing and distribution, outlays not specific to the agricultural sector (eg, some transport subsidies), outlays for stockholding, and adjustment assistance for withdrawing resources from agriculture (such as components of Australia's RAS). The measures do not include income support that is not related to production, nor do they include the assistance provided by way of quarantine restrictions.

3.2 Canada

The Canadian pigmeat industry accounts for 40 per cent of Canadian meat sales, excluding chicken,[1] and 10 per cent of all farm receipts. In 1994, 17 million pigs were marketed. Of these, 30 per cent were produced in Quebec, 26 per cent in Ontario, 40 per cent in the Western provinces (principally the prairie provinces of Manitoba, Saskatchewan and Alberta) and 4 per cent in the Atlantic provinces. Pigmeat production was around 1.2 million tonnes — some 15 per cent of the Canadian and US market.

Canada exports 25 per cent of its pigmeat production. Around 75 per cent of Canadian exports goes to the US, and less than 1 per cent to Australia. Canada also exports almost one million live pigs annually (around 4 per cent of pigs produced), almost all to the US.

The principal programs likely to have an impact on pigmeat in Canada are those directed at pig producers, assistance provided for feed grain producers, and those general agricultural assistance programs for which pig producers are eligible.

The principal assistance to pigmeat production appears to be subsidised inspection services associated with meat processing, including for export. This form of assistance is the largest component (about 40 per cent) of the General Services category in the OECD's PSE calculations for Canadian pigmeat.

Trends and principal forms of assistance to pigmeat production in Canada as measured by the OECD are shown in Table 3.2 below.

The rate of assistance was highest in 1989 (25 per cent) mainly due to the size of payments to pig producers in that year from the various revenue and income stabilisation programs operated in Canada. The Canadian Pork Council (CPC) commented that in 1989 there had been 'a convergence of extremely unfavourable price and cost trends' (Sub. 7, p. 5). For example, in the years leading up to 1988 and 1989, assistance levels were similar to those in more recent years — ranging from 10.5 per cent to 15.1 per cent between 1979 and 1987. Since 1989, the rate of assistance has varied around its 1994 level of 15 per cent.

[1] That is, of meat of cattle, pigs, sheep and goats.

Table 3.2: **Components of Canadian pigmeat PSEs and CSEs**

PSE/CSE component	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*[e]	*1994*[p]
PSE:							
Direct payments (C$m)	89.4	299.9	26.5	81.1	96.3	0.0	0.0
Reduction of input costs (C$m)	5.9	7.3	8.3	7.4	7.5	5.4	5.4
General services (C$m)	76.7	82.6	102.1	95.4	85.6	90.2	99.5
Sub-national (C$m)	232.0	197.4	229.6	203.5	198.1	222.4	261.9
Gross PSE (C$m)	404.0	587.1	366.4	387.4	387.5	318.0	366.8
less Excess feedstock cost (C$m)	-33.1	-54.7	-79.2	-54.2	-51.9	-47.6	-41.0
Net PSE (C$m)	370.9	532.4	287.2	333.3	335.7	270.4	325.7
Level of production (kt)	1247.6	1253.9	1191.8	1201.8	1260.4	1259.0	1283.4
Unit net PSE (C$/t)	297.3	424.6	241.0	277.3	266.3	214.8	253.8
Percentage net PSE (%)	**19.8**	**25.4**	**14.0**	**17.4**	**18.0**	**13.3**	**15.0**
CSE:							
Market transfers	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total CSE	0.0	0.0	0.0	0.0	0.0	0.0	0.0

e Estimate.
p Provisional.
Source: OECD 1995b.

The major change in recent years in the components of the PSE for pigmeat in Canada has been the decline in stabilisation payments from the Federal and Provincial Governments. To a large extent, this decline has been offset by increases in assistance at the provincial level, increased general services (eg R&D, inspection, promotion), and reductions in the feedcost penalty arising from assistance to grain production. The feed cost penalty is significant in that the OECD estimates that the assistance regime for grain production in Canada penalises rather than assists Canadian pigmeat producers.

The measures used to assist pig producers do not involve any schemes which increase prices, or reduce costs, to domestic consumers. This is reflected in a zero CSE over the entire period.

1992 ACS review of imports from Canada

In 1992, the Australian Customs Service (ACS) conducted an anti-dumping and countervailing duty investigation into imports of pork from Canada. Its findings were subsequently reviewed by the Anti-Dumping Authority (ADA).

The ACS investigation identified a number of Canadian policy measures which provided assistance to grain and pig producers and thus, potentially for Canadian pigmeat exports. A list of the schemes reviewed by the ACS, the

maximum level of potential subsidy identified, and comments on changes since 1991–92 are presented in Table 3.3 below.

The ACS estimated the maximum possible subsidy that could have passed through to exports as 5.4 Canadian cents per kilogram of pigmeat in 1990–91 and 11.4 Canadian cents per kilogram in 1991–92. The ADA's review of the ACS findings modified these maximum possible subsidies by applying them only to the edible products of pig, resulting in a maximum possible subsidy level of 6.8 Canadian cents per kilogram in 1990–91 and 14.5 Canadian cents per kilogram in 1991–92 — the latter being 6.6 per cent of the average export price for Canadian pork to Australia.

The ADA considered that 'the subsidies paid to grain and pig producers in Canada were not passed on in any significant way to pork producers, and hence did not confer any noticeable advantage to the Canadian pork producers exporting to Australia' (ADA 1993, p. 28). This concurred with the ACS evaluation that 'it seems unlikely ... that more than 1 to 2 cents of this upstream assistance to grain and pig growers is reflected in the price of frozen pork exports to Australia' (ACS 1992, p. 58) — less than 1 per cent of the then average export price for Canadian pork to Australia.

Significant changes have occurred in assistance measures in Canada since the ACS review. In all but two measures, the amount of assistance provided has declined significantly. Most of the declines have been significant, some have eliminated assistance altogether in later years. One of the areas where increases have occurred relates to loan programs, where improved agricultural conditions have increased the demand for funds. More detail on the changes that have occurred are presented below and in Appendix G.

Developments in Canadian assistance since 1991–92

Assistance to agriculture in Canada is undergoing reform as a result of, among other things, obligations under GATT 1994 and the need for budgetary constraints. In a statement related to the 1995 Federal Budget, the Federal Minister for Agriculture and Agri-food Canada outlined a 'vision' that included a 'market-oriented agriculture and agri-food industry' that is 'less dependent on government support' (Ag Canada 1995a, p. 1).

Table 3.3: Subsidy programs identified in the 1992 ACS inquiry and recent changes

Program	*Max subsidy 1991-92 Canadian c/kg*	*Recent changes*
Federal		
Pig producer schemes		
National Tripartite Stabilisation Plan (NTSP) for Hogs	4.380	Surplus in 1993–94 (producer premiums exceed payments to producers by C$42m). Terminated in 1994. Pig producers to be covered by whole farm income stabilisation program based on NISA.
Grain producer assistance		
Gross Revenue Insurance Plan (GRIP) (includes Crop Insurance Program)	0.750	Net payments under Crop Insurance Program reduced from C$535m in 1992-93 to C$82m in 1994–95. GRIP component moved into surplus of C$65m in 1994–95.
National Income Stabilisation Account (NISA)	0.330	NISA moved into surplus of C$35m in latest year. Being extended to cover all products, including pigs, as a 'whole farm' scheme.
General agricultural programs		
Farm Credit Corporation (FCC)	0	na
Farm Debt Review Board (FDRB)	0.114	Number of applicants has fallen by half since 1992.
Farm Syndicates Credit Act (FSCA)	0	na
Farm Improvements and Marketing Cooperatives Loan Act (FIMCLA)	0.089	New loans to all ag. producers increased from C$116.6m in 1991–92 to C$432m in 1993–94.
Canadian Agri-food Development Initiative (CAFDI)	0.040	Level of funding broadly unchanged. Focus shifted to market development.
Provincial		
Quebec Farm Income Stabilisation Insurance (FISI)	3.988	Net payments to producers increased by 20 per cent in 1993-94. Expected to fall in 1994–95.
Quebec Farm Credit Programs	1.690	Funding down by almost 40 per cent.
Manitoba Agricultural Credit Corporation (MACC)	0.037	na
Total	11.412	

Central to the Canadian reform process is the implementation of a whole farm safety net program which is not commodity specific, and which was agreed to by Federal and Provincial Ministers of Agriculture in December 1994. Starting with the 1995 tax year, the new safety nets will consist of crop insurance and a whole farm program as the core. These will be accompanied by programs to address specific regional needs, disaster programs, adaptation measures, and risk management approaches. Cost sharing will be based on a 60 per cent Federal contribution and 40 per cent Provincial contribution.

The whole farm program will be built upon the existing Net Income Stabilisation Account (NISA) Program. The program will be extended to those agricultural commodities not already covered under NISA to achieve a truly whole farm program.

As a result of its 1995 budget, Federal funding of safety net programs will be reduced to C$600 million by 1997–98. This represents a reduction of C$250 million or 30 per cent from the current level of C$850 million. Of the C$600 million in 1997–98, approximately C$220 million will be directed to a whole farm program, C$180 million to Crop Insurance and the remaining C$200 million will be applied against companion programs. [2] In 1997–98, total government expenditure for safety net programs is expected to approximate C$1 billion (C$600 million of Federal funding and C$400 million of Provincial funding).

An outline of the assistance provided by the major assistance schemes is presented below. More detail on the operations of each scheme is presented in Appendix G.

Safety Net Programs

The primary legislative authority of the programs within the safety nets area is the *Farm Income Protection Act* (FIPA). The FIPA authorises agreements between the Federal Government and the Provinces to provide a means for the protection of the income of producers of agricultural products and enables the Federal Government to take additional measures for that purpose.

Federal/Provincial agreements are established under: the Crop Insurance Program offering production risk protection; the Gross Revenue Insurance Plan (GRIP) offering a combination of market and production risk protection; the Net Income Stabilisation Account (NISA) providing income protection; and the National Tripartite Stabilisation Program (NTSP) offering market risk protection.

[2] The Canadian financial year is from 1 April to 31 March.

As a result of good agricultural seasons in 1993–94 and 1994–95, many of the stabilisation programs identified as providing assistance in 1991–92 are in surplus. That is, the premium payments by producers into the schemes exceed stabilisation payments received from them (see Table 3.4 below).

Table 3.4: **Net payments to producers under safety net programs (C$ million)[a]**

	1992–93	*1993–94*	*1994–95[f]*
Crop Insurance	535.3	211.3	82.3
GRIP	999.2	222.9	-64.8
NISA	351.1	25.4	-35.4
NTSP (all products)[b]	120.3	-10.6	29.2
NTSP (pigs)[c]	na	-42.0	14.8

a Negative figures indicate that producer premiums exceeded payments to producers in that year.
b Figure for 1994–95 includes payments to producers of a share of accumulated balances on termination of the scheme.
c NTSP for Hogs was cancelled in 1994. C$14.8 million in 1994–95 represents federal payments under transitional arrangements
f forecast
Source: AgCanada 1995b.

Transport subsidies

From August 1995, the *Western Grains Transportation Act*, known as the Crow Rate benefit has been abolished. Under this Act, a subsidy was provided to transport grain to an export port in Canada. The abolition is expected to result in an annual saving to the Federal Government of C$560.6 million. Owners of prairie farm land will receive once-off capital grants totalling C$1.6 billion to compensate them for the expected fall in the value of farm land.

Overall, this reform should benefit pig producers in Canada by reducing the input cost penalty that this assistance generated.

Other assistance

An Adaptation Fund averaging C$60 million per year of Federal funding will be provided to assist farmers in areas such as farm management, and rural development and environmental protection. Specific initiatives will assist farm, agri-food and rural businesses to develop an entrepreneurial climate, maintain and expand markets, build modern infrastructures and adopt innovative

technologies. The Fund will also address concerns regarding the impact of the reform of transportation subsidies.

A review of existing adaptation measures was undertaken, including consideration of the need for initiatives to assist the industry to adapt to economic realities, such as the new global trading environment.

Farm Debt Review Boards exist in each Province to ensure that farmers in financial difficulties or facing farm foreclosure are afforded impartial third-party review of farm circumstances. The Boards will also mediate between the farmer and creditors. The number of applications has decreased by nearly one third in 1994 as farm circumstances have improved. The future of the Boards beyond their 1996 'sunset' is uncertain.

National Farm Business Management Program (NFBMP) will be continued but refocussed to support activities which achieve national value-added benefits, greater sharing of material and information across Provinces and provide incremental development of tools and information for use by the sector. The NFBMP provides about C$10 million annually in Federal funding which the Provinces match from their existing farm business management activities and programs.

Farm Improvement and Marketing Cooperatives Loans Act (FIMCLA) facilitates the provision of intermediate and short-term credit to farmers to improve farm assets and to strengthen production, marketing and financial stability. The Federal Government provides a guarantee against loss for term loans made to farmers for farm improvement and farm marketing cooperative projects.

New loans under the FIMCLA have increased significantly, from C$117 million in 1991–92, to C$423 million in 1993–94, reflecting the improved agricultural conditions in recent years. Outstanding loans reached C$1.32 billion, resulting in the statutory limit on outstanding loans being doubled to C$3 billion.

The *Canadian Agri-Food Development Initiative (CAFDI)* This program provides cost-sharing financial assistance for selected projects in market development, production and human resource development, and for livestock performance data collection and projects at fairs and exhibitions. In 1995–96, the funding under CAFDI (approximately C$7.1 million annually) will be transferred into the new Agri-Food Trade 2000 initiative. Focus will be on trade development efforts. The Trade Opportunities Strategy will also be incorporated into the Agri-Food Trade 2000 initiative.

Effects of the Canadian assistance regime

None of the support measures outlined above are directly linked to levels of production or exports of pigmeat. Assistance is provided to grain producers and to pig farmers, primarily through subsidised insurance or stabilisation programs. Whether, and to what extent, the assistance provided would flow through to export prices depends on the way in which the assistance is given and the market conditions for the products concerned.

When the ACS looked at assistance in Canada, it considered that the assistance from the various stabilisation schemes could be estimated as the net payments to producers in any one year. This assistance can vary significantly from year to year depending on the characteristics of the agricultural season, or market, in that year. For example, ACS estimated the subsidy from the NTSP for hogs to be equivalent 22.5 Canadian cents per kg in 1989–90, changing to a tax of 2.8 Canadian cent per kg in 1990–91. It is unlikely that the effect of this assistance on prices varies markedly between years in a similar way.

Another way of looking at the level of assistance provided by subsidised insurance or stabilisation schemes is to look at the annual contributions by the Federal and Provincial governments. These are more stable on a year to year basis. On the assumption that the schemes are fully funded over the longer term (as is their intention), they measure the net contribution to producers. Because of this year to year stability, the annual contributions of the government are likely to be more reliable as a basis on which to determine the long term effects of assistance on production and thus, potentially, prices.

On the basis of the information available, the long term level of assistance provided under the stabilisation schemes is equivalent to between 13 and 20 per cent of the value of production for grain producers and around 4 per cent of the value of production for pig producers. For pigmeat, an additional subsidy equivalent to 1.5 to 2 per cent of the value of production is provided by way of subsidised inspection services (see Table 3.5).

The extent to which this assistance influences prices, or is passed on to downstream users, depends on the market conditions for pigmeat, and the basis of the stabilisation payment to pig producers. The link between the payments and the level of pigmeat production is relatively weak. Many other factors influence the extent of stabilisation payments — pig prices, the price of grain and other inputs, the yield from the carcase, etc.

Table 3.5: **Government contribution to stabilisation programs, and long-term level of assistance provided (C$ million)**

	1992–93	*1993–94*	*1994–95*
Crop insurance			
Government contribution	248.7	463.6	322.7
Value of production	6762.1	7947.0	8279.8
Percentage subsidy	3.7	5.8	3.9
GRIP			
Government contribution	935.9	766.1	665.2
Value of production	6762.1	7947.0	8279.8
Percentage subsidy	13.8	9.6	8.0
NISA			
Government contribution	162.8	126.1	127.8
Value of production	6762.1	7947.0	8279.8
Percentage subsidy	2.4	1.6	1.5
NTSP for hogs			
Government contribution	na	83.9	na
Value of production	1770.8	2029.2	2172.6
Percentage subsidy	na	4.1	na

Production used to estimate assistance for Crop Insurance, GRIP and NISA is the production of grains and oilseeds — the principal industries eligible for assistance under these schemes in these years.
na not available.
Source: Ag Canada 1995b.

The scope for downstream users to receive some of the benefits of the assistance provided is limited by the ability of producers to sell to third markets. At the same time, the third markets must be large enough so that the increased output encouraged by the assistance provided is not significant enough to influence prices in the third markets. For products entering international trade, the key question is whether the country concerned is large enough to be able to influence the world price by its trading activities. If this is not the case — because the country is essentially a price taker on the world market — domestic subsidies would result in an increased level of production, and of exports, at an essentially unchanged world price.

In the case of Canada, the marketing and trading position of three products is significant: trade in grain, particularly feed grains; trade in pigs; and trade in pigmeat.

Feed grains

Canada produces around 3 per cent of world coarse grains and exports a round 20 per cent of its production, equivalent to 5 per cent of world exports. Canada

also produces around 5 per cent of world wheat and exports over 75 per cent of production, accounting for over 20 per cent of world exports.

For this report, the essential question is whether Canada is a price taker in the international grain market, or whether changes in Canadian production have the capacity to influence the world price. If Canada is a large enough supplier, then domestic assistance, by increasing supply and thus exports, could have a depressing effect on world grain prices and thus prices of grain to Canadian pig producers.

A number of studies have been undertaken of the Canadian grains market — particularly wheat, where Canada is most prominent — and its influence on world trade. These conclude that Canada has very little influence on the world price for wheat, estimating that demand is highly elastic, and thus imply that increased Canadian supply can be sold on the world market with minimal reductions in prices received.

If developments in Canadian markets do not influence the world grain price significantly, then there is little scope for any assistance in Canada to be passed on in the form of lower grain prices. Canadian grain producers would always be able to sell product to the export market and local buyers would have to match this price. Domestic subsidies would encourage greater production in Canada, but this would be at the ruling world price.

The OECD's measurement of PSEs for coarse grains and wheat in Canada include no elements that would directly reduce prices. The CPC submitted that the US Department of Commerce has investigated several Canadian grain safety net programs and not attributed a benefit to pig farmers from them which could justify the imposition of countervailing duties (Sub. 7, p. 6).

Indeed, in calculating the level of assistance to pigmeat in Canada, the OECD found that Canadian assistance to grain growers effectively taxed the Canadian pigmeat industry by over C$30 per tonne (see Table 3.2). That is, those forms of assistance to Canadian grain producers had the net result of raising feed grain prices. The principal mechanism for this penalty was the export freight subsidy provided to prairie grain producers. The Crow Rate rail subsidy effectively increased the returns on exports — production was thereby encouraged to go to the export market driving up the domestic price of grain in inland locations by the extent of the rail subsidy.

The nature of the assistance accorded to grain growers reinforces the likelihood that no benefit would be passed through to downstream users. None of the schemes are linked to output or prices and, for the reasons discussed above, subsidies to grain growers are unlikely to be 'captured' by grain buyers.

For these reasons, the Commission considers that assistance to Canadian grain growers does not cause any significant reduction in the price of feed grains to Canadian pig producers.

Pigs

The Australian industry has claimed that subsidies to Canadian pig producers are passed through into export prices for pigmeat. [3] For this to occur, Canadian pigmeat processors must be able to 'capture', through lower prices, some of the subsidies received by Canada pig producers. As with grain, the scope to do this would be limited if pig producers (or their agents) are able to sell to other markets, but are not large enough to influence prices in those markets. For live pigs, the key export market is the US. The relationship between Canadian pig producers and the combined Canada/US market is therefore the major consideration.

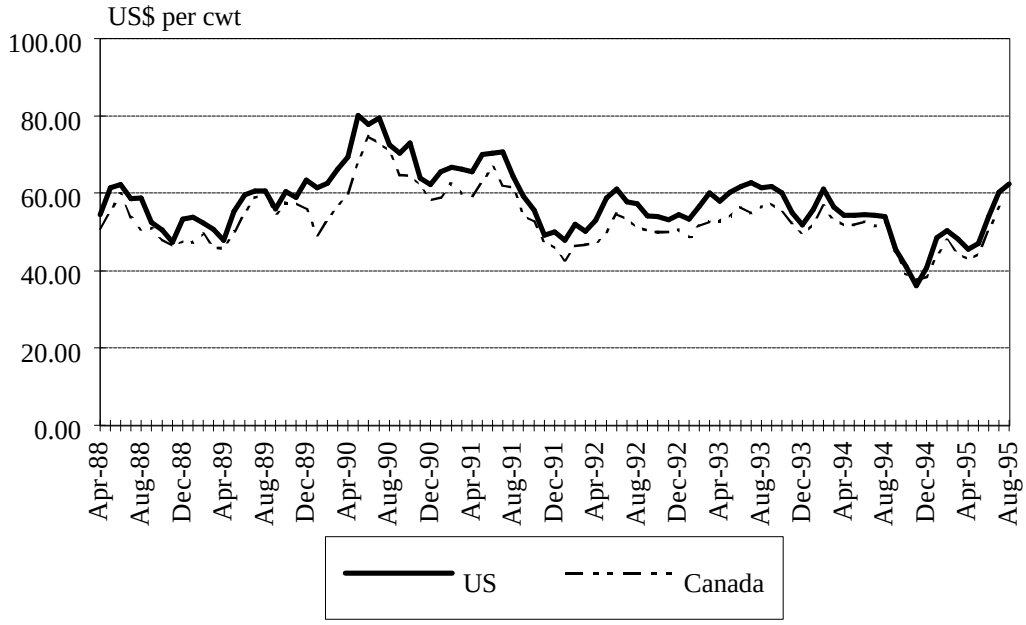
In 1994, Canada exported 895 000 live pigs to the US, over 5 per cent of all Canadian pigs sent to market. Exports for 1995 are expected to be closer to 1 million (USDA 1995b) — this represents less than 1 per cent of the annual sale of pigs in the US.

Canadian pigs are sold through provincial marketing agencies, which negotiate prices based on formulae directly linked to prices in the Mid-West of the US, adjusted for shipping costs (Klein *et al.* 1995). This approach — which effectively uses US prices as a floor — is sustainable because of the ease with which producers can divert live pigs to the much larger US market for slaughter or finishing.

The relationship between US and Canadian pig markets has been the subject of a number of studies. Overall, these show a high degree of correlation and cointegration (ie prices exhibit stable long run relationships and, if they drift apart in the short run, will be pulled back into equilibrium by competition between suppliers) (see Figure 3.1). Institutional factors have affected price differentials and lag relationships across time — particularly the establishment of provincial marketing agencies, their move toward formula pricing, and the history of US countervailing action against Canadian imports (Klein *et al* 1995).

[3] These subsidies are claimed to include subsidies passed through to pig producers from grain growers.

Figure 3.1: **Pig prices in the US and Canada, April 1988 to August 1995**



Source: Canadian Pork Council (Sub. 7, p. 9), and Statistics Canada 1995.

The trade in live pigs between Canada and the US is, however, not without restriction. This raises the possibility of differences in prices between the two countries in excess of what could be explained by transport costs.

US countervailing action was taken against Canadian imports following a fivefold increase in live pig imports (mostly Canadian) into the US. Imports increased from an annual average of 206 thousand in the period 1979 to 1982, to 1.23 million in 1985. By that stage total imports of live pigs and pork products from all sources had reached 8 per cent of total US supply. The rise in imports came at a time when the US agricultural sector was in financial difficulties and pig producers in the corn belt States were among the most financially stressed (Brandt *et al.* 1987). The US National Pork Producers' Council initiated a countervailing action against Canadian live pigs and pigmeat in November 1984. The Council alleged subsidisation of pig production via 22 Federal and Provincial programs. In June 1985 countervailing duties of 4.39 US cents per pound (equal to 9.66 US cents per kilogram) were imposed on Canadian pigs by the US International Trade Commission (ITC).

The countervailing duties on pigs are still being collected, their levels being monitored and adjusted on a periodic basis according the level of the subsidy programs in Canada. The CPC submitted that the current rate is equivalent to

less than 4 US cents per kilogram by carcase weight, and that it expects the US review for the most recent period to arrive at a final figure of about 1 US cent per kilogram. The drop reflects the current absence of net stabilisation payments (see Table 3.2). Whilst net payments to producers can be expected to return at some stage in the future, the downward trend in other Canadian assistance measures means that countervailing duties are unlikely to return to their original levels.

Coffin *et al* (1992, p. 584) found that Eastern and Western Canadian pig prices were driven by the US price. Benson *et al.* (1994) noted that, with the imposition of the countervailing duty from 1985, Canadian exports to the US fell from 1.24 million head in 1984 to 270 000 in 1987 before recovering to 650 000 in 1988. This did not insulate the Canadian market from the US market — rather, changes in US prices were relatively more important in explaining prices in Canadian provinces in the period after the imposition of the countervailing duty than before (Benson *et al.* 1994). Despite the curtailment of the live pig trade, US prices continued to drive Canadian pig prices through the trade in pigmeat, which occurs at the carcase, primal, sub-primal and prepared meats stages. Pigmeat exports to the US continued to expand after the countervailing duty, only declining once live pig exports recovered.

Tanguay (1994) examined relationships among pig prices in Quebec, Alberta, and the US using a 1979 to 1991 sample that was split at the imposition of the countervailing duty in 1985. He found the markets to be highly integrated and responding to the same market signals. Trade between Western and Eastern Canada had increased since 1985, partly because of the difficulty of accessing US live pig markets.

In summary, the evidence of the relation of the two markets, combined with the relative size of supplies in the two countries, strongly supports the conclusion that Canadian pig prices primarily reflect US rather than local market conditions. This relationship allows little scope for assistance to Canadian pig producers to be passed through to Canadian pigmeat processors in the form of lower pig prices.

The US countervailing action does raise the possibility of a wedge being driven between US and Canadian pig prices. That is, while changes in Canadian exports would not be significant enough to influence the US price, US trade barriers could restrict Canadian exports enough to drive down prices in Canada. It should be noted that this price effect would result from the countervailing duty whether or not there were any subsidies provided in Canada. It could occur even if, as the Canadian Pork Council contended, the countervailing duty is 'unjustified in its existence and in the level of subsidy it attributes to Canadian hogs' (Sub. 7, p. 5).

Benson *et al.* (1994) found that, although not breaking the dynamic links between the Canadian and US markets, the countervailing duty did drive a wedge between Canadian and US pig prices. The size of that price wedge depended on how well placed the respective Canadian provinces were to switch from exporting live pigs to producing pigmeat products. The price wedge was least in Manitoba, which had spare processing capability and proximity to US pigmeat markets — average Winnipeg (Manitoba) pig prices declined, relative to mean US prices, by US$0.04 per pig. The price wedge was greatest in Alberta which had limited spare processing capacity [4] — average Edmonton (Alberta) pig prices declined, relative to mean US prices, by US$1.55 per pig. Declines of around US$1.20 per pig occurred in Saskatoon (Saskatchewan) and Toronto (Ontario), the other Provinces studied.

To maintain live pig exports in the face of the countervailing duty, Canadian pig prices would have had to fall by an amount approximately equal to the duty — effectively a price cut equal to the subsidies that the ITC deemed the Canadian producers to be receiving. However, Canadian pig producers were able to divert pigs to the Canadian market for slaughter and processing. The relative price declines observed by Benson *et al.* (1994) were well below the countervailing duty, even for Alberta: a 50kg pig would have faced a countervailing duty of US$4.83. The ultimate absence of countervailing duties on pigmeat allowed this diversion of Canadian live pigs from the US to the Canadian processors to be accommodated without the need for significant falls in the price of Canadian pigs.

The effect on pig output of the NTSP for hogs (or any replacement program) should be analogous to that for grains. These programs would raise average returns and may encourage output to increase. The extent to which this would occur in pig production is uncertain as similar schemes apply to other agricultural commodities. For there to be a significant increase in pigs, it would require that pig production be advantaged relative to other agricultural commodities in Canada. Even if this were to occur, Canadian production only represents 15 per cent of the Canada/US market. Thus, significant price falls would not be needed to clear any extra production. For example, even without any increase in total spending on pigmeat, a 7 per cent increase in Canadian

[4] Alberta also suffered a major strike at one of its two meat packing firms. In addition, Alberta introduced the Crow Benefit Offset Program (see Appendix G), which some viewed as a thinly-veiled — but unsuccessful — attempt to offset the impact of the countervailing duty (Benson *et a* 1994).

production could be cleared in the Canada/US market with only a 1 per cent fall in price.[5]

The Commission considers that assistance to Canadian pig producers is not likely to have a significant effect on the price of Canadian pigs.

Pigmeat

Canada exported 234 kilotonnes of pigmeat to the US in 1994, around 20 per cent of production and 78 per cent of Canadian exports. These exports represent about 3 per cent of US consumption. Canada imports a small but rapidly increasing amount of pigmeat from the US: in 1994 imports were 16.3 kilotonnes, an increase of 48 per cent on 1993.

Countervailing duties of 5.5 US cents per pound were imposed on fresh, chilled and frozen pigmeat in mid 1995 (at the same time as duties were imposed on live hogs) but were overturned shortly after when the US International Trade Commission concluded that the US pigmeat industry had not suffered material injury. Countervailing duties on pigmeat of 3.6 US cents per pound (7.9 US cents per kilogram) were subsequently imposed in 1989 but were challenged under the Canada/US Trade Agreement.[6] A Bi-national Panel overturned the duty on the grounds that no material injury had been caused.

As discussed above, a significant degree of integration exists between the US and Canadian pigmeat markets. It is this integration that, in the face of obstacles to the live pig trade, helps to underpin a close relationship between US and Canadian pig prices. Transport costs can allow regional differences in consumer preferences and differences in processing costs to cause Canadian prices for pigmeat products to diverge from those in the US. However, prices offered for export to Australia are set in the context of opportunities in Canada, the US and other Canadian export markets.

In the event that Canadian pigmeat producers were able to capture some of the subsidies received by their pig producers, the opportunity to export pigmeat to the US at the carcase and primal cut stages makes it unlikely that such subsidies would be passed through to pigmeat products, either in the Canadian or export markets. Whilst the Commission does not consider that significant levels of subsidy are passed through from pig producers, the carcase/primal pigmeat

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5 Coffin *et al* (1992) remarked that, were the removal of the Crow Rate benefit to expand production by 10 per cent in the Canadian prairies, the estimated price flexibility of unity would imply a fall in the Canada/US hog price of 0.5 per cent.

6 Canada also challenged under GATT on the technical issue of whether pig subsidies could be deemed to be pigmeat subsidies. This matter was never resolved.

trade with the US raises a further obstacle to subsidies reaching export prices for pigmeat products.

The Commission considers that any impact from Canadian agricultural assistance schemes on Canadian pigmeat export prices would be negligible.

3.3 United States of America

Given the dominance of the United States in the North American market, the nature and extent of assistance to pigmeat in the United States may be more relevant to Australia, in terms of the price of imported pigmeat, than assistance provided in Canada.

In 1994, over 95 million pigs were slaughtered in the US, to produce over 8 million tonnes of pigmeat. The main production area is in the North Central States, headed by Iowa. Production is expanding elsewhere, particularly in North Carolina, which is now the second largest producer with two-thirds as many sows as Iowa.

By the middle of 1994, unusually large supplies of beef and poultry contributed to pig prices in the US falling to their lowest level in 20 years. In addition, this price decline followed an increase in pigmeat production in the final quarter of 1994 of 8 per cent over a year earlier. This record production followed an extended period of stable profits and reflected prospects for cheaper corn. A large liquidation of breeding stock occurred in the North Central States towards the end of 1994.[7] Prices moderated in mid-December and then rose sharply in the second quarter of 1995. Production is expected to increase again in the latter part of 1995 to reach near record levels, despite rising feed costs.

The US has traditionally been a large net importer of pigmeat, but this is changing with exports increasing over time and imports falling. Since mid 1994, low US prices and a weakening US dollar have seen a dramatic reduction in imports from the EU, most importantly from Denmark (down 45 per cent for the first part of 1995). The quantity of Canadian imports (generally around half of total imports) are expected to remain at a similar level to 1994.

The value of US exports for the first half of 1995 was US$400 million, up 70 per cent over 1994. Total 1994 exports were 241 kilotonnes. The present United States Department of Agriculture (USDA) forecast is for a total of 264kt in 1995 (USDA 1995b). The largest US export market is Japan, where exports increased 25 per cent to US$257 million, largely at the expense of Denmark. Exports to Canada rose 43 per cent to reach US$18.8 million. Exports to

[7] A previous liquidation occurred in late 1991 and early 1992.

Russia reached US$53 million, following the use of the Export Enhancement Program (see below).

Trends and principal forms of assistance to pigmeat production in the USA as measured by the OECD are shown in Table 3.6.

Table 3.6: **Components of US pigmeat PSEs and CSEs**

PSE/CSE component	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*[e]	*1994*[p]
PSE:							
Direct payments (US$m)	0	0	0	0	0	0	0
Reduction of input costs (US$m)	153	132	138	118	83	90	83
General services (US$m)	170	167	208	218	211	241	238
Sub-national (US$m)	137	139	180	182	152	164	164
Other (US$m)	38	47	44	53	40	35	35
Gross PSE (US$m)	495	485	571	571	487	529	520
less: - Excess feed cost (US$m)	-6	-3	-8	-23	-11	-23	-20
- Other feed cost (US$m)	-11	-8	-35	-45	-34	-37	-0
Total feed adjustment (US$m)	-17	-11	-43	-68	-45	-60	-20
Net PSE (US$m)	477	475	528	503	441	469	501
Level of production (kt)	7114	7173	6965	7257	7817	7751	7963
Unit net PSE (US$/t)	67.11	66.16	75.81	69.35	56.44	60.52	62.88
Percentage net PSE (%)	**5.2**	**5.1**	**4.6**	**4.5**	**4.5**	**4.4**	**5.2**
CSE:							
Market transfers	0	0	0	0	0	0	0
Consumption aids (US$m)	27	123	95	88	79	87	87
Total CSE (US$m)	27	123	95	88	79	87	87
Unit CSE (US$/t)	3.55	16.34	13.10	11.88	9.93	10.97	10.73
Percentage CSE (%)	**0.3**	**1.3**	**0.8**	**0.8**	**0.8**	**0.8**	**0.9**

e Estimate.
p Provisional.
Source: OECD 1995b.

The US has no assistance programs which are specific to the pig industry, either at Federal or State levels. The industry does benefit from general agricultural programs, but the relatively small size and importance of the pig industry relative to agriculture as a whole (less than 7.5 per cent of the value of agricultural production) means its share is small.

The rate of assistance to pigmeat producers has remained relatively constant at around 5 per cent or less. In 1994, total assistance averaged 6.3 US cents per kilogram. No Direct Payments are made to pigmeat producers. Assistance that reduces input costs (mainly farm credit) has declined, but this has been offset in

aggregate by increases in General Services and State assistance. Key components of assistance at the federal level have been farm credit schemes, subsidised inspection services, research programs and tax concessions.

The OECD does not consider that there are any measures to assist pig producers in the US which increase prices to consumers — this is reflected in the absence of market transfers.

For reasons similar to those discussed for Canada, and given the smaller rate of assistance involved, it is unlikely that assistance to pig producers is passed through to pigmeat prices or export prices. Similarly, the pig industry is unlikely to benefit from any pass through of assistance to the feed grain industries. Rather, a feedcost penalty has often resulted from assistance to grains (although it is less significant than that for Canada).

Export Enhancement Program

The US provides subsidies to certain agricultural exports under the Export Enhancement Program (EEP). Exports of particular kinds of pigmeat to the former USSR became eligible in August 1992. The only awards made were in 1994 and 1995 — for shipments to Russia and the Ukraine. Subsidies totalled US$26.3 million on 35 kilotonnes, averaging US$780 per tonne in 1994 and US$474 per tonne in 1995.

The eligibility of pigmeat for EEP assistance expired in June 1995 in accordance with GATT obligations (USDA 1995c). There are no plans to apply the EEP to pigmeat in the future.

The EEP continues to apply to US grain exports, although the GATT requires phased reductions in subsidised quantities and total subsidy expenditures. By making it more attractive to export grain, the EEP will tend to increase the price in the North American domestic market (the export parity price), increasing the cost of pig production. This penalty is reflected in the feed cost penalty estimated by the OECD for US pigmeat production. The rate of consumer tax for wheat is 19 per cent.

3.4 European Union

In the European Union (EU), more pork is eaten than any other meat, and consumption averages over 40 kilograms per person on a carcase weight basis. In 1994, production was over 180 million pigs, or 15 million tonnes of pigmeat

(EU 12).[8] Germany produces around a quarter of the total, with Spain, France, Italy, the Netherlands and Denmark over 10 per cent each. For the EU, pigmeat accounts for around 12 per cent of agricultural production, with the industry being most important in Denmark, where it accounts for over 30 per cent of that country's agricultural production.

EU production expanded by 6.5 per cent between 1991 and 1994. Average prices fell by 25 per cent in 1993, recovering by only 1 per cent in 1994. Production began to decline in the second half of 1994 and is expected to continue to do so at least into the first quarter of 1996; production in 1995 is expected to be 1.3 per cent less than it was in 1994. Prices began to recover by mid 1994 and increased again in the first half of 1995, coupled with lower feed prices.

Exports to non-EU countries rose by one third in 1994 to reach almost one million tonnes. Eastern Europe is an important developing market. Denmark is the major EU exporter, both to other EU members and to third countries. In 1994 Denmark exported 490 kilotonnes to non-EU countries. For 1995, EU exports are expected to decline due to decreased sales to the US and Japan, particularly by Denmark.

As with most Common Agricultural Policy (CAP) programs, arrangements for pigmeat entail domestic intervention to support the market price, in conjunction with barriers to imports and subsidies to exports.

For the domestic market, a 'basic price' is fixed each year for a benchmark grade of pig. The basic price for 1994–95 was 1569.76 ECU per tonne.[9] This was a decline of 30.5 per cent over 1993–94. A further 3.8 per cent reduction to 1509.39 ECU per tonne will occur in the basic price for 1995–96. This understates the effective decline, since there was an increase in the standard of the pig for which the basic price is fixed. Reductions in the administered price for cereals under the CAP underlie the large recent decline in the basic price.

When the internal market price falls below 103 per cent of this basic price, intervention by the European Commission may occur, but is not guaranteed. Internal market prices have been allowed to remain below the basic price since at least 1988. In 1995, private storage aid (to remove produce temporarily from the market) only commenced when prices began to rise, and operated from May to mid-July. Intervention buying has rarely been used as a means to support the

[8] Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom. On an EU 15 basis (EU 12 plus Austria, Sweden and Finland), over 191 million pigs were slaughtered.

[9] An ECU is equivalent to around A$1.70.

price of pigmeat. No specific domestic price support reforms for pigmeat are required as a result of adoption of GATT 1994.

The domestic price support arrangements — which keep EU internal prices above world prices — are only viable in conjunction with import barriers. Prior to the Uruguay reforms, a variable import levy applied. The major component of the levy was equal to the extent to which feed grain cost more in the EU than in world markets. In addition, imports were levied at 7 per cent of the 'sluicegate price' (the price that EU deems to be the world price). Supplementary levies were used to make up any difference between import prices and sluicegate prices (to which the two normal levies were then added). Under the 'tariffication' agreed to at the Uruguay Round, the variable levy has been converted to a specific rate tariff, which is to be reduced by 36 per cent in six equal instalments between 1995 and 2000. For whole carcases the base rate of duty is 838 ECU per tonne, reducing to 536 ECU per tonne. This is broadly equivalent to a reduction, in ad valorem terms, from 80 per cent to 50 per cent.

Export subsidies (called 'export restitutions') seek to make up the difference between internal EU and world prices on the production which is exported. They complement the domestic price support arrangements by helping to maintain internal prices by diverting surplus production away from the internal market. The high internal feed grain price that results from the CAP support of the grains industry is a factor in determining refunds.

Trends and principal forms of assistance to pigmeat production in the EU as measured by the OECD are shown in Table 3.7.

Assistance to pigmeat producers has generally been a few percentage points lower than the 1994 level of 9.9 per cent.[10] In 1994, total net transfers averaged 0.11 ECU per kilogram (around 1.7 Australian cents per kilogram). The main form of gross assistance has been market price support, which is equal to the total rate of import levies. It should be noted that export subsidies do not appear as a separate item because they are estimated as part of market price support.

Market price support is not considered to deliver any net assistance to pigmeat production, being offset by the excess feed cost caused by the CAP. [11] The rate of implicit consumer tax for wheat is 29 per cent and for coarse grains 40 per cent. The market price support arrangements for pigmeat effectively pass the cost of assistance to grains through to meat consumers, resulting in an implicit

[10] Values for the 1980s were mostly around 6 per cent.

[11] This ignores the potential for the sluicegate price system to deter imports at prices less than what the EU deemed to be the world cost of production, such as when there is world oversupply.

tax on EU consumers of pigmeat. At 23 per cent, the rate of this implicit tax is considerably greater than the (net) assistance of 10 per cent received by pigmeat producers. By way of comparison, assistance to beef and veal producers is 60 per cent in the EU, while the penalty to EU consumers of these products is 52 per cent.

Table 3.7: **Components of EU pigmeat PSEs and CSEs**

PSE/CSE component	*1988*	*1989*	*1990*	*1991*	*1992*	*1993*[e]	*1994*[p]
PSE:							
Market price support (ECUm)	4142	2496	4141	5405	4256	4187	3881
Direct payments (ECUm)	0	0	0	0	0	0	0
EAGGF Guidance[a]	69	122	174	196	295	360	324
National policies (ECUm)	1079	1230	1237	1456	1402	1362	1362
Total Reduction of input costs /General services (ECUm)	1147	1352	1411	1652	1697	1722	1686
Gross PSE (ECUm)	5289	3848	5552	7057	5953	5909	5567
less Excess feed cost (ECUm)	-4142	-2496	-4141	-5405	-4256	-4187	-3881
Net PSE (ECUm)	1147	1352	1411	1652	1697	1722	1686
Level of production (kt)	13316	13131	14475	14368	14408	15278	15147
Unit net PSE (ECU/t)	86.14	102.95	97.46	114.96	117.81	112.70	111.33
Percentage net PSE (%)	**6.6**	**6.5**	**6.6**	**7.7**	**7.7**	**10.1**	**9.9**
CSE:							
Market transfers	-4010	-2435	-3686	-5204	-4137	-4056	-3683
Total CSE (ECUm)	-4010	-2435	-3686	-5204	-4137	-4056	-3683
Unit CSE (ECU/t)	-311.07	-190.07	-286.10	-376.21	-295.37	-274.08	-256.20
Percentage CSE (%)	**-23.7**	**-12.0**	**-19.3**	**-25.3**	**-19.3**	**-24.7**	**-22.8**

a European Agriculture Guarantee and Guidance Fund (EAGGF) spending is separated into Guarantee spending (which, includes export refunds, storage aid, price subsidies, etc) and Guidance spending (farm improvement, investment aid, aid to young farmers, subsidies to hilly and other less-favourable farming areas). Only the Guidance spending component is included directly in CSE calculations, as the export refunds component is included in the market price support figures.

e Estimate.

p Provisional.

Source: OECD 1995b.

The net assistance derives from measures which reduce input costs and from general services, which are delivered through both national and EU programs under the Guidance section of the European Agricultural Guidance and Guarantee Fund (EAGGF). Denmark received ECU6 million of EAGGF Guidance commitments for investment aid in 1993 (3.3 per cent of the EU total), ECU4.2 million of aid to young farmers (2.3 per cent), and none of the ECU542 million subsidies for less-favoured areas.

National policies are not permitted to be based on units of input or output. Denmark operates a Product Development Scheme that subsidises investment in

new equipment for slaughterhouses. The Danish Directorate for Development in Agriculture and Fisheries subsidises a number of activities related to agriculture, such as investments in livestock buildings, machinery, etc; investments in installations for storage of farmyard manure; and product development and food technologies. The reliance of the industry on export makes animal health a serious point of attention for the Danish Government; inspection services and quality regulation are fully funded by pigmeat producers.[12] Industry training and advisory services are paid partly by levies on pigs produced and partly by the Government.

EU export subsidies are subject to its GATT 1994 commitments from July 1995. The volume of subsidised pigmeat exports is to fall by 21 per cent (relative to the period 1986 to 1990) to 401.8 kilotonnes by 2000–01. Expenditure on export restitution for pigmeat must fall by 36 per cent (relative to the period 1986 to 1990) to ECU117.4 million. Compared with the base period, this would represent a decline in average subsidy (for those exports that are subsidised) from ECU361 per tonne to ECU292 per tonne. Compliance with these targets is given effect through a system of export licensing. The commitments are averaged across all pigmeat exports, but no commitments are made with respect to specific cuts or products. Export restitutions fixed in June 1995 varied from nil on some cuts to ECU850 per tonne on others, and are only valid for certain export destinations.

Denmark has been a significant beneficiary of export restitutions, receiving around DK760 million in 1994 (around ECU100 million, or A$164 million), around 40 per cent of the EU total of ECU259 million for pigmeat. The figure for 1995 will be much lower, as the EU total will only be ECU172.4 million. This would suggest a Danish share of ECU65 million, but exports to Japan (from which Danish producers have been receiving significant refunds) are no longer eligible.

Although export refunds are reducing, so is the need for exports to be subsidised in order to be attractive. The gap between internal market prices and world prices for pigmeat is declining as falls in internal grain prices resulting from CAP reform and the GATT 1994 commitments drive reductions in the basic price for pigmeat. Further, the OECD (1994) notes that lower internal feed costs are contributing to improved margins for pig producers in the EU. Those same CAP reforms will contribute to higher feed costs for pig producers outside of the EU, as export subsidies on grains are reduced.

Quarantine restrictions presently prevent the EU from exporting any uncanned pigmeat to Australia. Australia currently applies countervailing duties on

[12] Other EU countries, such as the Netherlands, have only partial cost recovery.

canned ham from Ireland, Denmark and the Netherlands. These were implemented following a 1992 finding that material injury to the Australian industry was resulting from EU export subsidies on those products (ACS 1992). Export refunds set in June 1995 for those products are ECU540 per tonne for leg ham and ECU420 per tonne for shoulder ham.

An application by Denmark to export uncanned pigmeat to Australia is under consideration by AQIS. If the quarantine restrictions are relaxed on imports from Denmark, the extent to which this would result in significant exports is uncertain. As a consequence of GATT 1994 commitments to reduce export subsidies, the export restitution for boneless cuts was removed early in 1995 (MLC 1995). The USDA (1995b) reported that Danish producers expect to be able to export as least some pigmeat without subsidies.

On balance, EU assistance arrangements are unlikely to provide significant net subsidies after taking account of the higher price of grain as a result of the CAP. On this basis, it can be concluded that the EU's assistance arrangements do not result in any significant suppression of world pigmeat prices.

4 POLICY ENVIRONMENT

The Australian pigmeat industry is at a critical stage in its development. The lifting of quarantine restrictions on Canadian pigmeat imports has opened the industry to the world market, and thus to the influence of international pigmeat prices. This will bring increased pressures and uncertainties, and generate change in the local market and industry. These would increase as quarantine restrictions on imports from other countries, notably Denmark and the US, are reviewed and possibly relaxed.

The process of bringing Australian prices more 'into line' with world prices will impose some adjustments on the local industry. The market share of imports is low at present, and the impact to date appears to have been minor (see Section 2.7). More important, perhaps, than the effects so far are the likely effect in the future. While Canadian leg pork for manufacturing continues to be cheaper than Australian leg pork there will be continuing pressure on local processors to use more imported meat. Several participants requested action to protect Australian pig farmers and pigmeat producers from import competition. The terms of reference for this research project do not call for recommendations for changes to existing government policy. However, the Commission has looked at the implications of some existing policy arrangements.

4.1 Government policy

An important element of the Commonwealth Government's industry policy has been the development of an efficient, internationally competitive business sector. This has involved a change in emphasis from an inward-looking policy of selectively protecting industry from import competition towards one of facilitating greater involvement in the international market.

An important element of this policy has been the gradual reduction in tariff levels and other barriers to trade. Increased import competition is seen as an important element in encouraging greater efficiency in the domestic economy and reducing the input costs of Australia's export-oriented industries.

A general program of tariff reductions was set in place in May 1988. In the March 1991 Industry Statement (DPM&C 1991), the Government announced an extension of the program with a target of reducing the level of tariffs on the import of most products, including agricultural products, to 5 per cent by 1 July 1996. At the same time, the elimination of quotas and other non-tariff barriers to trade was announced.

In the recently concluded Uruguay Round of trade negotiations, Australia took a strong stand against restrictions on agricultural imports, and subsidised agricultural exports. As one of the world's principal agricultural exporters, Australia expects to be a significant net beneficiary from any reductions in agricultural trade barriers and export subsidies. ABARE has estimated (DPIE 1994) that additional agricultural income of up to $1 billion a year will be generated once the trade agreement outcomes are fully implemented.

More recently, Australia has championed freer trade through the Asia Pacific Economic Cooperation (APEC) forum. APEC's Bogor Declaration of November 1994 agreed to endeavour to refrain from increasing levels of protection — the so called 'standstill' commitment. This part of the Agreement was an initiative of the Australian Government. Recently, Australia has been resisting attempts by some other APEC forum countries to exclude agriculture from the APEC liberalisation.

Policy instruments

Tariffs

The tariff rate on imports of frozen pig meat is zero. This is also the bound rate that Australia has agreed to under GATT — that is, it is the maximum rate of duty that Australia has committed itself to levy on imports of this product.

On prepared meats, the tariff rate applied from 1 July 1995, is 2 per cent for Canada and Developing Countries, and the General rate for other countries is 7 per cent. This general rate is due to be reduced to 5 per cent from 1 July 1996, at which time Canadian imports will be free of duty. The bound rate on these products is 10 per cent.

Australia does have the option of increasing rates that are below the bound rate up to that rate. This option exists only for processed product, which would be of little relevance to the import of frozen pigmeat for processing.

An increase in a tariff above the bound rate is possible but would require Australia to enter into negotiations under Article XXVIII of the GATT with other WTO Members which have a trade interest — in this case, Canada. Renegotiation would involve Australia providing compensation in the form of increased access (lower tariffs) on other goods of equivalent value which are of interest to the other parties. If this could not be agreed, Australia could still increase the bound rate, but its trading partners would be free to retaliate against imports from Australia. More detailed information on GATT 1994 is presented in Appendix F.

Any increase in the tariff rate on imports of pigmeat would be difficult for Australia to undertake. As well as the procedural difficulties involved through the WTO, and the strong possibility of retaliation, any such action would undermine Australia's international standing in consistently arguing for the reduction in trade barriers on agricultural products.

GATT safeguard action (Article XIX)

This article of the GATT provides for the short term suspension of tariff bindings where a product is being imported in such increased quantities and under such conditions as to cause or threaten to cause serious injury to domestic producers. However, a number of procedures must be carried out first. These are:

- a public inquiry by a competent aut hority;
- safeguard measures must be progressively liberalised during the period of its application; and
- Australia must offer mutually agreed concessions to the exporting member of an equal value.

Given the low level of imports of Canadian pigmeat, and the difficulty of establishing that these imports are causing significant damage to the Australian industry, it would be difficult for Australia to justify any action under this provision of the GATT.

Countervailing duties

Countervailing duties can be imposed on agricultural imports if it is demonstrated that exported products are being subsidised, and that there is material injury to the domestic industry.

Two recent cases have been undertaken reviewing Canadian imports of pigmeat, in particular the level of subsidisation or dumping, and the extent of any injury to the domestic industry. A preliminary investigation was undertaken by the Australian Customs Service (ACS) in 1992. The ACS found that there were only very isolated instances of dumping, and that subsidies in Canada had a negligible impact on prices of pigmeat imports. Further, the ACS did not find that the local industry was being injured by these imports. A review of the ACS's negative preliminary finding was undertaken by the Anti-Dumping Authority in 1993. The Anti-Dumping Authority (1993, p. 1) found that:

> Having examined that information, the Authority agrees with Customs that there was virtually no dumping of frozen pork from Canada in the period under review — the

> Authority found only two instances of dumping of frozen pork from Canada and these were insignificant shipments with relatively low dumping margins.
>
> The Authority is also in accord with Customs that the subsidies paid to grain and pig producers in Canada were not passed on in any significant way to pork producers and hence did not confer any noticeable advantage to the Canadian pork producers exporting to Australia.
>
> The Authority further agrees with Customs that the Australian industry did not suffer material injury as a result of Canadian exports of frozen pork during the period under review.

A renewed attempt to invoke countervailing duties would appear unlikely to succeed. Assistance in Canada has generally declined since the 1992 case (see Chapter 3), and the remaining programs have been modified to break links between production and assistance. Imports have not increased significantly since the previous cases, and the price margin of the local product above imports has been essentially maintained.

In addition, the new WTO trade agreement, which came into force at the beginning of 1995, will make it even more difficult to impose countervailing duties on imports of agricultural products. In particular:

- many of the 'subsidies' identified as being provided by the Canadian government are of the type classified as 'green box' measures and, under the new trade agreement, are thus not eligible for countervailing duty action; and
- the due restraint provisions of the Agricultural Agreement (the so-called 'peace clause') commits parties to exercise restraint in pursuing countervailing duty action against agricultural products as long as trading partners are meeting their GATT 1994 commitments. This basically requires Australia not to take precipitative action to restrict imports of agricultural products.

Even if countervailing duties could be established as warranted, the low level of actionable subsidy that could be identified, and thus the low level of countervailing duties that could be applied, indicates that any countervailing duties are likely to have negligible impact on the price difference between the imported and local product. Such action is thus unlikely to have any significant impact on either the price or quantity of Canadian pigmeat imports.

Anti-dumping

Domestic industry is able to apply for an investigation of the possibility that imports are being dumped in Australia — that is, sold at a price below the normal value in the country of export. For anti-dumping duties to be imposed, it must be established that dumping is occurring, and that the local industry is

suffering or is likely to suffer material injury as a result. Recent applications have not been successful, and there has been no significant change in circumstances that would indicate a greater likelihood of success now.

Quarantine

The WTO Agreement on Sanitary and Phytosanitary Measures which came into force at the beginning of this year will make it more difficult to use quarantine restrictions as a form of protection from import competition. Specifically, restrictions, including the continuation of existing restrictions, must be based on sound scientific analysis of likely risks and, perhaps more importantly, must not discriminate between countries.

Australia is already coming under pressure from its trading partners to review its quarantine regulations to ensure that they are based on sound and scientific risk assessment. In the case of pigmeat, both Denmark and the US have applied for a review of Australia's quarantine rules with respect to their producers. On the question of not discriminating between countries, this implies that if quarantine restrictions can be relaxed for Canadian pigmeat, other countries in a similar situation can ask for the same access conditions. Only a demonstrably different level of disease risk can justify differential treatment.

Quarantine has also been an important factor in the Australian feed grain market, particularly in the recent situation of drought, local shortages and high prices. Bunge (sub. 20, p. 1) said:

> In practice, importing of grain, especially wheat, is not possible so the industry is unable to offset costs by accessing world grain markets ...

Restrictions on the import of grain have only very recently been relaxed, but still require that the imported grain be processed in metropolitan areas before use. Unprocessed imported grain may not be transported to country areas.

Other assistance mechanisms

The Commonwealth and State Governments operate a number of direct assistance programs for agricultural industries, aimed at assisting them to adjust or to overcome the adverse effects of particularly severe droughts. The principal program is the Rural Adjustment Scheme, jointly funded by the Commonwealth and State Governments.

Rural Adjustment Scheme (RAS)

RAS aims to facilitate the processes of efficient and socially just structural change and rural development, and to promote a more productive and profitable farm sector (RASAC 1994). The RAS is administered by State and Territory

RAS authorities, in accordance with agreed policy guidelines. The elements of RAS are:

Skill-enhancement measures. Farmers may be eligible for grants for training to upgrade farm business and property management skills, and to assist with the cost of obtaining expert financial, planning and other advice.

Farm productivity enhancement measures. Interest subsidies of up to 50 per cent of the cost of commercial finance may be provided for productivity improvement measures.

Re-establishment provisions. Farmers without future prospects of profitability in farming may be eligible for support to re-establish after selling the farm.

Land trading. Land trading can be used to speed up the process of amalgamation of unviable farm units or to retire land which can no longer support agricultural production. This form of assistance has been used to a very limited extent, and only in Western Australia and Victoria.

Exceptional circumstances. Where the Minister determines that exceptional circumstances (such as severe and prolonged drought) exist, interest rate subsidies of up to 100 per cent on commercial finance are available to eligible farmers for a specified time frame.

The first full year of operation for the current scheme (called RAS 1992) was 1993–94. It replaced the previous RAS scheme known as RAS 1988. Expenditures under RAS 1988 programs are expected to continue for some years.

Total expenditure on RAS in 1993–94 was $172.3 million of which the Commonwealth contributed $150.4 million and the States $21.9 million.

Table 4.1: **Expenditure under the Rural Adjustment Scheme, 1993–94**

Category	*$ million*	*%*
RAS 1988	61.6	35
Exceptional circumstances — wool	25.2	15
Exceptional circumstances — drought	18.9	11
Administration	16.7	10
Productivity and land trading	16.6	10
Re-establishment	16.2	9
Exceptional circumstances — rain	14.9	9
Advice and training	2.2	1
Total	172.3	100

Source: RASAC 1993, p. 25.

Information on how much of the RAS funds are provided to pig producers is difficult to obtain. Many pig producers operate mixed farms where pig production is not the main income. Nonetheless, some estimates of the distribution of RAS funds are available. New South Wales and Queensland accounted for 34 per cent and 25 per cent of RAS expenditure in 1993–94. In New South Wales, pig producers were estimated to have received just over $1 million in a total budget of $59 million. Over half of these payments were for Part A payments under the RAS 1988 (capital restructuring, debt reconstruction, increase in farm size and farm improvement). The next largest category was for productivity enhancement under RAS 1992. In Queensland, the pig producing industry is estimated to have received almost $700 000 out of a total budget of $42.9 million. South Australian pig producers received around $150 000 and producers in Tasmania received around $11 000. Figures for Victoria and Western Australia are not broken down into categories that enable the assistance provided to pig farmers to be identified.

Other than continuing expenditures under the pre-existing RAS 1988, the largest section of RAS expenditure ($59 million or 34 per cent) was on assistance under the exceptional circumstances category. The exceptional circumstances categories cover assistance to:

- producers in New South Wales, Victoria and South Australia whose farm incomes were seriously affected by heavy unseasonable rains in late December 1992;
- woolgrowers who were heavily dependant on income from wool; and

- producers in Queensland and New South Wales, including pig producers, whose incomes were sharply reduced by the long drought.

Pig producers are also eligible, along with other primary producers, for the general assistance available under the RAS, and producers have been obtaining assistance. Increased adjustment pressures on the industry can be accommodated by an increase in the number of producers becoming eligible for assistance, or through special assistance provisions under the exceptional circumstances provisions of the RAS. The provision of additional funds, or special conditions for the receipt of assistance under the 'exceptional circumstances' component of RAS requires a determination by the Minister for Primary Industries and Energy.

Agribusiness programs

These programs are designed to enhance the international competitiveness of Australia's agricultural and related industries through fostering the adoption of modern business and marketing practices by individuals, businesses, and industry/grower groups involved in agribusiness. Almost $6 million has been committed to projects under this program.

Business Advice to Rural Areas Program

Grants totalling $1.73 million have been provided to 37 locally based business advisory services. These grants are aimed at enabling these services to continue to assist rural communities to diversify, stabilise and expand income opportunities.

Rural Communities Access Program

This program involves a range of activities to assist the rural community including:

- Rural Counselling — 74 rural counselling services are funded to provide professional advice to farming families in financial difficulties;
- Telecentes — aims at providing rural communities with access to modern telecommunications and information technology;
- Australian Country Information Service — assists rural communities to provide face-to-face information and assistance relating to Commonwealth Government services and programs; and
- Rural Access Program — establishes rural based projects with special consideration to projects targeting women, Aboriginal and Torres Strait Islander people, people with disabilities and people from non-English speaking background.

Rail subsidies

In times of drought, the major form of drought relief provided to Australia's livestock producers is in the form of State grain transport subsidies to ship feed grains to drought affected areas. While pig producers are an intensive user of feed grains, they are typically not eligible for such assistance. Kewpie said:

> Freight subsidy is not available to the intensive livestock industries irrespective of the fact that additional freight costs are a significant contributing factor in the higher price of grain. (Sub. 14, p. 5)

Similarly, the New South Wales Farmers' Association said that:

> In terms of drought assistance, pork producers and intensive industries more generally, are not eligible to receive the freight rebate provided by the State Government that broadacre farmers have access to. The rebate provided to broadacre farmers subsidises the cost of purchasing grain as supplementary feed for their stock during drought. This stimulates an increase in the demand for feed grain and when combined with reduced availability of supply during drought, pushes the price higher leaving pork producers to wear the increase. (Sub. 19, p. 6)

In addition to occasional assistance programs to ameliorate the effect of natural disasters on the rural community, State Governments provide a range of continuing services to industry, primarily in the areas of research, development and information provision.

The Commonwealth Government also provides a range of other forms of assistance for agricultural producers, including pig farmers (see Appendix B).

4.2 Action by industry

Action to maintain the competitiveness of the Australian pigmeat industry, in the face of new international competition must, in the longer term, come primarily from within the industry itself. It is clear that not all those currently in the industry will be able to survive in an environment of freer trade without further increases in efficiency.

Pig farming

Cresap commented in 1990 that it appears that 'the most efficient Australian producers are at, or close to, world cost levels' (Cresap 1990, p. 29). In terms of genetics and herd management, Australia's best pig producers are recognised as being on a par with the world's best. However, indications are that the average cost of pig production in Australia is higher than in Canada and the US.

There are, nonetheless, some positive signs. A major problem facing the industry is the high cost of feed grain. As the drought ends, and costs of feed

grains in Australia return to export parity, rather than import parity, the cost disadvantage of some sections of Australia's pig industry should decline. In the future, as trade in feed grains is liberalised, and quarantine restrictions reviewed, pig producers should have improved access to imported grains in times of drought induced shortages in Australia.

There are other ways in which the industry can reduce its costs of production. The average weight at slaughter of Australia's pigs is low by world standards. Although there are some disadvantages in increasing slaughter weight, and there are some consumer preferences favouring smaller pigs, overall an increase in pig size would reduce costs of pigmeat production significantly.

It is likely that the continued rationalisation in local pig production, in particular the growth of larger pig producing units, will reduce the industry's average costs of production. Larger firms have increased access to specialised technical, business and marketing skills — factors that are likely to become increasingly significant in relations with a wholesaling and retailing industry increasingly dominated by a few large firms, and for the development of export markets. The importance of size is indicated by the increase in the market share of pig herds of over 1000 sows, and the rise in the average pig herd size from 4.3 in the 1960s to 68.3 in 1994. This trend has also been a feature of other developed pig producing countries. The growing influence of overseas ownership should also help introduce best practice from overseas, reduce costs, and bring a more internationally oriented market attitude to an industry that has, in the past, focused almost exclusively on the domestic market.

Pigmeat production and manufacturing

A study by Hassall & Associates in 1994 concluded that there were a 'wide range of significant performance gaps between current practice in Australian pig processing and world best practice' (p. 19). For example, the study identified a cost premium in abattoirs and boning rooms for Australia against the United States of about 40 per cent per pig (or about 65 per cent on a per kg basis). Hassall & Associates concluded that the main source of the cost disability was labour costs per pig, with Australian costs significantly above those in the Netherlands and even higher relative to the United States. A part, but by no means all of the reason for this difference lies in the larger size and throughput of abattoirs in other countries — processing twice the number or more of the largest plants in Australia. Hassall & Associates further commented that 'there appears to be significant scope to narrow the performance gaps in most of the areas identified' (p. 19). Within Australia, the difference in costs of abattoirs is significant. The Commission was told that the

cost of processing a pig in some abattoirs could be almost twice the cost of that of the most efficient.

Despite rationalisation in the domestic industry and the rise of large producers, the abattoir and boning section of the industry in Australia is still fragmented by international standards (Cresap 1990). In addition, the throughput of abattoirs in Australia is low by international standards, and estimated to be, on average, half the volume regarded as necessary for efficiency. While the top five abattoirs are at or above the size considered necessary for efficiency, they are still small by international standards. Hassall & Associates commented that there has been a process of rationalisation, consolidation and greater specialisation in the pig kill in Australian abattoirs, but that this process does not appear to have been as rapid or extensive as in many other countries.

Many of the recommendations made in the recent Industry Commission report into meat processing (IC 1994b) would, if adopted, improve the efficiency and competitiveness of the abattoir and boning room sector. The Commission noted that labour was by far the largest component of costs, and made a number of detailed recommendations to pursue labour market reform in that sector as a matter of priority. It also suggested changes to quarantine and inspection arrangements to facilitate exports of Australian meat. Since the completion of that report, there is no evidence that reforms of any major significance in these areas have been implemented.

The Commission has no comparative information about the cost competitiveness of the bacon, ham and smallgoods sector. It notes, however, that a benchmarking study of that sector is currently being undertaken by Hassall & Associates, which should provide information in this area.

APPENDIX A PROCEDURES

The terms of reference for this research project were signed by the Assistant Treasurer on 31 July 1995. They are reproduced before the Key Findings at the front of the report.

In a joint media statement announcing the research project by the Commission, the Minister for Primary Industries and Energy (Senator Bob Collins) and the Assistant Treasurer (Mr George Gear) said that the study is the result of an offer made by Senator Collins to the pig industry at a rally of pig producers held in Canberra on 28 June 1995.

The Commission was asked to complete its report within three months. In forwarding the reference to the Commission, the Assistant Treasurer made it clear that the report would be released by the end of November.

Although the reference was not an inquiry under the terms of the *Industry Commission Act 1989*, the Commission has encouraged the maximum public consultation and participation possible given the short time frame of the study. It advertised the reference in the press, as well as in the August 1995 edition of the *Australian Meat Industry Bulletin*, published by the Meat and Allied Trades Federation.

In early August 1995 a circular inviting submissions was sent to a range of individuals and organisations thought likely to have an interest in the inquiry. Attached to the circular was a brief guide for those preparing submissions setting out topics for study during the project and outlining the Commission's information requirements. A list of submissions received is set out in Attachment A1.

In total, 35 submissions were received. Copies of the public sections of submissions were sent to all participants for comment. Several participants made supplementary submissions commenting on the submissions of other participants.

As well, the Commission held a number of informal discussions with pig industry representatives, individual firms including pigmeat processors, and Commonwealth and State government agencies, to seek information and discuss the effects of pigmeat imports. A list of those with whom informal discussions were held is set out in Attachment A2.

The Commission records its appreciation to all interested parties for their willingness to meet with Commission representatives at short notice, and for their assistance in providing submissions, data and information.

Attachment A1: **List of submissions**

Participant	*Submission number*
ABARE (Australian Bureau of Agricultural and Resource Economics)	31
Amitie Pty Ltd	32
Australian Bureau of Statistics	21
Australian Pork Corporation	33
Benedek Consultancy Pty Ltd	1
Bunge Meat Industries Ltd	20, 28
BE Campbell (NSW) Pty Ltd	17
Canada Pork International	8
Canadian Meat Council	5
Canadian Pork Council	7
CSIRO Australia, Institute of Animal Production & Processing	23
Darling Downs Bacon Co-operative Association Ltd	9
Mr Phil Grinter	16
Ingoldsby Piggery P/L as trustee	6, 29
JCR Associates International	22
Kewpie Group of Companies	14
AJL and JJ Lees	2
Mr Bruce Lockwood	12
Miandetta Farms Pty Ltd	3
New South Wales Government	26
Northern Bacon	13
NSW Farmers' Association	19
Pork Council of Australia	24, 35
Queensland Department of Primary Industries	11, 27, 34
Queensland Pork Producers' Organisation	10, 25, 30
Queensland Pork Producers Organisation, Boonah Rosewood Branch	4
West Australian Pig Producers Association	15, 18

Attachment A2: **List of informal discussions**

Australian Bureau of Agricultural and Resource Economics (ABARE)
Australian Pork Corporation
Australian Quarantine Inspection Service (AQIS)
BE Campbell (NSW) Pty Ltd
Benedek Consultancy Pty Ltd
Castlemaine Bacon
Cefn Genetics
DanPork Australia Pty Ltd
Darling Downs Bacon Co-operative Association Ltd
Department of Primary Industries and Energy
Franklins
Hurstbridge Abattoir
Meapro Pty Ltd
Meat and Allied Trades Federation of Australia (MATFA)
MQF Pty Ltd
P&M Primo Smallgoods
Pig Research and Development Corporation
Pork Council of Australia
Queensland Department of Primary Industries
Q Meat
Queensland Pork Producers' Organisation
Woolworths and Chisholm Manufacturing

APPENDIX B PIG FARMING IN AUSTRALIA

Pig production has undergone a revolution in the last thirty years. What was once a dairy-based sideline industry, utilising surplus skim milk and whey, is now grain-based, with many large, specialised producers. The total number of producers has fallen by 90 per cent since 1960, but the number of breeding sows has remained fairly constant over the last 20 years, and total production in the industry has increased markedly. Despite this significant structural change and concentration of production, there are still many smaller producers who are not reliant on pig production for their main source of income.

B1 Producers and production

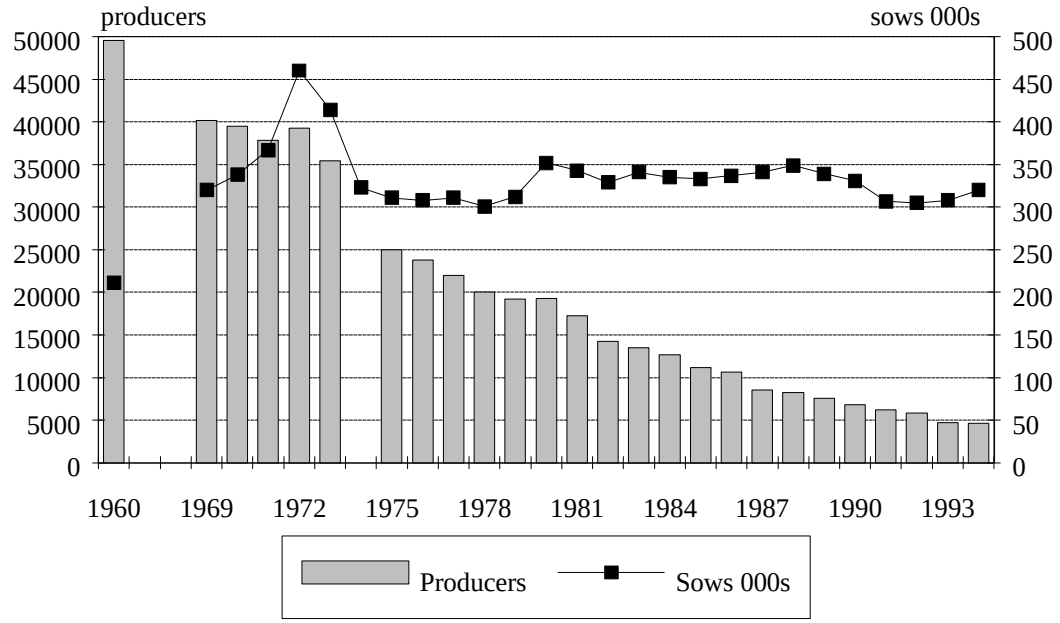
Industry size

The introduction of wheat delivery quotas in the 1969–70 season was a turning point for the pig industry, as it prompted Australian wheat farmers to enter pig production as a means of utilising surplus wheat (Whan 1995). Although the number of breeding sows in Australia had been increasing since the early 1960s, this growth accelerated markedly in 1970, with sow numbers peaking in 1972 and then falling rapidly in the following two years. Since 1974, the number of sows has remained fairly constant at around 300 000 to 350 000.

Apart from a slight increase in producer numbers between 1971 and 1972, the number of pig producers in Australia has been declining since at least 1960, when there were almost 50 000 farmers with pigs. With the relaxation of wheat delivery quotas, producer numbers fell sharply, from 39 250 in 1972 to around 25 000 in 1975. This decline has continued, and by the end of 1994 there were only around 4700 pig producers in Australia. The trends in the numbers of sows and producers in Australia are shown in Figure B1.

Over 1995, producer numbers have fallen further. In July 1995, there were approximately 3615 producers with pigs in Australia (APC & PRDC 1995c). This represents a 20 per cent fall from the 4550 of May 1995 (APC & PRDC 1995b), and a fall of almost 23 per cent from the 4683 in December 1994 (APC & PRDC 1995a).

Figure B1: **Number of pig producers and sows, 1960 and 1969 to 1994[a]**



a ABS did not collect producer numbers in 1974.
Source: APC & PRDC 1995a, p. 14.

Location

As noted by ABARE:

> the Australian pig industry is generally concentrated in grain growing areas ... This reflects both the availability of land and cost savings associated with producing pigs close to a ready source of feed. (Sub. 31, p. 14)

In July 1995, New South Wales (NSW) had the largest number of pig producers, followed by South Australia (SA), and Queensland (APC & PRDC 1995c). However, there are more pigs produced in both Queensland and Victoria than in South Australia. The distribution of producers, sows and pigs by State is given in Table B1.

Australia's largest producer, Bunge Meat Industries (Bunge), has its main location at Corowa, NSW. Bunge produces about 18 per cent of Australia's pigmeat (Sub. 20, p. 2). Queensland has the highest number of large producers, 11 with over 1000 sows. Victoria has 8 and NSW 6 (APC & PRDC 1995a).

Table B1: **Distribution of producers, sows and pigs by State, July 1995**

	NSW	*Qld*	*Vic*	*SA*	*WA*	*Tas*	*NT*	*TOTAL*
Producers	1 154	657	469	716	522	92	5	3 615
Sows	84 351	66 045	53 648	46 573	33 767	5 263	379	290 026
Pigs	769 375	718 531	483 310	400 823	284 484	44 030	2 743	2 703 296

Source: APC & PRDC 1995c.

Employment

Definitive information about the number of people employed in Australia's pig farming industry is not available. ABS data shows that, at 30 June 1991, there were 3780 persons who stated that they were employed in the pig farming industry (ABS 1991).

A commonly accepted industry figure is that it takes one person to run a 100 sow piggery, with another person needed for every additional 100 sows. On this basis, there would have been about 2900 people employed in pig farming in Australia in July 1995, including farm owners and managers.

Production

Most producers grow pigs for the baconer market — that is with heavier carcases at 70 kilograms or more, suited for processing into bacon, ham and smallgoods. Some, however, specialise in growing pigs for the porker market — that is with lighter carcases at 45 to 55 kilograms, better suited for providing the cuts demanded in the fresh pork market. Many of the pigs sold at porker weights are slow growing pigs from litters that were intended as baconers. Backfatters are also produced, mainly for use in manufactured smallgoods, and these are larger pigs, often cull sows.

Some breeds of pig are more suited that others to producing baconers. Similarly, other breeds are more suited to producing porkers. Irrespective of breed, pigs can be marketed at either porker or baconer weights.

Although the feed conversion ratio (that is, the weight gained from consuming an extra kilogram of feed) decreases as the pig ages, producers can find it more economical to grow pigs out to higher weights, due to heavier carcases reducing the level of fixed costs per kilogram of pigmeat (Ingoldsby Piggery, Sub. 29, p. 2).

Due to genetic and technological improvements, productivity rose substantially over the past decade. While there have been fluctuations in the decline in the number of sows and in the increase in the number of pigs slaughtered over the ten years to 1994, the number of slaughterings per sow has increased each year, from 13.6 in 1985 to 16.4 in 1994, a rise of almost 21 per cent (ABARE 1994, ABARE 1995 and APC & PRDC 1995a). The number of pigs slaughtered, and the number of pigs slaughtered per sow, for the period 1985 to 1994 are given in Table B2. Slaughterings have increased by around 14 per cent in the decade since 1985.

Table B2: **Number of slaughterings and slaughterings per sow, 1985 to 1994**

	1985	*1986*	*1987*	*1988*	*1989*
Slaughterings (000)	4 516	4 610	4 793	4 962	4 940
Slaughterings per sow	13.6	13.7	14.1	14.2	14.6
	1990	*1991*	*1992*	*1993*	*1994*
Slaughterings (000)	4 939	4 879	5 138	5 082	5 161
Slaughterings per sow	14.9	15.9	15.9	16.3	16.4

Source: ABARE 1994, p. 180 and 1995, p. 149 and APC & PRDC 1995a, pp. 14, 67.

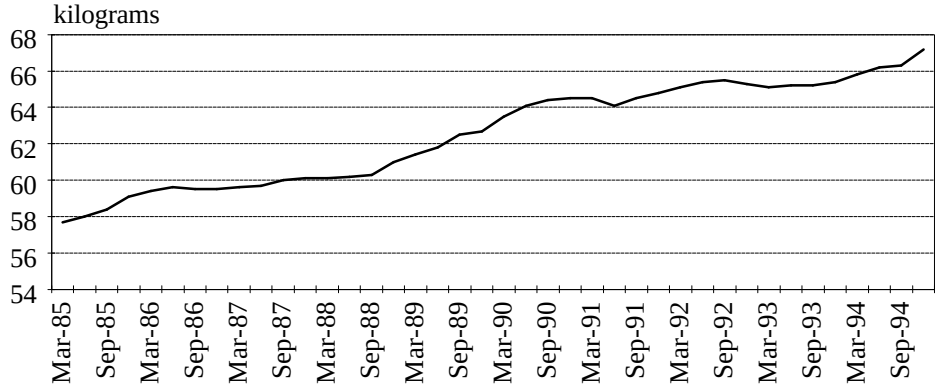
While the number of pigs slaughtered per sow has been rising, their average weight at slaughter has also been increasing. From 1985 to 1994, the average slaughter weight of Australian pigs increased by almost 17 per cent [1] (APC & PRDC 1993, 1995a). The average slaughter weights of Australian pigs are shown in Figure B2.

The increase over time in slaughter weights has not been uniform across States. Victoria, for example, appears to have experienced an increase in average slaughter weights of over 20 per cent from January 1988 to January 1989, with weights then fluctuating around the January 1989 level in the following six years. In contrast, slaughter weights in WA and Tasmania have remained fairly stable (and relatively low) over the seven years since 1988, while slaughter weights in Queensland have steadily increased over the period, from around 61

[1] Comparing the 12 month moving average up to January 1988 with the 12 month moving average up to December 1994. Moving averages are used here because monthly figures can vary quite substantially — being particularly affected by the number of old/excess sows slaughtered, which is often seasonal.

kilograms in 1988 to over 70 kilograms in 1994. In NSW and SA, slaughter weights have also increased — more quickly and consistently in SA than in NSW (APC & PRDC 1993, 1994 and 1995a).

Figure B2: **Average slaughter weight of Australian pigs, 1985 to 1994[a]**



a 12 month moving averages at March, June, September and December, 1985 to 1994.
Source: APC & PRDC 1993, p. 58, 1994, p. 78 and 1995a, p. 87.

The increases in slaughterings and the rise in average slaughter weight have both contributed to increasing pigmeat production. Between 1985 and 1994, Australian pigmeat production increased by almost 30 per cent, from 267 000 tonnes to 347 000 tonnes (see Appendix C, Figure C1).

Size of piggeries

The distribution of producers, pigs and sows by the herd size of the producer, for December 1992, December 1994 and July 1995, is shown in Table B3. The table shows that the majority of pig herds are small — over 83 per cent of pig producers have fewer than 100 sows each, but only around 26 per cent of Australia's sows are owned by these farmers. In contrast, 34 per cent of sows are owned by producers who each have 1000 sows or more, but these represent less than 1 per cent of all pig farms.

The fall in the number of pig producers over the seven month period to July 1995 has been particularly sharp. Around 82 per cent of the producers leaving the industry had fewer than 50 sows each, while another 12 per cent each had between 50 and 100 sows. These reductions represented a fall of almost 27 per cent in the number of producers with fewer than 50 sows, and a fall of around 18 per cent for those with between 50 and 100 sows.

The number of producers with more than 1000 sows increased by four (or around 12 per cent) between December 1994 and July 1995, while the number of producers with 500 to 1000 sows declined by three — possibly indicating that these producers may have increased their herd size over the period to in excess of 1000 sows.

The number of producers with fewer than 100 sows declined by just over 20 per cent in the two years from December 1992 to December 1994, and by 25 per cent in the seven months since then. In comparison, the total number of producers fell by around 20 per cent and 23 per cent respectively in the same periods. In both periods the number of producers with more than 1000 sows increased.

Table B3: **Distribution of producers, sows and pigs by herd size, December 1992, December 1994 and July 1995**

	Number of sows owned by producer						
	0–49	*50–99*	*100–199*	*200–399*	*400–999*	*1000+*	*TOTAL*
December 1992							
Producers	4 311	801	463	169	56	28	5 828
Sows	57 251	51 715	56 610	41 928	31 717	84 712	323 933
Pigs	499 734	428 964	498 551	377 500	294 066	783 440	2 882 255
December 1994							
Producers	3 279	741	419	150	62	32	4 683
Sows	46 098	49 448	53 132	38 304	34 547	98 005	319 534
Pigs	417 635	403 554	461 125	348 510	310 200	897 940	2 838 964
July 1995							
Producers	2 403	608	358	151	59	36	3 615
Sows	35 106	41 095	46 281	38 553	30 928	98 063	290 026
Pigs	300 870	320 035	398 629	342 117	284 645	1 057 000	2 703 296

Source: APC & PRDC 1993, p. 9, 1995a, p. 13 and 1995c.

Thus, the long term trends have involved a decline in the number of smaller producers and a slow increase in the number of producers with more than 1000 sows.

The average herd size has increased from 8.6 sows per producer in 1970, to 68.3 sows in 1994. Much of this increase occurred in the 1980s, when the average number of sows per producer almost trebled. Since 1990 average herd size has further increased — by over 40 per cent (APC & PRDC 1995a).

Vertical integration in pig production

Several large piggeries are the result of expansion into pig production from an original base of stockfeed manufacturing, or from slaughtering and processing pigmeat. Motivations for these expansions included the desire to ensure a consistent demand for feed, and the need for a reliable supply of pigmeat of an acceptable standard for processing operations. (Burgess *et al*. 1984)

Table C4 in Appendix C shows that Bunge, Australia's largest pig producer, has interests in pigmeat processing and manufacturing.

Horizontal integration in pig production

Experience in other countries, in particular the United States, has shown that there are often advantages to horizontal integration of pig farms — that is where a number of pig farms are owned or operated by the same firm or organisation. While this is not yet common in Australia, the emergence of cooperatives and contract growing by the larger pig producers suggests that its advantages are starting to be recognised. For example, the NSW Farmers' Association, commenting on the development of networks and co-operatives by smaller and medium sized producers, stated that:

> Small to medium sized producers have recognised the benefits in working together as a group that they would not otherwise be able to achieve as operating in isolation as individuals ... These networks provide opportunities for cooperative production and marketing ventures ... By providing buyers with exactly what they are after in terms of supply, quality, and packaging, these cooperative networks can be used to secure markets and good prices for members. (Sub. 19, pp. 8–9)

In the US, the model for contract production has generally been for the contractor (owner) to engage a producer/grower to 'take custody of the pigs and finish them in the latter's facilities to slaughter weight with feed and health items furnished by the [contractor]' (Rhodes 1995, p. 109). Hence, the contractor saves on capital and obtains motivated managers, while the grower avoids some of the risks of production and 'obtains a key role in a hog operation that he could not capitalise on his own' (Rhodes 1995, p. 113).

Foreign ownership

A significant number of the pig and pigmeat producing enterprises in Australia are ultimately owned by overseas interests (also see Appendix C). For example, the largest pig producer, Bunge Meat Industries, is ultimately owned by Bunge of Brazil.

Those countries with interests in Australia's pig industry are, in general, those who have high domestic pig production. In some cases they are producing pigs in Australia with the aim of exporting pork to the large Asian market. One example of this is the Danish owned DanPork, which recently sought approval to establish a 10 000 sow piggery in Warwick, Queens land (see Chapter 2, Box 2.1).

Outlook to the year 2000

In 1990 Cresap responded to a brief from the Australian Pork Corporation (APC) to examine the status of the Australian pork industry, including the pig farming sector. This report included a forecast of the status of the industry in the year 2000, as well as the identification of alternative outcomes and suggested strategies for achieving more attractive outcomes.

On the basis of very limited imports, no change in the price of pork relative to other meats, and demand continuing to grow at 1980 to 1990 rates, Cresap concluded that the number of farms would be more than halved over the ten-year period. They also predicted average herd size would double over the same period, implying that the total number of breeding sows in Australia would remain fairly constant.

Cresap also expected the average slaughter weight to increase by 10 kgs, or about 18 per cent over the ten years. Combined with industry expectations about increases in the number of pigs slaughtered per sow (see *Milne's Pork Journal*, various issues), this would lead to a continued increase in pigmeat production.

More recently, others have projected increases in sow numbers of 40 000 over the next three years (*Milne's Pork Journal* 1995, August, p. 5).

ABARE (Sub. 31, p. 23) forecasts an increase in the number of breeding sows, from around 314 000 in 1994–95 to 350 000 in the year 2000 — or around 11.5 per cent. However, the number of slaughterings is also forecast to rise by about 11.5 per cent, implying a near constant rate of slaughterings per sow over the period. This runs contrary to the industry perception that slaughterings per sow will continue to rise.

The Chairman of the APC presented a further projection for the industry to the year 2000 at ABARE's 1995 Outlook Conference. His forecast, which considers trends in consumption as well as production of pigmeat, is outlined in Box B1.

Box B1: **The pig industry in 2000**

Mr Bob Whan, Chairman of the APC, sees the future of the Australian pig farming industry in the following way:

In 2000, the Australian pig industry is still likely to be improving productivity. While technical progress will continue, new gains will be coming from changes in management and industry organisation.

... Production will be tightly controlled, with pigs produced to exact specification and delivered at pre-determined times ...

While the number of herds will be reduced to about 3000 by 1998, this trend will be mainly confined to small herds that are generally sideline enterprises. The number of self-contained medium to larger herds appears to be stabilising. This will be particularly true if current operators develop networks to share management skills and market information.

There is considerable scope for increased demand on the domestic market. In 2000, total domestic sales of pigmeat are estimated to be 37 000 tonnes a month — an increase of 27.5 per cent on 1994 production. Of this, fresh pork sales are likely to increase to about 40 per cent of total production.

Given a continuation of effective marketing and improved processing efficiency there is plenty of scope for growth in domestic sales for all pigmeat products. The income and demographic changes that have favoured the demand for pigmeat will continue.

By 1998, per person income in China and South East Asia are likely to be increasing at a significant rate. The stimulation this will give to demand for food is expected to reverse the long term trend in falling real prices to farmers. By 2000 current rationalisation and expectations of income stability should also stabilise the production structure of the industry.

Source: Whan (1995).

B2 Pig sales and marketing

Channels of sale

Over 40 per cent of pigs were sold by auction in 1982 (Burgess *et al*. 1984). By 1990, Cresap (1990) reported that about 80 per cent of pigs were sold on a contract supply basis. The remaining 20 per cent were sold at auction, with auction sales split fairly evenly between physical and electronic/description auctions. According to the APC, sale by auction now only accounts for around

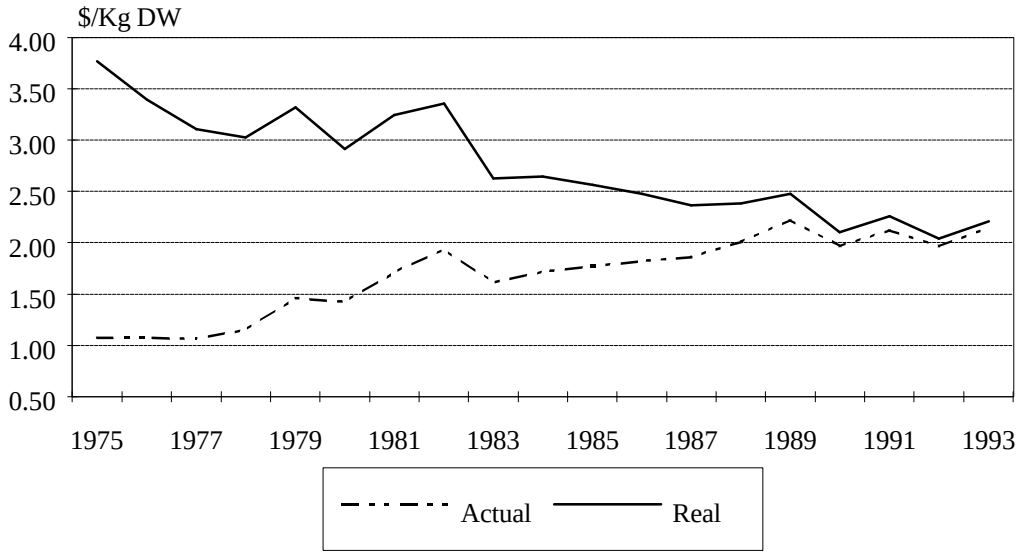
10 per cent of sales (APC 1995b). The other 90 per cent of pigs are sold on contract, 'over the hooks', with pig producers and buyers bargaining directly to agree on prices.

Computer–Aided Livestock Marketing (CALM), a computerised auction system, has been introduced for the sale of cattle, sheep and pigs in Australia. The system allows buyers to study stock weights, number of pigs to be sold and reserve prices for the animals, without having to attend live auctions. However, the system has been criticised for its failure to describe accurately the quality or fat content of the pigs, and is little used by the pig industry (APC 1993).

Prices received

Actual and real saleyard prices for 1975 to 1993 are shown in Figure B3. The saleyard data in actual terms shows a general increase, with an apparent change in trend around 1989 — a price series of live pigmeat prices provided by the Pork Council of Australia (Sub. 24, p. 13a) also shows this apparent change at that time. However, in real terms, saleyard prices for pigs have declined over the entire period, with some fluctuation from year to year.

Figure B3: **Actual and real[a] saleyard prices for pigs, 1975 to 1993**



a 1994–95 prices, calculated using ABS producer and wholesale price indexes.
Source: ABARE 1994, p. 166.

The Australian Pork Corporation

The APC is a statutory marketing authority, responsible for marketing and promotion, but with no responsibility for buying or selling. The APC is wholly funded by producers, who currently pay a levy of $1.65 per pig slaughtered.

The APC's mission is 'to increase demand for Australian pork products and to enhance returns to all sectors of the industry' (APC & PRDC 1995a). It pursues these goals in a number of ways. Domestically, the APC aims to increase demand for pigmeat through advertising campaigns for fresh pork (for instance, 'New Fashioned Pork — The Other White Meat') and by working with the processing sector on promotion strategies for ham and bacon. It also works with the industry and the Pig Research and Development Corporation (PRDC) in finding ways to improve the production of pigs and pork.

On the export side, the APC is looking particularly toward developing Asian markets, while another of its aims is to achieve 'greater unity of effort' within the industry, by improving industry consultation and cooperation.

The APC has concentrated most of its promotion efforts on the fresh pork market, but has foreshadowed increased promotion of processed pigmeat. A pilot promotion program for bacon is currently being undertaken in South East Queensland, while a pilot ham promotion campaign is underway in Western Australia (APC 1995b).

Exports of breeding animals

While Australia does not export live pigs for slaughter, Australian breeders do export breeding pigs, mainly to Asia. Queensland's Cefn Genetics is reported to have shipped the largest consignment of pigs ever, from any country, when 6700 breeding pigs were sent to Indonesia in 1990 (*Milne's Pork Journal* 1994, October, p. 10). However, according to ABS data, in 1990–91, less than 260 pigs were exported. This increased to around 350 in 1991–92, and 2300 in 1992–93, falling again in 1993–94 to around 1300 (ABS 1995c).

B3 Production technology

According to Cresap (1990), Australia's genetic technology and pig husbandry are at world levels. The QPPO agreed, stating that:

> research and development into all aspects of pig production has led the industry to a high standard of efficiency that matches the world's best practices of major pig producing nations ... (Sub. 10, pp. 2–3)

Many pig producers, in recent years, have been geared toward increasing the average slaughter weight of their pigs. However, despite substantial increases (see Section B1), Australian pigs still have an average slaughter weight considerably lower than that of the pigs produced by many overseas farmers. The average carcase weight of Australian pigs in 1993 was 64.9 kilograms, compared to 77.8 kilograms in Denmark, and over 80 kilograms in The Netherlands (Hassall & Associates 1994).

Ingoldsby Piggery noted that the assertion that the relatively light carcase weight in Australia is evidence of inefficiency in Australian pig production is 'overly simplistic and fails to account for a number of factors' (Sub. 29, p. 1). Low carcase weights have advantages as well as disadvantages, and there are tradeoffs to be made in deciding at what weight to market pigs. For example, pigs with lower carcase weights often produce meat of higher quality, preferred by Australian consumers, and therefore commanding higher prices per kilo.

Although increases in slaughter weights reduce the average costs of processing, abattoirs and bacon and smallgoods manufacturers must adapt their facilities to cope with significant changes in the size and weight of animals slaughtered.

Improvements in genetic stock

Breeding stock are generally purchased from specialist breeders, rather than reared by farmers producing pigs for slaughter. These breeders aim to produce boars and gilts which will themselves deliver large litters of fast growing, lean pigs. Minimising the stress susceptibility of pigs is also an important aim, and many breeders are currently working to eliminate from their breeding lines the halothane gene, which is associated with high stress (*Milne's Pork Journal* 1994, October).

There are five major breeds of pig used in Australia — the Large White, Landrace, Duroc, Hampshire and Berkshire. While stud breeders carefully maintain the characteristics of the specific breed, most pigs produced for slaughter are cross-bred, to take advantage of the associated hybrid vigour.

Importation of pig semen from Norway is currently allowed and AQIS is considering applications to allow pig semen imports from some other countries. Live pigs, however, cannot be imported into Australia at present.

Improved husbandry

The quality of pig husbandry is also an important factor in determining the slaughter weight of pigs, their survival and growth rates, and the quality of the

meat produced. Such things as temperature control and accurate feeding can have significant effects on the quality of the final product.

Programs such as CSIRO's AUSPIG are now employed by many of Australia's pig farmers. This allows producers to analyse their feed requirements and develop the most cost-effective feeding regime for their farm (taking into account housing conditions, feed prices, etc). It also contains a profit maximisation module, PIGMAX, which aids farmers in determining appropriate production and market strategies. (CSIRO, Sub. 23)

In the shed, innovations in temperature control, flooring and feeders, have increased the survival and growth rate of pigs on many farms. The introduction of other new technologies, such as using prostaglandin F2 alpha to induce farrowing, has allowed more efficient organisation of time and other resources (Cleary 1994).

According to Cleary (1994, p. 21), however, technological improvements are of secondary importance to good stockmanship and husbandry:

> It is possible to be successful in pig production if high standards of husbandry are achieved, with little regard to fancy housing, computer records, specialist rations and sophisticated farm business management techniques. The converse is impossible.

B4 Production costs

Cost structure

The major component of pig production costs, for any size producer, is the cost of feed. Between 1990–91 and 1992–93, the purchase of fodder accounted for between 56 and 63 per cent of non-wage variable costs (ABS 1994a). Table B4 shows the distribution of the aggregate non-wage variable costs for the pig production industry. According to the ABS (1994a) significant expenses, other than fodder, include repairs and maintenance, marketing expenses and livestock purchases.

In 1993–94 feed costs made up between 42 and 71 per cent of the total costs of the 29 farms surveyed for *PigStats 94* (APC & PRDC 1995a), and averaged around 56 per cent. The surveyed producers spent between 63 cents and $1.10 on feed, per kilogram of liveweight pig sold. Details of the average cost structure for the surveyed producers are shown in Table B5.

Table B4: **Distribution of aggregate non-wage variable costs for the pig production industry, 1990–91 to 1992–93 (per cent[a])**

	1990–91	*1991–92*	*1992–93*
Marketing expenses	6.5	5.9	6.4
Purchases of livestock	8.8	8.6	5.2
Payments for seed	0.6	0.6	0.4
Payments for fodder	**58.5**	**56.7**	**63.0**
Payments for fertiliser	1.2	1.8	1.2
Payments for crop and pasture chemicals	1.0	1.7	0.8
Payments for vet. supplies and services	2.8	2.9	3.0
Payments for electricity	2.6	2.5	2.8
Payments for fuel	4.4	4.2	3.5
Water and drainage charges	0.3	1.0	0.8
Payments to contractors	1.8	1.9	1.9
Repairs and maintenance	7.3	7.3	7.7
Rent and leasing expenses (other than land)	0.6	0.3	0.3
Other selected expenses	3.7	4.5	2.9
Total industry costs ($m)	403.3	459.6	387.2

a Figures in each column may not total 100, due to rounding.
Source: ABS 1994a, p. 19.

Table B5: **Pig production cost structure, 1993–94[a]**

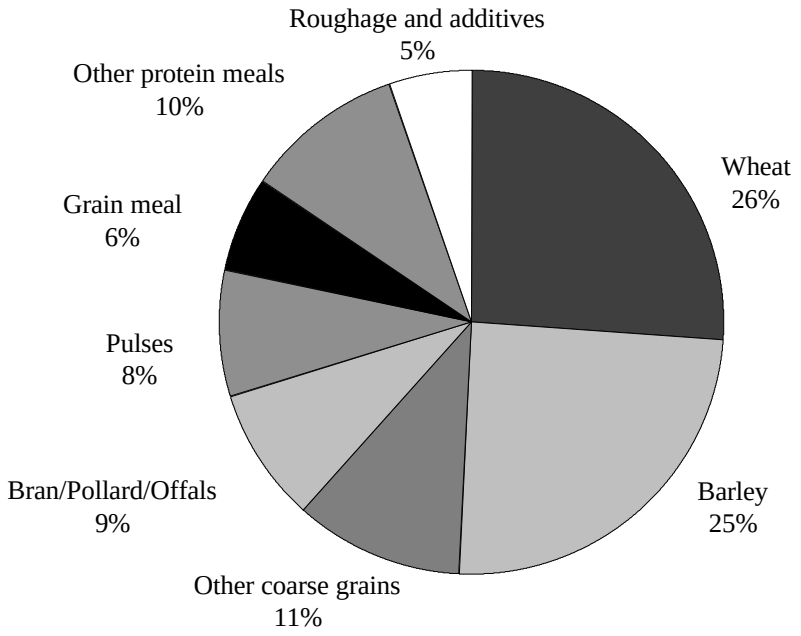
	$/Sow	*$/Pig*	*$/kg LW*	*per cent*
Feed costs	1398.11	75.22	0.80	55.8
Herd costs	150.51	8.10	0.09	6.0
Shed costs	145.93	7.85	0.08	5.8
Labour costs	430.79	23.18	0.25	17.2
Overhead costs	379.16	20.40	0.22	15.2
Total costs[b]	**2 504.50**	**134.75**	**1.43**	**100.0**

a These figures based on APC & PRDC survey data and weighted by each piggery's contribution to total production.
b Figures may not add to total, due to rounding.
Source: APC & PRDC 1995a, p. 41.

According to a study undertaken by Meyers Strategy Group into the feed grain industry, feed grain (including grain meals and pulses) accounts for around 85 per cent of all feed costs for pigs (Meyers Strategy Group 1995). The other 15 per cent of feed costs is accounted for by non-grain protein meals, roughage and additives (see Figure B4). Wheat and barley are the most important grains used

by the pig industry, accounting for over 50 per cent of total feed costs. However, the grain mix varies between States to reflect the differing availability and price of grains in the different regions of Australia, with sorghum used more in Queensland and NSW, field peas in Victoria and SA, and lupins in WA, SA and Victoria.

Figure B4: **Proportional feed use by the Australian pig industry**

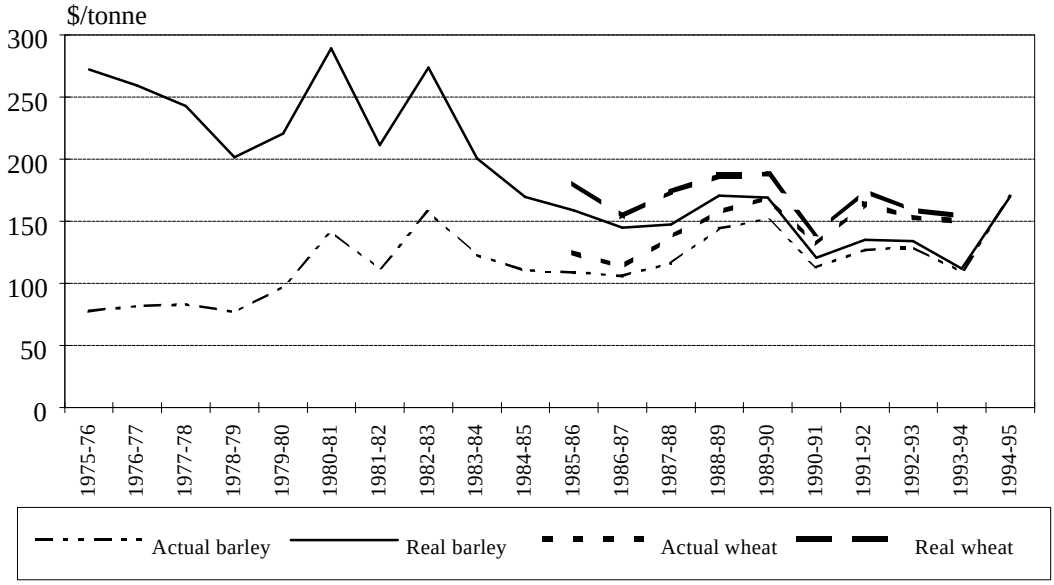


Source: Meyers Strategy Group 1995, Attachment 6.0, p. 69.

Figure B5 gives ABARE estimates of feed barley prices for 1975–76 to 1994–95 and feed wheat prices for 1985–86 to 1993–94. It shows that the average real price of feed grain has been falling over the last 20 years, although sharp price increases have occurred in periods of drought, such as in the period in 1982–83, and more recently in 1994–95.

Some larger producers may use forward contracts for grain supply, in order to gain some insurance against price fluctuations due to drought or other factors. Although the length of forward contracts is necessarily limited, this would imply that feed grain price increases may have less effect for some producers than for others.

Figure B5: **Actual and real[a] prices for feed barley and feed wheat, 1975–76 to 1994–95[b, c]**



a 1994–95 prices, calculated using ABS producer and wholesale price indexes.
b Feed wheat prices only available from 1985-86.
c Feed barley price for 1994–95 is an ABARE forecast.
Source: ABARE 1994, p. 50 and ABARE 1995, p. 160.

Effect of herd size on costs

For statistical purposes, *PigStats 94* split the results from the herds it surveyed into two herd size groups — those with up to 500 sows, and those with over 500 sows. There were 12 producers in the former group and 17 in the latter. The total costs per kilogram of liveweight sold averaged $1.35 for the first group (up to 500 sows) and $1.45 for the second. The only expense for which the costs per kilogram of liveweight sold were less for the producers with over 500 sows were herd costs (including animal health costs, herd recording, general stock requisites and livestock purchases). Feed costs for the larger producers averaged 81 cents per kilogram of liveweight sold, compared to 72 cents for the smaller producers (APC & PRDC 1995a).

Cresap (1990) state that 'due to the variety of labour and capital costings in the industry there is no clear "optimal" size for a pig farm' (Appendix, p. 106). They suggest that there would be gains from 'marginal' producers leaving the industry, and found that significant investment would be needed in the industry in the 1990s. This would necessarily lead to an increase in average herd size,

especially given the advantages that larger producers have in attracting the necessary investment.

Cleary (1994), in a paper delivered to the National Pig Fair in 1994, noted that smaller herds do not always have cost disadvantages when compared with larger herds. However, he gave several reasons why there could be a continuing trend toward larger herds. These reasons are summarised in Box B2.

Box B2: **Herd size and efficiency of production**

While smaller, family-owned operations have an advantage over larger operations in getting cheap (family) labour, this labour may not be as highly skilled or motivated as a paid stock person. Time management may also be a problem on smaller farms.

Larger producers have an advantage in accessing and using information. They also have greater access to development or working capital than their smaller counterparts.

Another area of advantage for the larger firm is that the farm has 'a life beyond specific personnel'. This gives larger firms a greater ability to develop long-term strategic plans.

As the larger piggeries provide most of the funds for industry research and development (R&D), it could be expected that this R&D be geared toward producing technology suitable for application in larger piggeries.

The ability to promise a continuing supply of pigs of consistent quality, in sufficient numbers, gives larger producers advantages in terms of price negotiation.

The unit cost of production in smaller herds is far more variable than that of larger herds.

The minimal difference in the average physical performance of the smaller and larger herds is attributed to the presence of dedicated staff, good facilities, well-targeted feeding programs and an emphasis on quality in many smaller piggeries.

Source: Cleary (1994).

Rhodes (1995, p. 111) discusses the move toward larger piggeries in the US and provides more specific reasons why larger producers are winning market share:

> Successful, efficient producers must: (1) have access to and quickly adopt new technology; (2) have access to and use market information; (3) have increased specialisation so the first two points are feasible; (4) have equal or superior access to all inputs including capital; and (5) produce the volume and quality of hogs that attract packer premiums rather than discounts. These success factors are less available to smaller producers...

B5 Investment

Cresap (1990) estimated that the average asset value of an Australian pig farm in 1988 was $690 000, and that approximately $25 million in total was spent on new assets in each year.

The actual value of the assets of a pig farm depends on the age of the structure and plant. According to Cresap (1990), the economic life of intensive pig farming assets is around 10 to 15 years, depending on the maintenance practices of the producer. As stated earlier, Cresap found that the industry would require significant capital expenditure in the 1990s.

The investment per sow of the producers surveyed for *PigStats 94* was $2670 (APC & PRDC 1995a). Given the average herd size of the surveyed producers, of almost 870 sows, this indicates an average investment per farm for these producers of over $2.3 million. If the average investment per sow is applied to the industry as a whole, with an average herd size of around 68 sows, the capital investment per farm is around $180 000.

The nominal rate of return on capital investment for the *PigStats 94* producers was estimated at 10.6 per cent.

The Kewpie Group of Companies (Sub. 14) also provided an estimate on the return to investment in piggeries, given a feed grain price of $130 per tonne (normal) and $200 per tonne (drought). Their production cost analysis indicated that the percentage return on investment in a normal year would be almost 12 per cent, and that this would fall to just over 1 per cent in a drought year, given no change in the price received for pigs.

B6 Incomes and profitability

During the course of this Research Project, many participants stated that the prices currently being received for pigmeat are below the costs of production. The Queensland Farmers' Federation's Quarterly Survey of Rural Industry for the June quarter 1995 (QFF 1995) indicates that many pig producers are suffering hard times, with 88 per cent of the respondents in the pig farming sector stating that they had achieved below normal performance in the quarter. In that period, 6 per cent said that they had achieved performance above normal and the performance of the other 6 per cent was normal. This compares to 62 per cent below normal performance, 36 per cent at normal, and 5 per cent above normal for all of the industries surveyed.

The QFF survey also asked producers to indicate how long they thought it would take to reduce their debt levels to manageable proportions, in order to

gauge the industries' confidence in their abilities to 'bounce back from the privations of drought' (QFF 1995, p. 9). Only 23 per cent felt that their current debt level was manageable, the lowest percentage in the surveyed industries. Another 34 per cent considered that it would take less than two years to reduce their debt, with 39 per cent stating a period of two to five years would be required, and the remaining 4 per cent stating that it would take six to ten years.

In October 1994, the APC conducted the first of a series of monthly surveys of pig farmers, in an effort to establish the effect of the recent drought on Australian piggeries. The surveys continued until May 1995, when the APC felt that the worst of the drought was over, and feed grain prices were starting to fall.

According to these surveys, the cost of feed increased each month from October 1994 until February 1995, when widespread rain caused a fall in grain prices over most of Australia. In January, it was estimated that feed costs had increased by as much as 40 per cent over the nine-month period from April 1994. In April 1995, feed costs were still 30 per cent higher nationally than they had been 12 months earlier.

Although the APC survey indicated that feed grain prices increased less in Queensland than in NSW over this period, prices in Queensland were already comparatively high, as much of the State has been affected by drought since 1991. Miandetta Farms (Sub. 3, p. 2) stated that grain prices have increased from an average of $135 per tonne, over the 1983 to 1990 period, to $225 per tonne currently — an increase of over 60 per cent.

According to ABARE (1995), market prices for feed barley increased to $255 per tonne in May–June 1995 from $133 a year earlier. The price of feed wheat increased from $160 per tonne in 1993–94 to $225 per tonne in June 1995.

From QDPI's Sowtel survey, a substantially higher feed cost of $322 per tonne was established for producers in the Darling Downs area. Using this cost, QDPI (Sub. 11, p. 4) estimated that the cash break even price for bacon pig production, for a 200 sow piggery in Queensland, would be $2.13 per kilogram. The break-even price required to cover all expenses (including depreciation and interest) was estimated at $2.21 per kilogram. With a current price for baconers of $1.85 per kilogram, QDPI concluded that these producers would make a loss of 36 cents for each kilogram of pigmeat produced.

JCR Associates, financial and technical consultants, stated that they:

> anticipate that pig feed will average about $330 per tonne until the middle of 1996. The price received for a 75 kg dead weight pig will need to be about $2.77 per kg if the industry, in particular the primary producer in Queensland, is to survive. (Sub. 22, p. 2)

As stated earlier, the Kewpie Group of Companies estimated that returns on investment for a 200 sow piggery have would fallen to just over 1 per cent, with an increase in feed grain prices from $130 to $200 per tonne. This price is low, compared to many of the estimates of current grain prices in NSW and Queensland. A price of $210 per tonne, in the Kewpie model, would result in negative returns.

B7 Cost Competitiveness

Cresap (1990) quoted the average cost of producing live pigs in the US, for 1986 to 1988, as A$1.04 per kilogram liveweight. The average cost in Denmark was given as between A$1.26 per kilogram (Government figures) and A$1.47 per kilogram (pig industry figures). The average 'cash costs' in Canada were A$0.67 per kilogram. In contrast, results from Australian surveys at that time showed that the lowest cost farm surveyed had average total costs of $0.96 per kilogram, while the highest cost farm was producing at $1.47 per kilogram. Cresap concluded that 'the most efficient Australian producers are at or close to world cost levels' (Appendix, p. 103).

This conclusion has been supported by many participants, and industry sources. Some other estimates of the costs of pig production in Australia and overseas are given in Table B6.

Table B6: **Some estimates of the cost of pig production in various countries, 1993 ($/kg dressed weight)**

	Boddington	*Campbell*	*Loius*
Canada	1.41	1.31	1.39
United States	1.52	1.46	1.75
Australia	**1.69**	**1.89**	**na**
Netherlands	3.54	1.97	na
Denmark	na	2.04	na
United Kingdom	2.52	2.05	2.89
Japan	5.27	na	6.04

na not estimated.
Source: Boddington 1994, Campbell 1995 and Loius 1994.

While Table B6 shows average costs, they may vary considerably between piggeries. For example, the average cost of the piggeries surveyed for

PigStats 94 was $1.43 per kilogram liveweight sold in 1993–94, but costs ranged from $1.15 to $1.85 per kilogram (APC & PRDC 1995a). [2]

Ingoldsby Piggery summarised some of the possible reasons for the average cost of production in the US being lower than that in Australia:

> The advantage that the USA holds may be related to factors such as the availability of cheap energy and protein sources, low building costs, cheap labour, suitable climate, no artificial grading systems, heavier market weights and the widespread adoption of segregated early weaning. (Sub. 6, p. 8)

At the same time, Australia also appears to have some advantages in pig production. Regarding the opportunities for Australian pig production, the Canadian Pork Council said:

> From what we see, Australia, like Canada, has an excellent animal health status, abundant feed production potential, and the land area to produce hogs in an environmentally sustainable manner. Australia is located geographically close to the major emerging pork import markets of Japan, Korea and Hong Kong, along with potential importers such as the Philippines and China. (Sub. 7, p. 8)

Other participants were also positive about Australia's potential to expand its pork production and markets. The fact that DanPork is proposing to establish a 10 000 sow piggery in Queensland, and that Bunge is continuing to expa nd, indicate that these international companies, at least, have confidence in the future of the Australian industry as a low cost producer.

Environmental factors

The main environmental problem faced by piggeries is how to dispose of the effluent produced. Producers wishing to establish new piggeries must conduct environmental impact studies, while new production sites must be located away from urban areas, with adequate facilities for water recycling/conservation and effluent disposal. Costs are incurred in fulfilling environmental obligations and producing an Environmental Impact Statement for start up piggeries.

Australia has an advantage over many of its would-be competitors, in the availability of land away from urban areas (but close to areas of grain production). While the industry is somewhat concerned about negative public perceptions of pig farming, it considers that it has a good environmental record (QPPO, Sub. 10).

[2] It should be noted that the piggeries surveyed for *PigStats 94* were all specialist pig producers, with herd sizes ranging from 141 to 2710 sows.

Producers in other countries have difficulty in this area. According to Boddington (1994, p. 33):

> as a result of severe environmental restrictions and animal health problems, it appears that Dutch production will recede significantly. Denmark ... is also faced with significant environmental restrictions ... Social, economic and environmental pressures are limiting expansion in the Canadian pork industry. A 600 sow piggery is considered large in Canada and it is virtually impossible to obtain permits for new construction of an operation of that size.

B8 Government assistance

As well as social security measures available generally to primary producers, pig farmers have access to some general Commonwealth and State assistance schemes for agriculture. These include the Rural Adjustment Scheme (RAS), drought relief payments and other measures.

Rural Adjustment Scheme

The RAS is jointly funded by the Commonwealth and State Governments, with the Commonwealth Government providing 90 per cent of the funds, and the State and Territory Governments contributing the other 10 per cent. The program is administered by State and Territory RAS authorities, in accordance with the Commonwealth's policy guidelines. The purpose of RAS 'is to assist eligible farmers to improve productivity, sustainability and profitability of their farming enterprise' (DPIE 1995). In order to achieve this objective, there are a number of different forms of support available, including:

- interest subsidies of up to 50 per cent of the cost of commercial finance for productivity improvement measures;
- grants for training, or obtaining expert planning advice;
- exceptional circumstances support in the form of interest subsidies of up to 100 per cent of the cost of commercial finance; and
- re-establishment grants, of up to $45 000, for those farmers leaving the industry due to poor future prospects.

In 1993–94, NSW pig farmers received just over $1 million in RAS assistance (compared to well over $7 million for NSW beef producers). In the same year, Queensland producers received a total of around $700 000 of RAS assistance, SA producers received around $150 000, and producers in Tasmania received around $11 000. Figures from Victoria and WA were not broken down to include the amount of assistance taken up by pig producers, while no assistance was given to the industry in NT.

Drought relief and exceptional circumstances

Under RAS, farmers are eligible for subsidies of up to 100 per cent of the cost of commercial finance where the Minister for Primary Industries and Energy determines that 'exceptional circumstances' exist. The Minister does so on advice from the RAS Advisory Council. Exceptional circumstances include severe drought or substantial commodity price falls.

Some pig producers receive assistance under the exceptional circumstances provision. For example, Ingoldsby Piggery (Sub. 6, p. 18) stated that it is currently in receipt of an interest subsidy under the RAS, equivalent to 49.5 per cent of its interest payable in 1994–95.

The other major form of drought relief provided to Australia's extensive livestock producers is in the form of State grain transport subsidies. However, intensive livestock producers are not eligible to receive these, as they are directed at enabling extensive livestock producers to maintain breeding stock during drought periods.

According to the NSW Farmers' Association, the fact that extensive livestock industries are subsidised, while intensive industries are not, further disadvantages the intensive industries vis-a-vis the extensive:

> The rebate provided to broadacre farmers subsidises the cost of purchasing grain as supplementary feed for their stock during drought. This stimulates an increase in demand for feed grain and when combined with reduced availability of supply during drought, pushes the price higher leaving pork producers to wear the increase. (Sub. 19, p. 6)

The PCA stated that 'subsidies on fodder transport distort feed prices and add to the costs for the intensive livestock industries' (Sub. 24, p. 15). The PCA indicated that such subsidies are to be phased out, in recognition of their distorting effects, as part of the National Drought Policy.

The Commonwealth Government provides drought relief payments through the Department of Social Security, as well as a $70 per day wage subsidy 'for training employees of drought affected pig producers' (QDPI, Sub. 11, p. 6).

Other assistance

The pig industry is making increasing use of the Commonwealth Government's Agribusiness program. This program provides assistance to producers and organisations to engage consultancy support and to foster the adoption or development of modern business and marketing skills. Funds are available to assist with: exporting and/or import replacement; strategic business development; improving international marketing skills; adoption of world best

practice; development and enhancement of networks and linkages through the agribusiness chain; and establishment or expansion of viable community-based enterprises.

The Commonwealth Government also provides various other assistance to agricultural producers, including:

- the Farm Household Support Scheme;
- the Income Equalisation Deposit scheme and Farm Management Bonds;
- the National Property Management Planning Campaign;
- income tax deductions for landcare related activities;
- research and development support;
- support for education and training;
- business and marketing advice and support;
- the provision of information and access services; and
- the provision of health care and counselling services.

All of these forms of support are available to pig farmers.

State Governments also offer support to farmers, such as conventional and emergency loans. However, pig producers are often ineligible for drought related support, as discussed above. Queensland offers its farmers Stamp Duty Relief on farm refinancing.

APPENDIX C PIGMEAT PROCESSING AND MANUFACTURING

Pigmeat processing and manufacturing covers a range of activities from the slaughter of pigs at abattoirs through to the production of ham, bacon and smallgoods. Abattoir operations involve the slaughtering of pigs producing whole and half dressed carcases. In boning rooms, the carcase is broken up into legs, shoulders and middles initially and, depending on end use, each of these primal cuts may be further broken up. Manufacture involves the further treatment of pigmeat such as mincing, cooking and smoking to produce hams, bacon, and smallgoods.

Since the easing of quarantine restrictions against Canada in 1990, imports of frozen boned out pigmeat for processing have been used locally along with Australian sourced pigmeat for manufacture into products such as pressed hams.

C1 Producers and production

The processing of pigmeat, like other sectors of the meat processing industries, has developed historically from a base of local and regional producers and processors. In earlier periods, the difficulty involved in storing and transporting meat products meant that producers and processors were restricted to limited geographical areas concentrating their businesses within easy reach of their production and storage facilities. Over time, with improved transport and storage facilities, this restriction has become less important. However, the geographic structure which developed earlier has been slow to change, especially for pigmeat processors.

Industry data

Comprehensive structural data about firms producing and processing pigmeat is not available. Abattoir and boning room operations are included under the Australian Bureau of Statistics (ABS) ASIC code 2115 which includes all establishments involved in slaughtering and meat production. However, the production of pigmeat represents only a small part of total meat production. The use of pigmeat for the manufacture of bacon, ham and smallgoods is included under the ABS ASIC code 2117. Indicators are that the production of bacon, ham and smallgoods based on pigmeat represents between 50 and 70 per cent of this industry. Tables C1 and C2 summarise this industry data.

Table C1: **ASIC 2115 Meat (except smallgoods or poultry)**

Year	*Turnover* *$'000*	*Sales/trans* *$'000*	*Value add* *$'000*	*Employment* *No*	*Wages/sal* *$'000*	*Purchases* *$'000*	*Investment* *$'000*	*Imports* *$'000*	*Duty Paid* *$'000*	*Av. Duty* *%*	*Exports* *$'000*	*Re-exports* *$'000*
68/69	713 624	671 167	169 021	35 533	107 908	555 254	11 091	8 295	67	1	369 717	41
69/70	886 094	829 018	212 035	39 968	130 276	667 512	20 203	8 594	188	2	527 093	51
70/71	nc	nc	nc	nc	nc	nc	nc	9 185	160	2	520 663	84
71/72	1 110 636	1 023 211	304 596	46 631	190 159	811 086	33 968	7 545	46	1	664 825	115
72/73	1 523 875	1 415 932	401 211	48 739	220 833	1 142 748	45 498	10 041	80	1	1 087 376	138
73/74	1 564 747	1 467 277	361 193	43 991	229 060	1 156 889	47 633	9 846	140	1	992 143	219
74/75 (a)	1 283 017	1 154 093	438 592	41 660	275 214	824 290	45 413	8 428	147	2	594 339	659
75/76 (b)	1 562 540	1 372 465	650 820	46 533	360 773	913 803	42 346	7 104	103	1	884 122	461
76/77	1 886 653	1 641 102	769 660	48 672	435 248	1 112 863	43 615	9 478	124	1	1 220 964	1 367
77/78 (c)	2 161 423	1 880 106	834 927	48 442	467 896	1 349 571	57 628	8 566	68	1	1 487 806	1 021
78/79	2 958 741	2 686 480	870 289	45 215	477 131	2 151 901	65 434	9 981	136	1	2 208 402	1 955
79/80	3 327 029	3 062 046	775 588	42 468	476 078	2 540 281	53 289	16 829	203	1	2 168 039	1 532
80/81	3 156 171	2 914 641	776 586	39 335	488 962	2 373 131	38 732	16 474	106	1	1 882 949	928
81/82 (d)	3 081 253	2 836 619	813 531	34 832	500 145	2 275 178	37 491	17 379	120	1	1 683 160	527
82/83 (e)	3 337 662	3 039 901	933 892	34 502	571 928	2 398 823	24 253	25 230	135	1	1 993 780	847
83/84	3 271 700	2 994 400	850 600	30 500	514 100	2 433 900	37 400	25 247	179	1	1 760 974	971
84/85	3 586 300	3 333 100	866 300	29 000	513 600	2 733 200	28 200	32 561	76	0	1 792 484	1 942
85/86	nc	nc	nc	nc	nc	nc	nc	30 250	78	0	2 219 889	2 417
86/87	4 260 900	3 988 000	1 104 100	29 800	608 000	3 201 700	nc	41 806	160	0	2 899 809	1 706
87/88 (f)	5 164 000	4 924 800	nc	30 671	684 300	nc	nc	37 647	296	1	3 407 731	8 605
88/89 (g)	5 403 900	5 215 100	nc	29 500	697 100	nc	nc	49 341	212	0	2 920 823	8 642
89/90 (h)	5 806 700	5 422 403	1 818 100	31 900	778 400	4 010 000	62 352	38 886	312	1	3 681 507	6 448
90/91 (i)	5 391 000	5 034 215	nc	27 067	790 500	nc	nc	40 557	368	1	3 768 240	8 824
91/92	5 360 000	5 005 266	nc	27 364	752 800	nc	nc	49 243	368	1	3 986 440	6 063
92/93	na	na	na	na	na	na	nc	38 743	389	1	4 383 534	5 527

Footnotes a to i indicate a break in series.

Source: IC 1995.

Table C2: **ASIC 2117 Bacon, Ham and Smallgoods**

Year	*Turnover* *$'000*	*Sales/trans* *$'000*	*Value add* *$'000*	*Employment* *No*	*Wages/sal* *$'000*	*Purchases* *$'000*	*Investment* *$'000*	*Imports* *$'000*	*Duty Paid* *$'000*	*Av. Duty* *%*	*Exports* *$'000*	*Re-exports* *$'000*
68/69	172 034	162 531	47 666	7 543	21 969	124 940	4 066	322	28	9	1 351	..
69/70	182 983	172 759	48 684	7 876	25 129	133 580	3 578	742	68	9	1 633	4
70/71	nc	nc	nc	nc	nc	nc	nc	236	23	10	2 378	10
71/72	217 121	207 215	57 428	8 570	33 040	161 921	4 053	860	77	9	2 525	3
72/73	239 224	229 864	65 781	8 628	37 242	174 413	4 533	704	68	10	5 031	2
73/74	291 415	281 139	77 262	8 712	43 818	217 638	6 765	1 524	113	7	3 010	21
74/75 (a)	309 192	299 632	85 686	8 249	52 303	224 004	3 362	2 311	213	9	3 439	12
75/76 (b)	328 701	315 642	91 433	7 461	56 756	238 651	7 158	48	5	10	4 824	..
76/77	370 921	360 680	112 965	7 911	65 549	260 261	10 441	267	26	10	6 073	2
77/78 (c)	405 223	394 035	123 287	8 118	71 997	286 755	7 726	68	1	1	8 012	59
78/79	486 231	469 803	136 049	7 937	77 954	358 342	10 317	140	2	1	7 434	13
79/80	598 075	577 421	156 987	7 830	83 639	446 332	9 618	1 474	5	0	15 724	..
80/81	663 890	640 825	178 672	7 650	95 286	489 740	11 997	2 026	38	2	10 322	8
81/82 (d)	682 610	664 123	187 065	7 670	103 763	500 906	9 934	2 701	26	1	12 031	..
82/83 (e)	736 488	725 973	193 703	7 589	110 551	546 757	17 195	304	40	13	9 310	7
83/84	783 400	762 200	216 100	7 300	115 700	561 500	15 300	1 508	203	13	9 651	..
84/85	775 500	762 800	226 700	7 100	116 400	555 900	14 100	2 131	318	15	9 373	..
85/86	nc	nc	nc	nc	nc	nc	nc	2 507	373	15	8 947	13
86/87	869 200	854 400	231 200	7 000	135 100	642 800	nc	2 450	346	14	15 795	8
87/88 (f)	918 900	911 500	nc	6 999	146 800	nc	nc	2 612	340	13	15 142	3
88/89 (g)	1 009 500	1 002 600	nc	6 800	142 500	nc	nc	1 459	173	12	12 509	5
89/90 (h)	1 095 400	1 078 876	318 600	6 700	150 000	778 000	29 473	2 641	341	13	10 444	101
90/91 (i)	1 241 200	1 222 477	nc	7 167	183 900	nc	nc	9 813	1 126	11	10 766	108
91/92	1 377 800	1 357 016	nc	6 608	171 400	nc	nc	6 381	661	10	12 124	23
92/93	na	na	na	na	na	na	nc	8 531	627	7	12 440	149

Footnotes a to i indicate a break in series.
Source: IC 1995.

The main sources of information relating specifically to the processing and manufacture of pigmeat products include the annual publication *PigStats* compiled by the Australian Pork Corporation (APC) and the Pig Research and Development Corporation (PRDC), and industry sponsored studies, such as the Cresap Report (1990) and the Hassall & Associates Benchmarking Study (1994).

The Cresap study into the status of the Australian pork industry was commissioned by the APC and covered specialist pig farms, specialist pigmeat abattoirs and pigmeat processors. It aimed to assess the 1990 status of the industry and look ahead to the year 2000.

The Hassall & Associates pig processing benchmark study was undertaken for the PRDC and the Agri-Food Secretariat of the Department of Industry Science and Technology. This study involved comparing performance and pigmeat processing costs in Australia with leading processors in the United States and the Netherlands. In addition, the study involved a comparison of the performance of 18 medium size pig abattoirs against the largest six pig abattoirs within Australia.

Abattoirs and independent boning rooms

According to *PigStats 94* there are approximately 140 abattoirs slaughtering pigs in Australia. Of these, nine are specialist pig abattoirs with the remainder being multi-species plants with pigs generally being the minor species. According to Cresap (1990), the specialist pig abattoirs are mostly integrated to further processing (operating their own boning room) or manufacturing. In the non-specialist abattoirs, pigmeat production generally goes to boning rooms linked to wholesale and retail outlets or to manufacturers of ham, bacon and smallgoods.

Table C3 gives details of the 20 abattoirs with the largest throughput of pigs, and indicates which are specialist pig abattoirs. The table shows that the top 20 pig abattoirs accounted for over 75 per cent of the total kill during 1993–94, with Bunge the largest accounting for 9.2 per cent. The four largest abattoirs in 1993–94 accounted for 28 per cent of all pigs slaughtered.

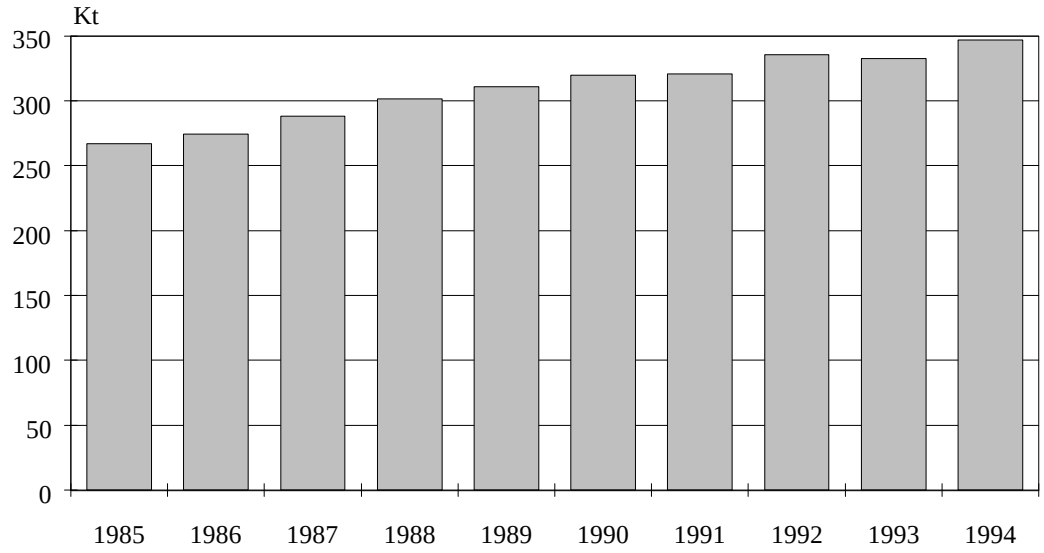
Table C3: **Top 20 pig abattoirs in Australia, July 1993 – June 1994**

Abattoir	*State*	*Yearly kill*	*Weekly kill*	*Per cent of total kill*	*Pigmeat specialist*	*AUS-MEAT accreditation*
1 Bunge	NSW	478 782	9 207	9.2	Yes	Export
2 Hurstbridge	Vic	371 625	7 147	7.1	Yes	None
3 Watsonia (Watson Foods)	WA	313 789	6 034	6.0	Yes	Domestic
4 Q Meat Brisbane	Qld	295 072	5 674	5.7		Export
5 George Chapman	SA	261 863	5 036	5.0	Yes	Domestic
6 Darling Downs Bacon	Qld	248 888	4 786	4.8	Yes	Domestic
7 Castlemaine Bacon	Vic	236 989	4 557	4.6	Yes	None
8 Auspork (Gumby)	Vic	200 692	3 859	3.9	Yes	Domestic
9 SAMCOR	SA	182 280	3 505	3.5		Export
10 MQF	Qld	174 776	3 361	3.4		Export
11 Ralph	Vic	156 000	3 000	3.0		None
12 Scone	NSW	135 446	2 605	2.6		Domestic
13 Northern Co-Op	NSW	130 922	2 518	2.5		Export
14 Perfect Pork	Vic	130 000	2 500	2.5	Yes	None
15 Burrangong	NSW	128 692	2 475	2.5		Domestic
16 Swickers Kingaroy Bacon	Qld	105 176	2 023	2.0	Yes	Domestic
17 Clover meats (Wynne)	WA	97 871	1 882	1.9		Export
18 Tamworth	NSW	95 938	1 845	1.8		Domestic
19 Canberra	ACT	87 241	1 678	1.7		None
20 Q Meat Toowoomba	Qld	81 993	1 577	1.6		Domestic
Total of above		**3 914 035**	**75 269**	**75.3**		
Total pigs slaughtered		**5 164 400**	**99 315**	**100**		

Source: APC & PRDC 1995a, and AUS-MEAT list of accredited abattoirs, boning rooms and manufacturers.

Pigmeat production increased steadily from 267 kt in 1985 to approximately 346 kt in 1994, an increase of 30 per cent (see Figure C1). As detailed in Appendix B, this is the result of slaughterings increasing by 14 per cent from 4.516 million in 1985 to 5.161 million in 1994 (see Table B2) and slaughter weights increasing by about 17 per cent to an average of 67 kg per dressed carcase in 1994 (see Figure B2).

Figure C1: **Pigmeat production, 1985 to 1994**



Source: ABARE 1994.

Exports of pigmeat

Only about 15 abattoirs have current export licences for pigmeat. In order to obtain an export licence, an abattoir must be accredited by AUS-MEAT [1] to export standard. This accreditation involves the implementation of a quality assurance program and specific training of staff.

While AUS-MEAT accreditation is not required for companies producing solely for the domestic market, 32 non-exporting abattoirs are accredited to the AUS-MEAT domestic standard. The 57 AUS-MEAT accredited abattoirs (an increase of 6 from 1993), slaughtered 67 per cent of the pigs killed in Australia in 1994.

Exports of unprocessed pigmeat in 1994–95 amounted to approximately 7900 tonnes. Feral pigmeat is believed to account for more than half of these pigmeat exports. Exports of bacon, ham and smallgoods are also relatively low.

Vertical integration in the pigmeat industries

A number of companies are vertically integrated in the pigmeat industries (see Table C4). This integration can extend from pig farming right through the

[1] AUS-MEAT is the national industry organisation responsible for the monitoring and accreditation of export establishments.

processing of pigmeat to the manufacture of bacon, ham and smallgoods. Bunge for example, produces pigs, operates the largest pig abattoir by volume in Australia and is involved in manufacturing through a sister company, Don Smallgoods. Similarly, Darling Downs Bacon (DDB), as a producers' cooperative, operates its own abattoir and processing plant. This integration ensures that the vertically integrated firms have control over the supply of raw materials.

Table C4: **Vertically integrated pigmeat processors and manufacturers**

Company	*Pig farming*	*Abattoir operation*	*Pigmeat manufacturing*
Bunge	Yes	Yes	Yes
Castlemaine Bacon	Yes	Yes	Yes
Hurstbridge	Yes	Yes	No
George Chapman	No	Yes	Yes
Watsonia	No	Yes	Yes
Darling Downs Bacon	No[a]	Yes	Yes
MQF	No	Yes	Yes

a Darling Downs Bacon is a pig farmers' cooperative.
Source: APC & PRDC 1995a, and information supplied to the Commission.

While the larger specialist pig abattoirs operate their own boning rooms, a number of independent boning rooms process carcases to supply bacon, ham and smallgoods manufacturers. Some major smallgoods manufacturers operate their own boning rooms. Also, large retailers such as Woolworths purchase carcases for processing in their own boning rooms and smallgoods operations.

Bacon, ham and smallgoods manufacturers

According to the most recent ABS manufacturing census data (1994b), there were 128 bacon, ham and smallgoods manufacturers in 1991–92. This industry includes the production of smallgoods entirely from pigmeat as well as blended meat products. The vast majority of smallgoods producers use at least some pigmeat.

Red meats and poultry are blended with pigmeat in certain products, such as sausages, and various cereals and condiments are also added. According to Hassall & Associates (1994), industry estimates are that on average these blended products consist of 60 per cent pigmeat.

The majority of bacon, ham and smallgoods manufacturers are small enterprises. According to the ABS (1994b), 60 per cent employ fewer than 20 people and only 12 per cent of establishments employ more than 100 people.

Ownership of manufacturers

Until the 1980s, pigmeat processing was dominated by cooperatives and private firms. During the late 1980s, large foreign firms began acquiring a number of the local processors (see Table C5). George Weston Foods, controlled by Associated British Foods, acquired the Watsonia label in Western Australia as well as George Chapman, a dominant firm in South Australia, from Industrial Equity Ltd. This gave George Weston Foods the rights to the Huttons label in Victoria, Western Australia and South Australia.

In 1988, Bunge Australia, a subsidiary of the Brazilian Bunge group, purchased Don Smallgoods. Japanese firms Asahi Chemical Industries purchased Hans Smallgoods from private owners and Nippon Meat Packers Inc acquired Metro Quality Foods (MQF) from Adelaide Steamship in 1989. George Weston Foods in 1995 purchased Melosi Smallgoods from Pacific Dunlop. Melosi Smallgoods had been a family business for over 40 years until taken over by Plumrose Australia in 1992 and in 1994 by Pacific Dunlop as part of its acquisition of Plumrose Australia. Cresap (1990) estimated that some 40 per cent of the pigmeat manufacturing industry was at that time foreign owned.

Table C5: **Ownership of selected pigmeat manufacturers**

Company	*Ultimate ownership*
Castlemaine Bacon Pty Ltd	Castlemaine Bacon
Darling Downs Bacon Cooperative	Cooperative
Don Smallgoods	Bunge (Brazil)
Chisholm Manufacturing	Woolworths
George Weston Foods	Associated Foods (UK)
Hans Continental Smallgoods	Asahi Chemical (Japan)
MQF Pty Ltd	Nippon Meat Packers (Japan)
P&M Quality Smallgoods Pty Ltd	P&M Primo

Source: Information supplied to the Commission.

Concentration within the manufacturing industry

Industry estimates are that the top five processors hold 35 per cent of the market. However, despite the arrival of international firms there are still large numbers of small local firms within the industry. Many of the smaller family companies produce specialised continental smallgoods, protected from the larger firms in the market due to the labour intensive nature of the production process.

The pigmeat processing chain

The basic operations involved in pigmeat processing are set out in Table C6, with Hassall & Associate's estimate of the value added in each process. These figures compare with the gross value of pigs delivered to abattoirs of $673 million.

Table C6: **Value added in the pigmeat processing and manufacturing chain, 1992–93**

Stage of production	*Gross value added ($m)*	*Per cent %*
Pig abattoir	67	7.3
Boning room	60	6.5
Wholesaling and retailing of fresh pork	394	42.7
Bacon, ham and smallgoods	401	43.5
Total	922	100.0

Source: Hassall & Associates 1994.

Pigmeat either is sold in the fresh pork market, through the food service industry and retail outlets (supermarkets, butchers, restaurants), or it is used in the manufacture of bacon, hams and smallgoods.

Pigmeat for the fresh pork market is often packaged. For example, boxed pork for the fresh pork market is boned and packaged according to the APC specification. The APC has specified specific cuts (eg leg cuts, lion and middle cuts) and the configuration of these cuts into a standard box. This pork is vacuum packed and is referred to as 'Ezi-Cut Boxed Pork' that requires no further boning and is therefore ready to cut and prepare for retail sale.

The share of pigmeat entering the fresh pork market is not known with certainty. Information for the 1990 to 1992 period indicates that fresh pork's share in volume terms was about 30 to 35 per cent of total pigmeat production

with the remainder being used in secondary processing (see Table C7). Bacon accounted for between 17 and 18 per cent and ham accounted for between 25 and 28 per cent of total pigmeat production (see Table C7). More recent information from the APC indicates that the fresh pork share of total pigmeat production may have increased to about 40 per cent. If this is the case, then the volume of pigmeat going into further processing may have marginally declined since 1992.

Table C7: **Use of Australian pigmeat 1990 to 1992**

Product	*1990*		*1991*		*1992*	
	tonnes	*per cent*	*tonnes*	*per cent*	*tonnes*	*per cent*
Fresh pork	98 461	30.93	95 950	30.71	115 843	35.41
Processed pigmeat						
Bacon	57 205	17.97	55 645	17.81	55 419	16.94
Hams	88 911	27.93	87 046	27.86	82 703	25.28
Sausages	40 460	12.71	40 492	12.96	40 239	12.30
Other	33 298	10.46	33 306	10.66	32 944	10.07
Total processed	219 874	69.07	216 489	69.29	211 305	64.59
Total production	318 335	100.00	312 439	100.00	327 148	100.00

Source: As shown in Australian Customs Service 1992, p. 17.

C2 Production technology

Abattoirs

While there are marked differences between abattoirs slaughtering pigs, including the size of the operation and whether it is a single or multi-species plant, the basic processes undertaken in a pig abattoir are similar. They consist of stunning the pig, sticking and bleeding, dehairing and finally evisceration.

The actual killing of the pigs involves stunning the pig first with an electric shock before it is bled to death. According to Hassall & Associates (1994) one plant in Australia uses carbon dioxide to kill the pig, which is claimed to generate benefits from reduced stress and improved carcase quality, but involves significant investment in new plant.

After being stuck and bled the carcase is then dehaired. In some plants this process is fully automated while in other plants this process is undertaken on a manual or semi-manual basis. According to Hassall & Associates (1994), the fully automated plants use Dutch or German equipment installed in the last five or six years.

After being dehaired the carcase is eviscerated. At present, evisceration is undertaken manually in both Australian and overseas abattoirs. However, according to Hassall & Associates (1994), machinery to automate evisceration is in the developmental stage in Europe.

Abattoir products

The end products of the pig abattoir are whole and half dressed carcases, edible offal and other by-products. The carcases are either sent to the abattoir's own boning room, to a specialist boning room, to a boning room attached to the retail or wholesale trade or directly to pigmeat processors.

Boning rooms

In the boning room the carcase is broken up into primal cuts such as shoulders, middles and legs. Generally, these processes are labour intensive. The carcase is broken up by electric saw with the boning and slicing done by knife. The only automated process is the derinding of the cuts which is undertaken by machine. In some boning rooms, machinery is used to remove any meat left on bones by the boning staff. Some processes such as head and trotter removal are undertaken in either abattoirs or boning rooms.

There are a range of treatments of each primal cut depending on the end-use of the product. For example, pork legs and shoulders may be sold with the rind on or off and the bone in or out.

Boning room products

The cuts of pork produced in the boning room are either used in the fresh pork market or for further processing into bacon, ham and smallgoods.

In the case of fresh pork, the shift from traditional pork cuts to 'New Fashioned Pork' has increased the number of retail cuts. The New Fashioned cuts usually use heavier pigs (prime bacon weight) with the rind and bone removed, the fat trimmed and processed into smaller cuts. These cuts require more labour then the traditional ones, which are sold with the rind and associated fat and bone.

Similarly, the preparation of middles for bacon is labour intensive requiring the removal of the ribs without cutting the intercostal muscles.

Most parts of the carcase can be used for further processing to produce bacon, ham and smallgoods. For example, the collar, the middle and the gammon (rear) of the carcase can be used to produce bacon materials. According to Cresap (1990), there is a strong incentive for the boning room to utilise the entire carcase as there is no secondary market for unwanted cuts.

Manufacturing

This involves the further processing of the cuts of pigmeat through curing, cooking and smoking into bacon, ham and smallgoods. Traditionally these processes were time consuming, but rapid curing methods have allowed faster processing. These methods include artery pumping whereby a pickle or brine is pumped into the arterial system and stitch pumping or injecting the pickle directly into the meat. The pigmeat used in secondary processing can be sourced either from local boning rooms or from imported cuts of pigmeat. Vertically integrated processors of pigmeat usually source from their own boning room.

Hams are classified according to the internal temperatures reached during the cooking, the amount of added substance retained after processing and the presence of bone. Cooked hams are produced from boned pigmeat, placed in metal moulds and cooked in tanks. These hams are seldom smoked and are usually sold sliced for sandwiches. Formed hams are produced by placing hams into casings or moulds of various shapes to represent the original leg of ham or other shapes. These hams are then prepared in casings or as canned products.

Bacon is produced by curing pigmeat. The quality of the bacon varies according to the breed and age of the pig, the feed rations used and the curing method.

Smallgoods, such as salamis, frankfurts and other sausages, often contain some pigmeat. They are processed in a variety of ways through cooking, fermenting, curing, smoking and drying, depending on the final product.

Products from pigmeat manufacturing

There are a range of products produced. For example, ham is sold through retail outlets as ham-off-the-bone, leg, sandwich, soccerball, shoulder, Virginia and smoked ham, depending on the cut and the method of processing used.

Similarly, bacon is sold in a variety of forms such as rindless rashers, smoked rashers, diced pieces and bacon bones.

The range of smallgoods containing pigmeat is large and includes salamis, frankfurts, sausages, canned products and formed meats such as pate, spam and black puddings.

C3 Production costs

Abattoirs

The major cost component in abattoir operations is the cost of labour. The Hassall & Associates benchmarking study (1994) found that, based on a composite best practice abattoir, labour costs represented 45 per cent of the total cost per kilogram of dressed weight (see Table C8). Similarly, the Industry Commission (1994b) found that labour costs represented around 45 per cent of the cost of all meat processing.

Table C8: **Cost of production per pig based on a composite best practice abattoir**

Item	*Costs per pig slaughtered*	*Percentage of total*
	$	%
Labour	5.38	45.7
Inspection	1.98	16.8
Administration and management	0.97	8.2.
Depreciation	0.70	5.9
Repairs and maintenance	0.66	5.7
Gas	0.50	4.2
Cleaning	0.44	3.7
Other production costs	0.42	3.6
Electricity	0.41	3.5
Water	0.32	2.7
Total[a]	11.77	100.00
Total cost per kilogram dressed weight	0.17	

a May not add due to rounding.
Source: Hassall & Associates 1994.

After labour, the largest cost is government inspection. Governments licence meat operations and inspect meat throughout the production and processing chain to ensure that it is safe for public consumption. Meat inspection arrangements differ between States and between domestic and export markets. While State Governments are responsible for the standards applying in their own State, some use AQIS inspectors to inspect the operation.

Abattoirs with AUS-MEAT export licences are required to have a Commonwealth veterinarian on site to meet the higher standards required for export products. Some industry sources claimed that the differences between inspectors' hours of work and the abattoirs' operating hours added an unnecessary cost component due to inspectors' overtime payments. Furthermore, the Hassall & Associates (1994) study found that in cases where an abattoir's export output is low, as is the case in the few pig abattoirs which export, the additional cost of the veterinarian and meeting the higher export standards may be a significant contribution to the cost of production. The Commission was told by DDB that :

> DDB was Australia's leading exporter of pork. We withdrew from exporting in 1993 because we could not afford government charges of $1.7 million per annum to retain our export licence. (Sub. 9, p. 3)

To reduce inspection costs, the Meat Research Corporation, with input from AQIS, have trialed comprehensive quality assurance programs. These quality assurance programs involve the abattoir company performing all the inspections and then being subject to periodic audits. According to Hassall & Associates (1994), following suitable evaluation these quality assurance programs will be made available to the domestic industry. In the case of export abattoirs, Hassall & Associates (1994) noted that in some cases overseas country requirements do not allow for self-regulation of primary health inspection and specify more stringent post-mortem inspection procedures. However, in other cases, the importing county has been willing to accept reduced levels of inspection procedures for a lower priced product as applies for the Australian domestic market.

The Hassall & Associates (1994) study found that while repairs and maintenance costs did not appear to be related to the age of the plant, depreciation costs were higher in the plants with a higher level of automation.

Boning rooms

Boning room costs are also dominated by labour costs (see Table C9). This reflects the fact that boning is a manual operation that requires minimal fittings to buildings and minimal plant and equipment other than cold storage.

Costs increase sharply from the simple cutting of a side of pork into four pieces to the boning and packaging of pork ready for retail use. Labour costs account for 64 per cent of the total processing cost in a single cut through to 72 per cent of the total for boxed pork. This contrasts with labour costs accounting for 46 per cent of total costs in abattoir operations. Labour costs will continue to dominate boning room costs as the industry shifts away from traditional cuts of pork to higher labour content products such as 'New Fashioned Pork' and boxed pork.

Table C9: **Cutting and boning room costs — cost of production per pig**

Cost item	*Simple cut*		*Simple cut and boning into pieces*		*Boxed pork*	
	$	%	$	%	$	%
Labour	2.80	63.6	8.08	67.2	22.80	74.5
Gas	0.11	2.5	0.31	2.6	0.05	0.2
Electricity	0.13	3.0	0.31	2.6	0.37	1.2
Water	0.05	1.1	0.11	1.0	0.09	0.3
Repairs and maintenance	0.13	3.0	0.36	2.9	0.99	3.2
Depreciation/rent	0.18	4.0	0.40	3.4	1.64	5.4
Cleaning	0.07	1.6	0.20	1.7	0.32	1.1
Administration and management	0.36	8.2	0.78	6.5	2.88	9.4
Other production costs	0.51	11.5	0.77	6.4	1.45	4.7
Packaging	0.07	1.5	0.69	5.7	na	
Total costs per pig[a]	4.40	100.0	12.02	100.0	30.59	100.0
Total cost per kilogram dressed weight	0.06		0.17		0.45	

Source: Hassall & Associates 1994.

Manufacturing costs

Costs of producing manufactured pigmeat products are dominated by the cost of the pigmeat. Consequently, those processors with substantial ham and bacon outputs are affected more by fluctuating pork prices than those with a more diverse product mix.

The Commission was told that carcase costs represented up to 66 per cent of total costs, packaging costs between 10 and 20 per cent depending on the packaging being used (eg goods packaged in retail trays) and labour costs are around 10 to 12 per cent depending on the product being produced. For

example, more traditional forms of sausage processing are fairly labour intensive which is reflected in relatively higher labour costs.

C4 Investment

Recent studies into the pigmeat processing and manufacturing industries such as Cresap (1990) and Hassall & Associates (1994) have identified the need for further capital investment in plant modernisation to achieve efficiency. According to Cresap (1990), capital investment in the manufacturing sector was approximately $20 million per annum with a further $2 million per annum invested in abattoirs.

Cresap (1990) found that the poultry processing industry's capital investment was double the amount invested by the pigmeat processing industry, even though poultry and pigmeat consumption per capita was similar. The Cresap study (1990) found that substantial investment, possibly an extra $5 million per annum in manufacturing and an extra $2 million per annum in abattoirs, was required to meet the needs of the industry and replace outdated plant.

There appears to be a number of factors constraining higher levels of investment. The imposition of tighter planning and environmental standards on the granting of licences to abattoirs and manufacturing plants, according to Cresap (1990), could unnecessarily prolong the life of older plants (which already have a licence) and slow the investment in new plants. Furthermore, there is a risk that the profit levels within the two industries may not be sufficient to recover the investment required.

C5 Incomes and profitability

Abattoirs

There is little up-to-date and comprehensive information available relating to profitability in pigmeat production. However, the IC (1994b) found that gross profit margins, and the ratios of earnings before interest and tax to total revenue, for the meat production sector overall varied across a number of abattoirs. In 1992–93, approximately one quarter of the abattoirs surveyed reported losses, over half reported gross profit margins between 4.5 and 15 per cent, while a number of abattoirs reported much higher gross profit margins. In the case of Bunge Meat Processors Pty Ltd, according to Bunge Industrial Pty

Ltd's 1994 annual report, contributions to the group's operating profit for 1994 increased by 4 per cent from the previous year.

Bacon, ham and smallgoods

In 1991–92, total sales of establishments classified as bacon, ham and smallgoods manufacturers amounted to $1357 million. Product margins for bacon, ham and smallgoods, according to industry sources, are usually between 0.05 and 5 per cent, ie significantly lower then the margins earned by other food sectors. The higher margins earned in other food sectors could be a result of a greater level of brand development, allowing the establishment of a price premium for branded product. In comparison, processed pigmeat products are commonly sold as a generic product (eg bacon and ham).

C6 Cost competitiveness in pigmeat processing and manufacturing

A number of industry specific studies, such as Cresap (1990) and Hassall & Associates (1994), have found that the Australian pigmeat processing industry is well behind world standards of efficiency and productivity. The Australian industry has been characterised by low throughput in numerous small plants with under utilised capacity based on labour intensive production methods. The Industry Commission (1994b) also has found Australian abattoirs in general were behind world standards of efficiency and productivity .

Abattoirs

In Australia 140 plants slaughter 5 million pigs a year compared with Denmark where 24 plants slaughter 18 million pigs a year, the Netherlands where 35 plants slaughter 20 million pigs a year, and the United States where 921 plants slaughter 92 million pigs a year. The throughput of Australian abattoirs is low in comparison to overseas abattoirs due to the relatively large number of abattoirs involved in the slaughtering of a small number of pigs.

This has hindered efficiencies built on economies of scale. The large number of multi-species abattoirs slaughtering pigs and the limited number of abattoirs, only 9 out of the 140, specialising in pig slaughtering, has impeded the throughput necessary to develop efficiencies.

The Cresap (1990) study found that there were few Australian pig abattoirs of sufficient size to utilise automation or process by-products adequately.

Furthermore, according to Davidson (1991), the majority of Australian pig abattoirs were old, used outdated technology compared to other countries and in most cases operated at low levels of capacity. The majority of the processing plants visited by Hassall & Associates (1994) were close to 20 years old with the newer plants being 8 years old. While some older plants had undertaken refits of the slaughter floor, such as automated dehair and singe equipment in the mid-1980s, most plants had not undertaken major investment in new plant or a refit in recent years.

Based on best practice abattoir costs, the Australian industry faced a cost disadvantage in comparison to a number of overseas producers (see Table C10). The Hassall & Associates (1994) benchmarking study, based on composite best practice plants, found the major cost disadvantage was in labour costs. However, while the total cost per pig was lower in Australia than in the Netherlands, the Australian unit costs were higher than in the Netherlands on a per kilogram basis reflecting the lighter Australian carcase weight. The study found that the lower depreciation costs in Australian abattoirs reflected the older age of the abattoirs and the limited recent investment in new plant and equipment.

Table C10: **Abattoir unit costs per pig in best practice composite plants ($)**

Cost item	*Australia*	*USA*	*Netherlands*
Labour	5.38	2.93	3.88
Gas	0.50	0.06	0.19
Electricity	0.41	0.17	0.19
Water	0.32	0.06	0.21
Inspection	1.98	0.06	1.85
Repairs and maintenance	0.66	0.34	1.01
Depreciation	0.70	1.37	1.42
Cleaning	0.44	0.21	0.49
Administration and management	0.97	1.80	0.86
Other production costs	0.42	1.27	2.07
Total cost[a]	**11.77**	**8.27**	**12.17**
Total cost per kilogram carcase weight	**0.17**	**0.10**	**0.14**
Average carcase weight (kg)	70.5	82	85

a May not add due to rounding.
Source: Hassall & Associates 1994.

The higher labour costs in Australian abattoirs are related to the lower labour productivity. There are a number of reasons for the lower labour productivity in Australian abattoirs. Scale economies are important in pig processing with labour savings per pig being associated with larger throughputs (see Table C11) and greater capacity utilisation. In comparison to Australia, overseas abattoirs used mechanical aids and automated process to a larger extent and worked longer hours.

Table C 11: **Abattoir labour productivity**

Productivity measure	*Australia (medium sized abattoir)*	*Australia (large abattoir)*	*Australia (best practice composite plant)*	*USA*	*Netherlands*
Weekly kill	1 477	5 795	5 913	40 375	17 165
Employment	33	38	37	146	55
Kill per person per week	45	153	159	277	312
Employee hours	21	29.5	29.5	42.9	36
Kill per person per hour	2.1	5.2	5.4	6.5	8.7

Source: Hassall & Associates 1994.

Boning rooms

Labour productivity in Australian boning rooms was also found to be markedly below that of overseas operations (see Table C12). The difference in the scale of operation in abattoirs carries into boning rooms. Hassall & Associates (1994) estimated that a best practice composite boning room in the United States handled about 8000 pigs a day, or 29 pigs per employee a day, compared to about 550 pigs a day, or 13 pigs per employee a day, in an equivalent Australian boning room (see Table C12).

The higher labour productivity in boning rooms in the Netherlands and the United States does not reflect large scale automation as the boning room processes remain essentially manual. However, mechanical aids and conveyors were used to move the products around the boning room between manual processes while lasers were used to break up the carcase. Hassall & Associates (1994) noted that in the Netherlands the movement of meat around the boning room was undertaken by a complex set of computer-controlled rolling tracks with built in scales, which allowed the operator to control the flow of meat to each work site and record the weight of the meat, bone and trimmings produced. The Hassall & Associates (1994) study found that, in the US,

economies of scale in boning rooms were associated with larger orders, longer production runs in terms of better utilisation of labour and the use of bulk handling facilities.

Table C 12: **Cutting and boning room productivity**

	Australia	*USA*	*Netherlands*
Pig carcases processed per week	2 697	40 375	15 625
Employment	43	279	118
Carcases/person per week	69	145	132
Employee hours	37	44.4	36

Source: Hassall & Associates 1994.

Labour productivity in abattoirs and boning rooms

Labour productivity in Australian abattoirs and boning rooms is constrained by the operation of the existing tally system and the lack of emphasis on training and skills development. The tally system is the piece-work payment scheme, adopted by many abattoirs, related to group performance. The tally represents the minimum number of beasts to be processed in a day. Once the tally is exceeded a penalty is paid. A maximum tally is specified under most awards and if this is exceeded an even higher penalty is paid. The specific tally is determined by abattoir management and the union or through the relevant industrial tribunal.

The penalties in the existing tally system act as a disincentive to extending the operating hours of abattoirs and boning rooms and contribute to the low capacity utilisation in the industry. The Industry Commission (1994b) found that removing this disincentive would promote greater flexibility, resulting in significant productivity gains.

Furthermore, the use of labour hired on a daily basis has inhibited training and skills development of the labour force. The Commission noted that the expenditure on training and staff development in the meat processing industry lagged behind the rest of the food processing sector and manufacturing generally.

The Commission found that the industry had a poor industrial relations climate and a poor occupational health and safety record. This in conjunction with the tally system, and its structure of premium rates for remuneration for extra

output, had reduced the incentives for improving both working conditions and productivity.

The Hassall & Associates study (1994) acknowledged that while there had been some consolidation and greater specialisation in the slaughtering of pigs in Australian abattoirs, this rationalisation has not been as rapid or extensive as in many overseas countries. Over half of Australian pig slaughtering is undertaken in plants with an annual throughput of under 200 000 pigs. The lack of specialisation is evident from the number of multi-species abattoirs engaged in pig slaughtering. The study concluded that to achieve the throughput necessary to achieve scale economies in line with overseas best practice, many of the smaller plants, especially those located in close proximity to the six largest abattoirs, may require further consolidation.

Bacon, ham and smallgoods manufacturing

Like pigmeat processing, the Australian pigmeat manufacturing industry lacks economies of scale. The industry in Australia, according to Cresap (1990), lacks the level of concentration found in the USA, Canada and the UK and in the other food processing industries in Australia. Subsequently, Cresap (1990) believes that Australia's total output of ham and bacon could be produced in a few large modern plants.

The large number of small and middle sized firms operating in the industry, according to Cresap (1990), is evidence that barriers to entry are low. This results in declining real turnover per establishment and per employee. Cresap (1990) believed that the large number of small and medium sized firms in the industry, in comparison to overseas industries and other Australian food processing industries, have resulted in sub-optimal levels of operation. However, Cresap (1990) concluded that the entry of large foreign firms into the industry, with adequate resources to undertake the necessary capital investment, might result in more efficient larger scale production.

Hassall & Associates are currently undertaking a benchmarking study into this industry.

Proposed strategies for improving performance

The Hassall & Associates (1994) benchmarking study and the Cresap (1990) study both proposed strategies to improve the performance of the pigmeat processing and manufacturing industries. In its 1994 report into Meat

Processing, the Industry Commission proposed recommendations to improve the performance of the abattoir industry as a whole.

Hassall & Associates

Hassall & Associates' (1994) proposals focused on the pigmeat processing industry and the need for investment in larger plants or plant modernisation. Furthermore, the industry was urged to initiate negotiations with employees to improve labour utilisation and with growers to improve size, quality and supply pattern of their production.

Hassall & Associates believed that many of the improvements in performance required substantial government involvement. This involvement related to the regulation of meat inspection, effluent disposal, health standards and more general government programs to encourage rationalisation of investment, better labour relations, quality control and export marketing.

Cresap

Cresap (1990) found that capital investment and rationalisation was required in both pigmeat processing and manufacturing to improve efficiency. In relation to abattoirs, the study believed that rebuilding and relocation of plants was required to produce greater cost savings, levels of automation and efficient by-product processing.

The strategies required to improve the performance of the manufacturing industry, according to the Cresap study were for a smaller number of manufacturers to have closer contact with end users through advertising and branding of products, in addition to increased levels of investment.

Industry Commission

The Industry Commission (1994b) found that capacity utilisation in the industry was below that of its overseas competitors. This low capacity utilisation was directly attributable to the operation of the existing tally system and the overall poor industrial relations climate across the industry due to inflexibilities in industrial awards, a poor occupational health and safety record and low levels of training. To this end, the Commission recommended that labour market reform within the industry be pursued as a matter of priority.

The Commission found that most of the costs imposed on the industry were within Australia's control, and related to major regulatory rigidities within the industry such as meat inspection procedures. To reduce these rigidities, the Commission recommended that quality assurance systems be developed to

improve the efficiency of meat inspection procedures and other changes to quarantine and inspection arrangements to facilitate exports.

APPENDIX D INFORMATION ABOUT QUARANTINE

New Zealand and Canada are the only two countries from which Australia currently accepts imports of uncooked pigmeat. The Australian Quarantine Inspection Service (AQIS) is currently investigating the possibility of accepting uncooked pigmeat from Denmark, and will undertake a similar investigation for the United States once the Danish request is resolved.

Imports of pigmeat are allowed from all countries provided that the meat is cooked and is hermetically sealed in cans, and a number of other conditions are met.

The recent World Trade Organisation (WTO) agreement on Sanitary and Phytosanitary Measures (SPS) could affect Australia's quarantine procedures.

D1 New Zealand

Imports of uncooked pigmeat are allowed from the South Island of New Zealand. These imports do not have to be frozen nor do they have to be processed on arrival in Australia.

Imports from the North Island are not allowed due to the occurrence there of Aujeszky's disease. However, freedom from this disease is expected soon.

D2 Canada

Prior to July 1990, imports of uncooked pigmeat from Canada were not allowed because of the concern about the transmission of TGE (transmissible gastroenteritis), a highly contagious viral disease of pigs. A decision to lift this ban and allow importation of uncooked frozen pigmeat was announced by the Government in September 1989, and confirmed on 30 July 1990. The Minister for Resources announced that 'the ban can no longer be justified on either scientific or economic grounds, and could be perceived as a non-tariff barrier to trade' (Griffiths 1990).

The imported meat was required to be frozen for at least 30 days prior to importation to inactivate the *Trichinella spiralis* organism.

In late 1992, regulations were amended to require the imported pigmeat to be deboned prior to export and processed on arrival in Australia. Processing can

be by cooking (to prescribed criteria), or by exposing the meat to a pH of 5.2 or less (ie in a fermentation process). These requirements were added to guard against the transmission of the PRRS virus (porcine reproductive and respiratory syndrome virus) from Canada to Australia, as the virus is not killed by freezing.

In May 1995, in response to a request from Agriculture and Agri-Food Canada, AQIS commenced a review of import requirements for Canadian pigmeat. AQIS judged that the heating requirements in the import conditions would be sufficient to kill the *Trichinella* organism if present in the meat. AQIS thus proposed changes that would permit the importation of unfrozen meat, provided that it was processed by cooking in Australia. Meat to be processed by fermentation would still need to be imported frozen. The review is scheduled to be completed shortly.

The Australian pig industry has agreed to a serological survey for PRRS to confirm that Australian pigs are free from this virus, thereby justifying current quarantine measures. This survey will commence shortly. The Bureau of Resource Sciences is coordinating the survey and the State Departments of Agriculture will conduct the survey.

D3 Denmark

At the request of the Danish Government, AQIS has undertaken an assessment of the health risks of allowing imports of uncooked pigmeat from Denmark. It is currently seeking permission from the Minister of Primary Industries and Energy to release a discussion paper.

Some concern has been expressed by the Danes at the time being taken to resolve this issue. The delay could have some effect on progress towards a general veterinary agreement which Australia is seeking to negotiate with the EU.

D4 WTO Agreement on Sanitary and Phytosanitary Measures

This agreement establishes rules to minimise the use of measures such as quarantine restrictions as trade protectionist devices. It aims to ensure that import restrictions are not based on arbitrary and unsubstantiated health and safety claims. Quarantine measures — including the continuation of existing restrictions — must be consistent with scientific evidence and be determined in accord with an acceptable level of risk.

APPENDIX E WORLD MARKETS

E1 International pigmeat production and trade

In the world as a whole, pigmeat is estimated (in 1994) to account for 40 per cent of meat production compared to 30 per cent for beef and veal and 25 per cent for chicken (see Table E1). However, only 3 to 6 per cent of pigmeat production enters trade, compared to 10 to 13 per cent for beef and veal. The different percentages in the level of trade depends on whether intra-EU trade is taken into account (see Table E2). Almost 60 per cent of world trade in pigmeat is between EU members.

Table E1: **World meat production (million tonnes)**

	Pigmeat	*Bovine*	*Poultry*	*Other*	*Total*
1990	67.0	52.1	39.3	13.0	171.4
1991[a]					
1992	72.7	53.4	44.6	13.5	184.0
1993	75.5	52.9	46.3	13.4	188.1
1994	76.5	53.0	49.0	13.4	191.7

a Not available to the Commission.
Source: WTO 1995 and GATT 1992, 1994c.

Table E2: **World meat exports, 1994 (million tonnes)**

	Pigmeat	*Bovine*	*Poultry*	*Sheep and goat meat*	*Total*
Excl. EU intra trade	2.1	5.3	na	0.8	na
Incl. EU intra trade	4.8	6.9	4.6	1.0	17.3

Source: USDA 1995c.

The key features of the international market is the stagnant level of production of beef and veal, with its share of total meat consumption falling from 30 per cent in 1990 to 28 per cent in 1994. Poultry is the meat with the most

significant increase, rising from 23 per cent in 1990 to 26 per cent of meat consumption in 1994. Pigmeat's share of total production was essentially unchanged, despite a continuing expansion of production.

World production of pigmeat is dominated by China, with some 31 million tonnes produced, twice the level of the second largest producer, the European Union with 15 million tonnes in 1994, and almost four times that of the next largest producer, the US with 8 million tonnes (Table E3).

Table E3: **Production of pigmeat, principal producers (000 tonnes)**

	1990	*1991*	*1992*	*1993*	*1994*[a]	*1995*[b]
China	22 808	24 523	26 353	28 544	31 000	34 000
EU	14 171	13 751	13 858	14 727	14 690	14 669
US	6 965	7 257	7 817	7 751	8 037	8 157
Russia	3 480	3 190	2 787	2 560	2 260	1 900
Japan	1 555	1 483	1 432	1 433	1 390	1 360
Brazil	1 050	1 150	1 200	1 250	1 300	1 400
Poland	1 870	1 966	2 052	1 537	1 290	1 460
Canada	1 133	1 129	1 209	1 192	1 205	1 220
Taiwan	1 009	1 126	1 113	1 135	1 170	1 185
Australia	312	321	342	333	338	358

a preliminary.
b forecast.
Source: USDA 1995c p. 49 and WTO 1995 p. 85.

Trade in pigmeat is very regional in its nature with most exporters heavily reliant on one or a few close neighbours for markets. Trade is dominated by the EU (representing 73 per cent of total world exports) but almost 80 per cent of the EU's trade is with other member countries. However, even when intra-EU trade is excluded, EU exports account for one third of the world total. Taiwan sends two thirds of its exports to Japan, Canada directs 78 per cent of its exports to the US, and China sends over 60 per cent of its exports to Hong Kong.

Table E4: Principal exporters of pigmeat (000 tonnes)

	1990	*1991*	*1992*	*1993*	*1994*[a]	*1995*[b]
EU[c]	3 005	3 132	3 164	3 344	3 493	3 452
EU[d]	700	615	447	594	739	689
Taiwan	225	324	303	283	330	310
Canada	314	266	294	303	300	310
US	108	128	185	197	241	225
China	235	268	117	150	175	200
Hungary	210	144	69	45	50	45
Australia	6	4	8	8	7	na

na not available.
a preliminary.
b forecast.
c including intra-EU trade.
d excluding intra-EU trade.
Source: USDA 1995c p. 49 and WTO 1995 p. 89.

Table E5: Principal importers of pigmeat (000 tonnes)

	1990	*1991*	*1992*	*1993*	*1994*[a]	*1995*[b]
EU[c]	2 401	2 601	2 770	2 728	2 734	2 740
EU[d]	96	84	53	25	27	27
Japan	488	590	684	653	700	700
US	407	351	293	336	337	331
Hong Kong	230	226	198	208	220	225
Russia	440	463	25	63	210	350
Australia	0	4	5	4	5	na

na not available.
a preliminary.
b forecast.
c including intra-EU trade.
d excluding intra-EU trade.
Source: USDA 1995c p. 49 and WTO 1995 p. 88.

Table E6: **Composition of pigmeat exports, principal exporting countries, 1993 (US$ million)**

Country	*0013 Live swine*	*0113 Pigmeat Fresh, chld, frzn*	*0121 Pigmeat Dried, sltd, smkd*
Denmark	25.7	2 379.4	502.0
Netherlands	464.3	1 701.3	274.1
Taiwan	na	na	na
Canada	79.2	483.5	41.2
US	9.4	435.2	31.9
China	271.7	62.5	7.2
Hungary	na	90.6	2.4
Australia	0.6	30.0	0.1

Source: UN (1993).

E2 Recent developments in the international pigmeat market

World production increased slowly in 1993 and 1994 driven principally by the increase in China. World prices for pigmeat are likely to remain depressed throughout 1995 (FAO 1995). Pig numbers in the former Soviet Union and Eastern Europe continued to decline in 1993, with some recovery in Eastern Europe in 1994 (USDA 1995c). The contraction of the pig herd was especially severe in Russia where, in the year up to July 1994, pig numbers fell by approximately 10 per cent.

United States of America

Since 1987, the US has consistently increased exports and reduced imports of pigmeat, and is expected to reach balance in 1995–96. Imports of live pigs were 921 274 head in 1994, over 95 per cent from Canada.

US pigmeat exports reached 241 000 tonnes carcase weight equivalent in 1994, reflecting strong sales to Russia, Mexico and Canada. Pigmeat exports to the former Soviet Union were expected to continue into 1995 as exporters took advantage of low US pigmeat prices and the availability of Export Enhancement Program (EEP) bonuses to fill the 20 000 tonnes announcement. In 1993, the US created a precedent by extending export subsidies under the EEP to pigmeat exporters — available for 30 000 tonnes to Russia (but sales totalled only 200 tonnes) (GATT 1994c, p. 47). The bonus period for the latest

20 000 tonnes of eligible exports expired mid-1995 to conform to GATT obligations (USDA 1995, p. 17).

Increased scale in US production is expected to enhance US competitiveness, and exports are expected to grow strongly throughout the rest of the decade (WTO 1995).

Large supplies of pigmeat, beef and poultry caused a decline in pig prices, beginning in mid 1994, to their lowest level in about 20 years by the beginning of 1995.

Canada

A sharp decline in hog prices began in early September 1994 and lasted through to the end of the year. Coupled with the elimination of the Tripartite Stabilisation Program for Hogs in July 1994, the price fall reduced profitability and resulted in levelling off of production.

Live swine exports to the US increased, reaching 895 000 head in 1994, up from 838 000 in 1993.

Some 78 per cent of Canada's exports of pigmeat are to the US. Total Canadian pigmeat exports for 1994 totalled about 300 000 tonnes, a decline of less than 1 per cent from the 1993 level. The outlook for 1995 is for a small increase to about 310 000 tonnes.

European Union

After rising strongly in 1991, pig prices dropped 25 per cent in 1993 from 1992, followed by an increase of less than 1 per cent in 1994. Better prices are expected for the first half of 1995 because of a continuing decline in production. A further gain in profitability is expected in August 1995 when the EU grain intervention price is further reduced.

Pigmeat exports to destinations outside the EU increased from 594 000 tonnes in 1993 to 739 000 tonnes in 1994, an increase of just over 24 per cent. Strong demand for imports in Eastern Europe and the former Soviet Union as a result of production problems in those countries contributed to this growth. Exports are expected to decline by almost 7 per cent in 1995, mainly due to declining sales in Japan and the US. Some two thirds of EU's pigmeat exports to third countries are from Denmark.

Beginning in May 1993, the EU offered exporters special refunds of ECU700 per tonne of carcases for exports to the former Soviet Union. Export refunds to

other destinations were reduced from ECU350 per tonne to ECU250 in July 1993 (GATT 1994).

For the second half of 1995, EU exports will be subject to GATT obligations. From July 1995 to June 1996, EU subsidised pigmeat exports are limited to 490 800 tonnes (cwe), to be reduced to 401 800 tonnes by the year 2000.

Minimum access for pigmeat imports into the EU (at concessional import tariffs) will be 13 500 tonnes in 1995, rising to 76 600 tonnes by the year 2000.

China

China is the world's largest producer of pigmeat. However, its involvement in international trade is very small in relation to its production. The majority of China's exports are to Hong Kong.

Japan

Japan is the world's largest importer of pigmeat. Imports rose from 155 000 tonnes in 1980 to 684 000 tonnes in 1992, declined to 653 000 tonnes in 1993 but are expected to recover to 700 000 tonnes in 1994 (USDA 1995c, p. 23). The Taiwanese market share in Japan has been increasing (now the largest supplier to Japan) and that of Denmark declining. A trend to more imports of fresh/chilled pigmeat (rather than frozen) is expected to favour closer suppliers over Europe (WTO 1995).

Household meat consumption continues to shift slowly in favour of beef at the expense of pork and chicken. As the price of beef compared to that of pigmeat has been decreasing, consumers have tended to buy more beef. By the end of the decade, the market share of beef is expected to rise from 18 per cent to 27 per cent (WTO 1995).

Stagnant pigmeat consumption and increased imports have continued to put downward pressure on the wholesale price of pigmeat. As a result, the Government resumed intervention in the carcase auction market to purchase 'surplus' pigs.

Korea

Demand for pigmeat in Korea is rising rapidly, and the ban on the import of frozen pigmeat was lifted in 1994 to allow the import of 26 000 tonnes. Imports are expected to reach 75 000 tonnes in 1995. As a result of the Uruguay Round Agreement on Agriculture agreed at the end of 1993,

quantitative restriction on pigmeat imports are to be eliminated by July 1997 and replaced with tariffs. Initial tariffs on fresh or chilled pigmeat will be 37 per cent and will be reduced to 25 per cent over the 10 year implementation period.

Taiwan

About 30 to 40 per cent of Taiwan's production is destined for export. Exports in 1994 are estimated to be 330 000 tonnes, 17 per cent higher than in 1993, with two thirds being exported to Japan. Taiwan's pigmeat exports are expected to decline slightly in 1995 due to high domestic hog prices and more competition in Japan from US and EU suppliers.

Hong Kong

Hong Kong is a major importer of pigmeat, ranking third after Japan and the US. There is a strong preference for freshly slaughtered pigmeat, and over half of Hong Kong's imports are sourced from China.

APPENDIX F GATT 1994

F1 Introduction

As a member of the World Trade Organisation, Australia is bound by the agreements reached at the recently concluded Uruguay Round of trade negotiations. These agreements have an impact on the scope for action that Australia can take in relation to imports of Canadian pigmeat. This appendix looks at the recent trade agreement, with particular emphasis on provisions relating to tariff changes, and the scope for action against subsidised or dumped imports. The special provisions governing trade in agricultural products are also reviewed.

The Uruguay Round of trade negotiations was concluded in April 1994 with the signing of the Final Act of the Uruguay Round, and the Marrakesh Agreement Establishing the World Trade Organisation (the WTO Agreement).

The WTO Agreement includes the General Agreement on Tariffs and Trade 1994 (GATT 1994). GATT 1994 is based on the text of the original GATT 1947 as interpreted and amended by the Contracting Parties prior to, and during, the Uruguay Round.

F2 The World Trade Organisation (WTO)

The WTO came into operation on 1 January 1995, as the multilateral institution charged with administering agreed rules for trade among member countries. The basic aim of the WTO is to liberalise world trade and place it on a secure basis, thereby contributing to economic growth and development. The WTO includes all GATT provisions for trade in goods (including the new rules adopted in the Uruguay Round), plus rules developed for trade in services and intellectual property and related investment measures, and rules and procedures governing the settlement of disputes. It functions as the principal international body concerned with negotiating reductions in trade barriers and other measures that distort competition between countries. The WTO also serves as a platform for countries to raise their concerns regarding the trade policies of their trading partners.

The guiding principle of the WTO — like the GATT before it — is trade liberalisation. Some of the key principles of the WTO for trade in goods are:

Transparency: Notification, publication, and uniform application of trade regulations are required.

National Treatment: Once imports of goods clear customs, they must not be discriminated against by a government's policies on taxation, handling and distribution.

Most Favoured Nation (MFN) Status: MFN status entails granting equal treatment on trade to all members. In effect, all WTO members are to be treated as well as a country's most favoured trading partner. Customs unions, such as the European Union (EU), and free trade agreements, such as the North American Free Trade Agreement (NAFTA), are negotiated under a special exemption to the MFN principle (GATT Article XXIV), while preferential access may be given to developing countries.

Tariff Protection: Tariffs are preferred over other measures to control imports because tariffs are transparent, provide predicability to exporters, and are relatively easy to reduce through negotiation. A country cannot impose a tariff in excess of its commitment level established for a particular product (called a tariff binding) without compensating other countries. Exceptions exist to enable countries to counter dumping or subsidised imports.

Dispute Settlement: In the event a country believes another country has violated its rights under the WTO, it can bring a complaint to the WTO dispute settlement body for adjudication. The first step of this process is consultation with the countries likely to be affected. However, if the countries cannot resolve the issue in this manner, a panel of experts may be called to rule on the merits of the complaint. If the panel finds that there is a violation, the offending party has an obligation to bring its policy into compliance with the WTO within a reasonable period of time. If it does not do so, it is obliged to offer adequate 'compensation'. If there is no remedial action, the complaining party is granted the right to retaliate by raising duties on exports of the country in violation.

F3 Key elements of GATT 1994

GATT 1994 contains a number of Articles governing almost all aspects of trade in goods between the Contracting Parties (member countries). In addition to these Articles, a number of Understandings and Agreements were negotiated which provide an interpretation of some of the GATT Articles, and cover some aspects of trade relations in more detail. Box F1 list some of the key Articles, Understandings and Agreements covered in the following sections of this Appendix.

Box F1: **GATT 1994: Key Articles, Understandings and Agreements**

Articles of GATT 1994

- *Article VI* (Anti Dumping and Countervailing Duties)
- *Article XVI* (Subsidies)
- *Article XIX* (Emergency Action on Imports of Particular Products)
- *Article XXVII* (Withholding or Withdrawal of Concessions)
- *Article XXVIII* (Modification of Schedules)

Understandings

Understanding on the Interpretation of Article XXVIII of the GATT 1994

Agreements

Agreement on Implementation of Article VI of the GATT 1994. This Agreement covers provisions governing the application of Article VI of GATT 1994 in so far as action is taken under anti-dumping legislation or regulations.

Agreement on Agriculture

Part VII, Article 13 (Due Restraint)

Agreement on the Application of Sanitary and Phytosanitary Measures (Quarantine)

Agreement on Subsidies and Countervailing Measures. This Agreement defines subsidies (Article 1); Specifies prohibited subsidies (Part II); Actionable subsidies (Part III); Non-actionable subsidies (Part IV); and outlines rules governing the application of countervailing measures (Part V).

Agreement on Safeguards. This Agreement establishes rules for the application of safeguard measures provided for under Article XIX of GATT 1994.

The following sections look at some of the key provisions of the GATT, with particular emphasis on provisions governing changes to agreed tariff levels, and on provisions governing action against subsidised or dumped imports. The more general provisions of the GATT are looked at first, followed by the special provisions included in the Agreement on Agriculture.

General provisions

Article XXVIII: Modification of Schedules

One of the key features of the GATT involves tariff bindings. Each country establishes tariff bindings on particular products through negotiation with other GATT members. When a country binds a tariff, it agrees that this is the maximum tariff level it will impose on imports of that product from any other GATT member country.

Article XXVII, and the Understanding on the Interpretation of Article XXVII of the GATT 1994, deal with the renegotiation (modification or a withdrawal) of a concession (generally a bound tariff rate) and conditions for renegotiation. Any country seeking to increase tariffs beyond the bound level must follow the procedures outlined in Article XXVIII. [1]

For a country wanting to modify a tariff binding, the first step is formal notification to the GATT/WTO Council in Geneva. Notification includes information on what tariffs will be modified and recent trade data for the commodity or product. After formal notification, the initiating country is required to enter into negotiations on compensation with countries with whom the original tariff binding was negotiated, as well as with countries which have a 'principal supplying interest'. The member which has the highest ratio of exports affected by the concession to its total exports is deemed to have the principal supplying interest.

The goal of the negotiations is to maintain the overall balance of tariff concessions in place before the tariff modification. If the tariff change would reduce import access for the products under this tariff, compensation is expected for the value of the reduction. If provided, compensation would generally take the form of tariff concessions on other products.

If agreement on compensation cannot be reached within a time frame acceptable to the initiating country, it can abandon the action or it can unilaterally implement the tariff modification. If the tariff is unilaterally modified, countries with negotiating rights, as well as other countries with substantial supplier interests, are then granted the right to retaliate by withdrawing tariff concessions of equivalent value.

[1] Under certain circumstances defined in the GATT, a country can withdraw or modify a tariff binding under Article XXVIII without authorisation from the GATT Council. This applies, for example, when the country has, within the last three years, reserved the right through the GATT to modify its tariff schedule.

Article XIX: Emergency Action on Imports of Particular Products (Safeguards)

Safeguards (Article XIX) have been used infrequently over recent years with GATT members having a preference for using voluntary export restraints (VERs). In this way they avoided certain provisions of Article XIX such as:

- the article does not allow protection that discriminates between different exporting countries; and
- the exporting country is entitled to claim 'compensation' which can take the form of a reduction in the import barriers on some other product of the exporting country, or an increase in protection in the export country against imports from the first country (ie tit for tat).

The Uruguay Round of negotiations resulted in changes to the safeguard provisions of the GATT. These changes are embodied in the Agreement on Safeguards which establishes rules for the application of safeguard measures provided for in Article XIX of GATT 1994.

Under this agreement, VERs and similar non-tariff barriers are to be phased out within four years. This is likely to put greater pressure on the 'permitted' contingent protection such as Article XIX, as well as countervailing action and anti-dumping action.

A country may apply a safeguard measure (Article XIX) if a product is being imported in such increased quantities, absolute or relative to domestic production, and under such conditions as to cause or threaten to cause serious injury to the domestic industry.

If such action is taken, the exporting country is free to suspend 'substantially equivalent concessions', if the safeguard measure continues for more than three years. The three-year exemption does not apply if action is taken in response to an increased market share, rather than increased levels of imports.

Article XIX is perhaps more likely to be used in the future: because of the outlawing of VERs etc; because of the introduction of the three-year period before retaliation can occur; and because quantitative restrictions which discriminate between exporting countries may be permitted. Although VERs are banned, a safeguard import quota may be administered by an exporter.

New provisions require public hearings by a 'competent authority' to determine whether the proposed measure is in the public interest. A report must be prepared and that report must demonstrate 'serious injury' or 'threat of serious injury'. The criteria to be evaluated in determining injury are specified in the Agreement on Safeguards and include such things as market share, changes in

sales, production, productivity, capacity utilisation, profits and losses, and employment.

There is now a maximum time limit of eight years (reviewed after four) for any measures introduced, and if the measures last more than one year, they must include a program of progressive liberalisation. They are not to continue beyond the time necessary to prevent or remedy serious injury and to facilitate adjustment by the domestic industry.

The Agreement on Agriculture contains its own safeguard provisions and those are to take precedence, with respect to agricultural products, over the more general safeguard provisions.

Article VI: Anti-dumping and Countervailing Duties

The Agreement on Implementation of Article VI of the GATT 1994 covers provisions governing the application of Article VI of GATT 1994 in so far as action is taken under anti-dumping legislation or regulations. The Agreement on Subsidies and Countervailing Measures is outlined later in this Appendix.

Anti-dumping

While the purpose of anti-dumping (AD) measures is to counter 'dumping', it was argued in many quarters that the provisions in the pre-existing Agreement were inadequate and open to abuse (that is, used excessively to restrict trade). Negotiations focused on tightening and clarifying provisions to prevent abuse and enhance predicability and transparency in the trading system.

The new AD provisions should contribute to a strengthened trading system if they can ensure that AD action remains strictly confined to dumping, thus reducing scope for trade harassment.

However, an OECD (1995a) study reported that it was difficult to forecast the effect of the new agreement and identified the concern that anti-dumping action could remain as a significant instrument of protection. In the past, few members of GATT adopted anti-dumping measures. The practice shows signs of spreading to many more countries.

Action can be taken if exports are dumped, that is, if the goods are exported at a price below the price of the product sold in the normal course of trade in the exporting country — or failing this, in a third country, or cost of production that include an adequate margin for profit.

The penalty duty must not exceed the dumping margin — ie the difference between the normal value and the price when sold for export.

Dumped products must cause, or threaten 'material' injury to the domestic industry before anti-dumping action can be taken. Indicative criteria are provided, covering such things as profits, market share, and employment.

The Agreement specifies that an anti-dumping duty should not remain in force longer than necessary to counteract the dumping which is causing injury, and must be terminated no later than five years from imposition of the duty, unless specifically reviewed and that review finds that the termination of duties would result in the recurrence of dumping and injury. Price undertakings by exporters found to be dumping can be substituted for anti-dumping duties. That is, exporters can make an undertaking to set prices at an undumped level and thus avoid having anti-dumping duties imposed.

Agreement on subsidies and countervailing measures (SCM)

The new agreement includes strengthened disciplines on subsidies (under the form of a tighter definition of prohibited and actionable subsidies) and on countervailing procedures. Subsidies granted to temperate agriculture products were dealt with by a special negotiating group and consequently the provisions of the Subsidies and Countervailing Measures Agreement are applicable to agriculture only to the extent that they are not overridden by the Agreement on Agriculture.

The classification of subsidies under the SCM Agreement consists of: Prohibited Subsidies; Actionable Subsidies; and Non-actionable Subsidies (sometimes referred to as the 'traffic light' approach — red, amber, green). For each of the first two categories, there is an associated set of anti-subsidy measures and their own procedural rules.

Article 2 of the SCM Agreement makes only 'specific' subsidies subject to anti-subsidy measures. Specificity is defined as access to a subsidy being limited to certain economic entities (eg firms, groups of firms, industries).

Prohibited subsidies are those which are contingent upon export performance, or on the use of domestic over imported goods. All such subsides are deemed to be 'specific'.

Actionable subsidies are non-prohibited specific subsidies which cause adverse trade effects. Adverse trade effects are when the subsidy causes: material injury to the domestic industry; serious prejudice to the interests of another member; or nullification or impairment of benefits to another member. Serious prejudice is deemed to exist if the subsidy: exceeds 5 per cent of sales; involves covering operating losses sustained by an industry (other than 'once-off' subsidies); or direct forgiveness of debt. There is no requirement to

demonstrate any injury to the import competing industry, although displacement of sales or price undercutting or suppression is required.

Non-actionable subsidies are specified in a 'positive' list of specific subsidies which are considered as 'non-actionable', ie not eligible for countervailing measures. They fall under three headings: research activities; regional development; and environmental requirements. The extent of allowable subsidy is restricted in each case.

Any countervailing duty shall be terminated no later than five years, unless subject to specific review, and is to remain in force only as long as, and to the extent necessary to, counteract the subsidisation which is causing injury.

Agreement on Agriculture

Prior to the conclusion of the Uruguay Round of trade negotiations, agricultural trade essentially fell outside the disciplines of the multilateral trading regime embodied in the GATT. A considerable use of non-tariff forms of protection developed, including quantitative restrictions, variable levies, minimum import prices etc. In many industrialised countries, these were complemented by domestic support prices. As a consequence, a large share of world exports of temperate zone agricultural products was sold with export subsidies.

The objectives of the negotiations on agriculture were:

- improving market access through the reduction of import barriers;
- increased discipline in the use of direct and indirect subsidies, including the phased reduction of their negative effects and dealing with their causes; and
- minimising the adverse effects that sanitary and phytosanitary (quarantine) regulations and barriers can have on trade in agriculture (OECD 1995a, p. 20).

The conclusion of the Agreement brings agriculture under clear, effective and operational rules in the WTO. The new agreement defines more clearly the scope and form of any continuing government intervention in agricultural support and protection. The agreement contains the general framework of disciplines to govern trade in agriculture. Tariff concessions and various commitments are contained in individual member's schedules.

The Agreement embodies a comprehensive package of individual member country commitments including: tariffication of non-tariff barriers in agriculture (that is, the conversion of all non-tariff barriers into tariffs); tariff concessions and bindings; and reductions in domestic support and export subsidies. These

changes are to be implemented over a six-year period (commencing in 1995) to 2001 (or over a 10-year period to 2005 for developing countries).

The dismantling of non-tariff protection is an important part of the agricultural agreement, but the bound levels of tariffs that replace non-tariff barriers are in many cases high, and even with the reductions agreed upon, are likely to remain high. In many cases, however, the operative tariffs are much lower than the bound levels offered as a replacement for pre-existing non-tariff barriers. This difference offers a form of contingent protection in the sense that tariffs could be raised to the bound level without consultation with trading partners.

Market access (Article 4 of the Agreement on Agriculture)

All participating countries have agreed to convert existing non-tariff barriers at the border into tariff equivalents (tariffication), to bind all such tariffs and not to introduce new non-tariff measures. For developed countries, the new bound tariffs, as well as tariffs which had already been bound, have to be reduced by 36 per cent over the six-year implementation period (1995 to 2001) with a minimum rate reduction of 15 per cent for each tariff line. Lower percentages and a longer time frame apply to Developing Countries and to Economies in Transition from a centrally planned economy to a market economy.

The Agreement includes a Special Safeguard provision (Article 5 of the Agreement on Agriculture) in the event of import surges and low world prices. This applies only where non-tariff barriers have been converted into tariffs, not to 'old' tariffs. If the market share of imports increases by a certain percentage over the average of the preceding three years, called the trigger level, additional duties of up to a third of the level of the normal applicable duty can be imposed. The smaller the initial market share, the larger is the increase required to trigger action. Alternatively, additional duties can be applied when import prices drop below a trigger price, on the basis of a schedule providing for progressively higher duties for progressively larger differences between import prices and trigger prices.

Because Australia had no non-tariff barriers (in the pigmeat area) to convert to tariffs, this safeguard option is not available.

In order to ensure a minimal level of trade enhancement, minimum access provisions were provided. The commitment implied that domestic market access opportunities were to be provided, rising from 3 to 5 per cent of domestic consumption, through tariff quotas at reduced tariff rates where they had not previously applied. Special treatment provisions were included which allows Japan and South Korea to delay tariffication for their rice markets.

Because of the high levels of tariffs, sometimes several hundred per cent, it is not clear whether tariffication will result in significant liberalisation even when reduced by the minimum 15 per cent. The OECD said:

> The immediate quantitative impact which the Agreement will have on agricultural trade flows and market conditions is likely to be limited at least in the short term. Some countries had already begun to reform their policies in anticipation of the outcome of the negotiations, such that additional policy adjustments now required are sometimes small. The most significant quantitative impact can be expected from the commitments to reduce export subsidies. The shares of world markets which have been supplied with subsidised exports are very high in many cases and a reduction of subsidised exports by more than one third should have a noticeable and positive effect. However, to the extent that export subsidies are maintained, distortion in agricultural markets will continue. (OECD 1995a, p. 95)

An important feature of the Agreement on Agriculture is the commitment to the continuation of the reform process through further negotiations in the fifth year of the implementation period (1999).

The biggest short-term gain to Australia is probably via agreements to reduce export subsidies and thus competition in third markets. In the longer term, tariffication and the scope it gives for negotiated tariff reductions probably is of more significance.

Export competition (Articles 9, 10 and 11 of the Agreement on Agriculture)

Countries have agreed to the reduction of expenditure on export subsidies by 36 per cent of the base period expenditure as well as a reduction in the quantity of subsidised exports by 21 per cent of the base period quantities during the six-year implementation period. Parties have also agreed not to extend subsidies to products not subsidised in the base period (1986 – 1988). No provision exists for progress beyond the six-year implementation period. This agreement has been made on a 'line by line' basis, that is, it applies to each export item and does not allow for 'offsetting' smaller reductions in some items with larger reductions in others.

A key feature of the Agreement on Agriculture is that export subsidies for agricultural products are not being eliminated (as is the objective for manufactured goods) but simply being reduced. What happens at the end of the implementation period is not clear.

Domestic support (Articles 6 and 7 of the Agreement on Agriculture)

The Agreement does not specify constraints on domestic subsidies applied to specific commodities. It constrains the total level of support provided by policies covered by the Agreement as measured by the total Aggregate

Measurement of Support (AMS). The Agreement requires countries to enter their base period (1986 to 1988) total AMS in their Schedules of commitments to GATT 1994, and to reduce it by 20 per cent over the six-year implementation period through equal annual instalments specified in the Schedules. As the AMS commitment is not product-specific but sector-wide, there is the scope for a reduction in domestic support for some products and not for others.

Policies with no or minimal trade distortion effects or effects on production have been exempted from reduction commitments — the so called green box measures. An illustrative list is included in the Agreement in addition to specific criteria such policies must meet. Policies cover such things as R&D, disease control, marketing and promotion, food security stocks, income support which is decoupled from production, natural disaster relief, structural adjustment assistance, environmental programs and regional support. A *de minimis* provision exempts support which is below 5 per cent of the value of production from inclusion in the calculation of a country's AMS and from any requirement for reduction. Importantly, direct payments relating to production limitation requirements (such as US set-aside arrangements) are also exempt. These are significant in the US and EU, and could be legitimately used by other countries also.

The effect of the agreement on domestic support may be limited. Many countries had begun the process of reform before the Agreement was signed. As the base period covers the years 1986 to 1988, reforms undertaken after that period but before the agreement was signed can be counted towards compliance. The USDA (1995a) said:

> Because of reductions in agricultural support under the last two farm bills and under budget legislation, the US AMS [aggregate measure of support] is below the level that would have to be achieved at the end of six years, thus the United States has already met its full commitment under the internal [domestic] support provisions. The EU, due to recent reforms in its Common Agricultural Policy, is in a similar position.

Due Restraint Provision (the 'Peace Clause') (Article 13 of the Agreement on Agriculture)

As an incentive for countries to accept new disciplines and commitments on domestic support and export subsidies, it was agreed that policies which conform to the new rules would not be subject to international challenge under the GATT during the implementation period. The Due Restraint Provision states that:

- green box policies are non-actionable for purposes of countervailing duties and other GATT challenges (without this provision, under the Agreement

on Subsidies and Countervailing measures, such subsidies could be actionable because they are specific to an enterprise or the industry);

- all domestic support measures which conform with commitments, including production-limitation measures and domestic support within *de minimus* levels, are exempt from the imposition of countervailing duties so long as they do not cause injury (and even then, are subject to due restraint), and are exempt from other GATT challenges as long as support for individual commodities does not exceed that applied in 1992 (non-agricultural subsidies can, in some circumstances, be countervailed whether they cause injury or not); and
- export subsidies allowed under the terms of the Agreement on Agriculture are also exempt from most GATT challenges and subject to countervailing duties only if they cause injury.

In summary, in the agriculture area:

- prohibited subsidies are those which did not exist in the base period (1986 to 1990);
- allowed subsidies are those which existed in the base period and are being reduced as part of the Agreement. Some action is possible against these subsidies if they demonstrably cause injury, although due restraint is to be shown; and
- non actionable subsidies are those specified as 'green box' measures.

Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures

Prior to the WTO Agreement, there were no effective international rules to distinguish trade protection measures from legitimate import regulations to ensure food safety or to protect the health of people, animals or plants.

Under the WTO, there are now rules that set a scientific standard for measures that restrict imports on the basis of health or safety concerns. The agreement aims to minimise the negative effects of such measures on trade. Each country will set its own food safety and animal and plant health standards based on risk assessment and its determination of an acceptable level of risk. However, such standards should be based on sound scientific evidence and use is to be made of international standards where possible. The standards are required to be applied on a non-discriminatory basis between countries.

The SPS agreement is designed to curtail current import restrictions that are based on arbitrary and unsubstantiated health and safety claims. Perhaps more important, it is intended to prevent countries from avoiding the other Uruguay

Round commitments to open up their markets by converting old trade barriers into new 'health-related' import regulations that have the same trade-restricting effect. Without the SPS agreement and its requirements, a country could simply claim, without justification, that new regulations were needed to protect consumers from unsafe imported products, or to protect domestic crops and livestock from the introduction of foreign pests and diseases.

APPENDIX G CANADIAN ASSISTANCE PROGRAMS

G1 Introduction

Assistance to agriculture in Canada is undergoing reform as a result of, among other things, obligations under GATT 1994 and the need for budgetary constraints. An important element of this reform is an intention to reduce the overall level of assistance provided and to provide that assistance in forms that have minimal impact on agricultural markets and prices, that is, in a non-commodity specific way.

In the 1995 Budget (Ag Canada 1995a), the Minister for Agriculture and Agri-food Canada outlined a 'vision' that included a 'market-oriented agriculture and agri-food industry' that is 'less dependent on government support'. This unwinds the historically high assistance levels of the late 1980s and early 1990s, that arose from ad hoc farm income support program payments to assist the grains sector to maintain income levels reduced by the 'grain trade war'.

Central to the reforms is the establishment of a whole farm safety net program which is non-commodity specific. A National Safety Nets Consultation Committee was established in February 1994 to design a new farm income stabilisation policy that is: 'compatible with trade agreements; production and market neutral; affordable for both producers and governments; actuarially sound; user friendly and environmentally sensible'.

Federal and Provincial Ministers of Agriculture agreed in December 1994 that, starting with the 1995 taxation year, the new safety nets approach will consist of crop insurance and a whole farm program as the core, with companion programs to address region specific needs, disaster programs, adaptation measures, and risk management approaches. Cost sharing will be based on a 60 per cent federal contribution and 40 per cent provincial contribution.

As a result of the 1995 Budget, current federal safety net funding levels will be reduced to C$600 million by 1997–98. This represents a reduction of C$250 million or 30 per cent from the current level of C$850 million. Of the C$600 million in 1997–98, approximately C$220 million will be directed to a whole farm program, C$180 million to crop insurance and the remaining C$200 million will be applied against companion programs. In 1997–98, total government expenditures for safety net programs are expected to approximate C$1 billion (C$600 million of federal funding and C$400 million of provincial funding).

The whole farm program will be built upon the existing Net Income Stabilisation Account (NISA) Program. Governments will bring in any eligible commodities not already covered under NISA to achieve a truly whole farm program.

An outline of the major assistance schemes is presented below.

G2 Existing safety net programs

The primary legislative authority for the programs within the safety nets area is the Farm Income Protection Act (FIPA). The FIPA authorises agreements between the Government of Canada and the provinces to provide a means for the protection of the income of producers of agricultural products and enables the Government of Canada to take additional measures for that purpose.

Federal–Provincial agreements are established under: the Crop Insurance Program offering production risk protection; the Gross Revenue Insurance Plan (GRIP) offering a combination of market and production risk protection; the Net Income Stabilisation program (NISA) providing income protection; and the National Tripartite Stabilisation Program (NTSP) offering market risk protection.

Crop Insurance

Crop Insurance provides production risk protection to producers by minimising the economic effects of crop losses caused by natural hazards such as drought, flood, hail, frost, excessive moisture and insects. Participation in the scheme is voluntary and 55 per cent of eligible acreage is participating in crop insurance. Premium rates are to be set in an actuarially sound manner, with provincial schemes being self-sustaining, and the method used to establish probable crop yields reflecting actual yields produced.

Under pre-existing arrangements, the Federal and Provincial Governments each pay 25 per cent of the total premiums with producers contributing the remaining 50 per cent.

Net payments to producers under this scheme (the difference between premiums contributed by producers and payments out of the scheme) have decreased considerably over the last three years, falling from over C$500 million for the 1992–93 crop year to C$82 million forecast for the 1994–95 crop year (see Table G1).

Table G1: **Premiums and payments under the Crop Insurance Program by crop year (C$ million)**

	1992–93	*1993–94*	*1994–95f*
Total premiums	497.3	504.6	480.8
Estimated producer contribution	248.7	463.6	322.7
Total indemnities	784.0	463.6	322.7
Net payments to producers	535.3	211.3	82.3

f forecast.
Source: Ag Canada 1995b.

Gross Revenue Insurance Plan

GRIP builds on conventional (yield based) crop insurance which is offered by the Crop Insurance Program, by providing a revenue protection component. Provinces may operate the GRIP as a single integrated program for both yield and price, but benefits under the two-component approach must not exceed those of an integrated approach. GRIP is currently extended to grain, oilseeds and speciality crops. Approximately 73 per cent of eligible acreage is enrolled in the scheme for the 1994–95 crop year.

The GRIP will be renegotiated because the two largest participating provinces, Saskatchewan and Alberta have indicated their intention to terminate their involvement in the program. As a result of the withdrawal of these provinces, payments under the Net Income Stabilisation Account will increase as producers become eligible for support under that scheme with the termination of their involvement in the GRIP.

Producers are provided with a revenue guarantee for each crop based on a percentage of their past historical production and a 15-year indexed moving average price. The target revenue per acre for a crop is calculated using Crop Insurance probable yields and a 15-year indexed moving average price. Indemnity payments are made throughout the crop year and are triggered when the market revenue of the eligible crop falls short of the target revenue. Payments under the Crop Insurance Program are included under revenue received.

GRIP premiums are shared one third by producers, 41.66 per cent by the Federal Government and 25 per cent by the Provincial Governments. GRIP is expected to be self-sustaining, that is, premiums are expected, over time, to match indemnities. Premiums and payments under the GRIP for the last three years are presented in Table G2.

Table G2: **Premiums and payments under the GRIP by crop year (C$ million)**

	1992–93	*1993–94*	*1994–95*[f]
Total premiums	1403.9	1149.1	997.8
Estimated producer contribution	468.0	383.0	332.6
Total indemnities	1467.2	605.9	267.8
Net payments to producers	999.2	222.9	-64.8

f forecast.
Source: Ag Canada 1995b .

As a result of the withdrawal of the two largest provinces, Federal Government allocations for the GRIP for 1995–96 have been reduced to C$200 million, down from C$487 million provided in 1994–95.

Net Income Stabilisation Account (NISA)

NISA is a tripartite program designed to help producers with financial management and planning by encouraging them to set aside money in good years for use in times of poor financial returns. Initially eligible commodities included grains, oilseeds, special crops, ranch fur and non-edible and edible horticulture. Beginning with the 1994 stabilisation year, the majority of provinces will cover all commodities with the exception of those produced under supply managed regimes. Pigs are now included within the NISA scheme with the termination of the National Tripartite Stabilisation Plan for Hogs in 1994.

The expanded NISA is intended to provide whole farm non-commodity specific stabilisation assistance to producers. It is based on overall farm income rather than income of particular products. Producers can withdraw funds from their NISA account when their gross margin for the entire farming operation falls below an historical average based on the previous five years, or when their income from all sources fall below a minimum level (currently C$10 000).

Producers can deposit up to 2 per cent of their eligible net sales into their accounts and have these amounts matched by the Federal and Provincial Governments at the rate of 1 per cent each. Producers may deposit an additional 20 per cent of their eligible net sales but these amounts are not matched by governments. These additional deposits, however, receive a 3 per cent interest bonus. NISA administration is moving towards full cost recovery.

The Federal Government's contribution to NISA is budgeted at C$188 million for 1995–96, to be matched equally by the Provincial Governments. This is an increase over 1994–95 because of the expanded coverage. However, the Canadian Pork Council (CPC) submitted that it was 'very unlikely' that NISA payments will be made to pig farmers for either 1995 or 1996 (Sub. 7, p. 7).

Payments under the NISA were supplemented in 1991–92 and 1992–93 under the Farm Support and Adjustment Measures (FSAM). This was in response to critical cash flow decreases and reduced producer incomes. The FSAM programs were introduced to provide short-term assistance to complement the safety net stabilisation programs. In total, over C$1 billion was delivered to the agri-food sector in 1991–92, 1992–93 and 1993–94. Payments in 1993–94 (relating to the 1992 stabilisation year) had, however, declined considerably (see Table G3).

Table G3: **NISA producer contributions and withdrawals by stabilisation year for the three-year period ended 31 March 1994 (C$ million)**

	Stabilisation year[a]		
	1990	*1991*	*1992*
Federal contributions	87.32	66.27	64.49
Provincial contributions	75.45	59.79	63.29
Other government contributions (FSAM funds)	246.00	91.90	0.36
Producer contributions	200.18	163.33	165.36
Withdrawals	551.27	188.74	129.98
Net producer receipts	351.09	25.41	-35.38

a The period ending for which the participants filed an income tax return.
Source: Ag Canada 1995b.

National Tripartite Stabilisation Plan

This Plan essentially provided a market risk protection program which helped reduce losses to producers due to adverse changes in market prices or costs. The NTSP essentially provided a 'revenue insurance program'. Individual plans were operated for particular products, including one for pigs. The majority of NTSP commodity plans either have been, or are in the process of being, terminated. The NTSP for Hogs was terminated as of 2 July 1994. Premiums and stabilisation payments for 1993–94 are presented in Table G4.

In 1993–94, the producer premiums under the NTSP for Hogs significantly exceeded stabilisation payments.

Table G4: **Premiums and stabilisation payments under the NTSP for hogs in 1993–94 (C$ million)**

Producer premiums	42.15
Provincial contributions	41.16
Federal contributions	42.74
Stabilisation payments	0.14
Net payments to producers [a]	-42.01

a Net payments to producers are the difference between the producer premiums and stabilisation payments.

Source: Ag Canada 1995b.

A hog transition package has been provided to bridge the gap between the NTSP and the inclusion of pig farmers in the planned whole farm program (see Table G5).

Table G5: **Forecast Federal contribution towards the transitional program for pigs (C$ million)**

1994–95	*1995–96*	*1996–97*	*Total*
14.8	0.3	0.6	15.7

Source: Ag Canada 1995b.

Each NTSP was expected to be financially self-sustaining. That is, over time, the producer premiums, government contributions and net interest should equal total stabilisation payments.

Premiums paid by participating producers are matched by the Federal and Provincial Governments to a maximum of 3 per cent each of the average aggregate market value of the commodity sold by producers during the current year and the two immediately preceding years. Premiums in excess of this amount are the responsibility of the producer. A stabilisation payment is

authorised when the national average market price falls below the calculated support price. The stabilisation payment is equal to the difference between the support price and the national average market price for the period.

G3 Transport

Western Grains Transportation

Assistance under the Western Grains Transportation Act (WGTA), known as the Crow Rate benefit, subsidised the movement of grain from the prairies to the port of export. In 1995, the Western grain transportation arrangements were reformed 'to remove inefficiencies and impediments to diversification and value-added activities in Western grain producing regions as well as to meet our international trade obligations in a more effective manner' (Ag Canada 1995b, p. 85). The essential element of the reform is the replacing of the annual subsidy to the railways with a decoupled one-time Crow Benefit payment of C$1.6 billion to owners of Prairie farm land to partially offset the drop in land values resulting from termination of long standing freight rate subsidies. The Government in return expects to realise annual savings of C$560.6 million starting in August 1995.

The CPC stated that the C$1.6 billion would be shared across 270 000 applicants, averaging C$6000 each. The CPC argued that a larger grain farm in Saskatchewan would receive C$25 600, which (if invested in pig production) would only be sufficient capital to build facilities for six or seven sows (Sub. 7, p. 7).

In practice, this reform will benefit pig producers as the transport subsidy has been estimated to have increased grain prices to local pig farmers. In recognition of the cost penalty for users, some provinces had provided offsetting assistance. The provincial Alberta Crow Benefit Offset Program and Saskatchewan Interim Red Meat Production Equalisation Program were discontinued as a result of the termination of the WGTA.

Feed Freight Assistance Program

The Livestock Feed Bureau administers the Feed Freight Assistance (FFA) program which assists the shipment of domestic feed grains into Atlantic Canada, selected peripheral regions of Quebec and Ontario, British Colombia and the Yukon and Northwest Territories. The FFA transportation subsidy will be phased out over a 10-year period commencing with the 1995–96 fiscal year.

The cost of the FFA is forecast to be $C18 million in 1994–95 and to be an estimated C$13 million for 1995–96.

As with other freight subsidies which subsidise the transport of grain out of the grain producing regions of Canada, this subsidy serves to increase prices in the central Canadian provinces to the detriment of pig producers in those regions.

G4 Other

Adaptation

An Adaptation Fund averaging C$60 million per year of federal funding will be provided to assist farmers in areas such as farm management, and with rural development and environmental protection. Specific initiatives will assist farmers and agri-food and rural businesses to develop an entrepreneurial climate, maintain and expand markets, build modern infrastructures and adopt innovative technologies. The fund will also address concerns regarding the impacts of the reform of transportation subsidies.

A review of existing adaptation measures was undertaken, including consideration of the need for initiatives to assist the industry to adapt to economic realities, such as the new global trading environment.

Farm Debt Review Boards

Farm Debt Review Boards exist in each province to ensure that farmers in financial difficulties or facing farm foreclosure are afforded impartial third-party review of farm circumstances. The Boards will also mediate between the farmer and creditors. The number of applications has decreased by nearly one third in 1994 as farm circumstances have improved. The future of the Boards beyond their 1996 sunset is uncertain.

National Farm Business Management Program (NFBMP)

National Farm Business Management Program (NFBMP *)* will be continued but refocussed to support activities which achieve national value-added benefits, greater sharing of material and information across provinces and provide incremental development of tools and information for use by the sector. The NFBMP provides about C$10 million annually in federal funding which the provinces match from their existing farm business management activities and programs.

Farm Improvement and Marketing Cooperatives Loans Act (FIMCLA)

FIMCLA facilitates the provision of intermediate and short-term credit to farmers and farmer-owned cooperatives in order to improve farm assets and to strengthen their production, marketing and financial stability. Under the FIMCLA, the Canadian Government provides a guarantee against loss for term loans made to farmers for farm improvement and farm marketing cooperative projects.

Payments against FIMCLA guarantees, net of recoveries, amounted to C$8 million since 1989–90, or less than 1 per cent of the value of loans issued.

Loans under the FIMCLA have increased significantly in 1993–94 (see Table G6) with the cumulated amount of loaned funds at C$1.32 billion, approaching the previous statutory limit of C$1.5 billion. This has resulted in an increase in the maximum limit on funds to C$3 billion.

Table G6: **Value of new loans registered under the FIMCLA ($C million)**

1989–90	*1990–91*	*1991–92*	*1992–93*	*1993–94*
98.5	80.7	116.6	196.5	423.3

Source: Ag Canada 1995b.

Canadian Agri-Food Development Initiative (CAFDI)

This program facilitates economic development of the agri-food industry by providing cost-sharing financial assistance for selected projects in market development, production and human resource development, livestock performance data collection and for projects at fairs and exhibitions. Over the duration of the program, the emphasis has been increasingly on market development projects. In 1995–96, the funding currently dispersed under CAFDI (approximately C$7.1 million annually) will be transferred into the new Agri-Food Trade 2000 initiative. The Agri-Food Trade 2000 initiative aims at providing a more streamlined program to deliver cost sharing programs with industry, and will focus on trade development efforts. The Trade Opportunities Strategy will also be incorporated into the Agri-Food Trade 2000 initiative. This initiative is part of a broader program of Agri-Food Trade Services which

provides a range of assistance similar to that provided by Australia's trade commissioners.

G5 Quebec assistance schemes

Farm Income Stabilisation Insurance (FISI)

This scheme aims to guarantee a positive net annual income to agricultural producers. The scheme provides insurance against fluctuations in commodity prices and farm incomes (see Table G7). The scheme is intended to be revenue neutral, with producer and government premiums funding payments over the longer-term. The Government of Quebec matches producer premiums on a $2 for $1 basis.

Table G7: **Premiums and payments under the Farm Income Stabilisation Insurance Scheme, all commodities, Quebec (C$ million)**

	1990–91	*1991–92*	*1992–93*	*1993–94*
Producer contributions	15.3	22.6	na	32.2
Government contributions	30.6	45.2	na	64.3
Payouts	45.9	67.8	na	133.0
Net payments to producers	30.6	45.2	na	100.8

Net payments to producers are the difference between payouts and producer contributions.
na not available.
Source: ACS 1992, and Regie des Assurances Agricoles du Quebec 1994.

Net payments for 1993–94 have increased over the level in 1991–92. As a result of improved agricultural conditions in Canada, net payments for 1994–95 are expected to decline as has occurred for federally funded programs.

Farm credit programs

A range of concessional financial arrangements are provided through the Societe de Financement Agricole (the Societe).

- *Advantage rate loans*. Loans are guaranteed up to C$1 million per enterprise for terms of one to five years. Interest rates are based on mortgage rates which are generally much more advantageous than the rates usually available to small business.

- *Preferred rate loans*. For the first C$250 000 borrowed by the enterprise, the Societe reimburses half the interest in excess of 8 per cent.
- *Secure rate development loans*. For loans granted for the development of the business (expansion, implementation of new technology, or restructuring), the Societe reimburses any interest in excess of 8 per cent.
- *Secure rate establishment loans*. Loans are provided for people wishing to start up a business in agriculture, at concessional rates of interest (6 to 8 per cent depending on the training program) to enable them to invest in specialised agricultural training.
- *Establishment grants*. Grants of up to C$80 000 may be provided to young farmers starting out in the industry.
- *Lines of credit*. Lines of credit may be provided up to C$500 000 at prime interest rate plus 1 per cent for business expenses directly related to agriculture.

The cost to the Government of Quebec of the guarantees, grants and interest rate subsidies have fluctuated, depending of coverage changes and the economic prospects for agriculture (see Table G8). The increase for 1994–95 is attributed to increased demand for funds with the improvement of agricultural conditions in recent years.

Table G8: **Subventions and administration for farm credit programs, Quebec, all commodities (C$ million)**

1990–91	*1991–92*	*1992–93*	*1993–94*	*1994–95*
150.6	117.0	na	67.4	72.2

na not available.
Source: Societe de Financement Agricole, 1992 and 1995.

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