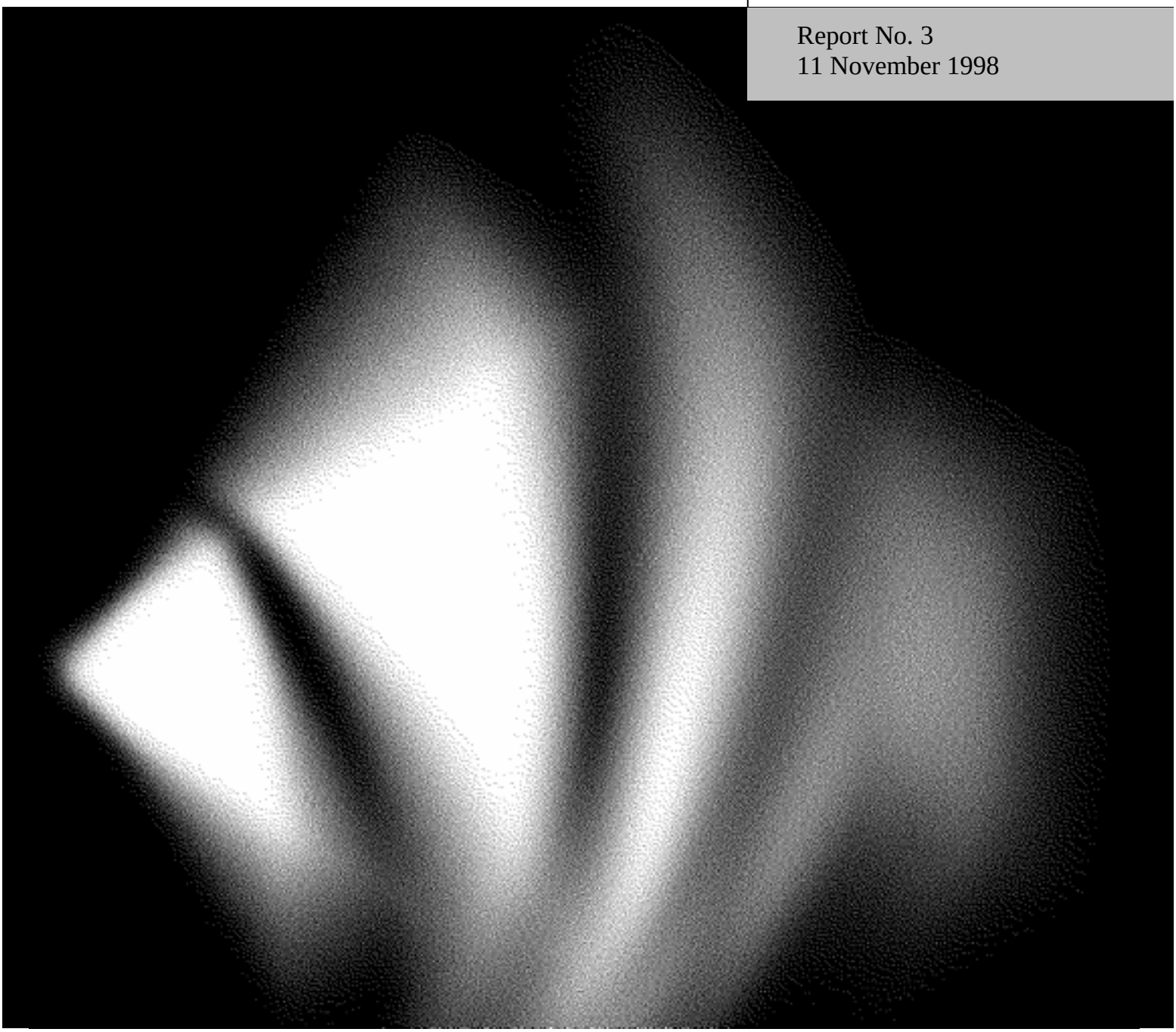
PRODUCTIVITY COMMISSION

Pig and Pigmeat Industries: Safeguard Action Against Imports

Inquiry Report

Report No. 3
11 November 1998



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PRODUCTIVITY COMMISSION

11 November 1998

The Honourable Peter Costello MP
Treasurer
Parliament House
CANBERRA ACT 2600

Dear Treasurer

In accordance with Section 11 of the *Productivity Commission Act 1998*, I have pleasure in submitting to you the report: *Pig and Pigmeat Industries: Safeguard Action Against Imports*.

Yours sincerely

Professor Richard Snape
Presiding Commissioner

Terms of Reference

I, Peter Costello, Treasurer, under Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby:

1. refer for inquiry and report the question of whether safeguard action is warranted against imports of meat of swine, frozen, falling within tariff subheading 0203.29 of the Australian Customs Tariff. The Commission is to report within 140 days (or earlier) of receipt of this reference and is to hold hearings for the purposes of the inquiry;

2. specify that:

   (a) in accordance with the WTO safeguard investigation procedures published in the Gazette of S297 of 25 June 1998, the Commission report on whether the circumstances are such that safeguard measures would be justified under the WTO Agreement; and

   (b) if so, what measures would be necessary to prevent or remedy serious injury and to facilitate adjustment; and

3. also refer for inquiry and report within 140 days (or earlier) of the receipt of this reference the question of the factors affecting the profitability and competitiveness of the domestic pig farming and pigmeat processing industries, specifically examining the extent to which each factor influences industry profitability and competitiveness.

PETER COSTELLO
26 June 1998

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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
AMLC	Australian Meat and Live-stock Corporation
ANZCERTA	Australia New Zealand Closer Economic Relations Trade Agreement
APC	Australian Pork Corporation
AQIS	Australian Quarantine Inspection Service
AWB	Australian Wheat Board
CANATA	Canada-Australia Trade Agreement
CIE	Centre for International Economics
cif	cost insurance freight
CITT	Canadian International Trade Tribunal
COAG	Council of Australian Governments
CPC	Canadian Pork Council
cwe	carcass weight equivalent
DDB	Darling Downs Bacon
DFAT	Department of Foreign Affairs and Trade
FFRS	Farm Family Restart Scheme

fob	free-on-board
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNE	Gross National Expenditure
IC	Industry Commission
IRIC	Institute for Research into International Competitiveness
MRC	Meat Research Corporation
NPIDP	National Pork Industry Development Program
NPPC	National Pork Producers' Council
NRA	National Registration Authority
PC	Productivity Commission
PCA	Pork Council of Australia
PRDC	Pig Research and Development Corporation
QPPO	Queensland Pork Producers' Organisation
RASAC	Rural Adjustment Scheme Advisory Council
sub.	submission
trans.	transcript
USDA	United States Department of Agriculture
USITC	United States International Trade Commission
VAR	Vector Autoregressive
VERs	Voluntary export restraints
WTO	World Trade Organization

Overview

This report is about safeguard action against imports and ...

This report addresses the question of whether safeguard action, in accordance with the World Trade Organization (WTO) Agreement on Safeguards, would be justified against imports of certain frozen pigmeat — excluding imports from New Zealand — and implications of such action.

... the profitability and competitiveness of the pig industry.

The report also examines the factors affecting the profitability and competitiveness of Australia's pig farming and pigmeat processing industries.

Background

Traditionally, pigmeat prices have fluctuated seasonally ...

Until recently, the Australian market price for pigmeat fluctuated seasonally, with a pronounced price rise in the second half of the year, peaking before Christmas, and a price trough between April and June. This seasonal pattern has been around a long-term real price decline. The long-term price trend has been associated with technological developments in pig farming and breeding which have increased industry productivity.

... with a price peak for legs of ham in the Christmas season.

The Christmas seasonal price peak was driven by the demand for legs of ham, one of the three 'primal' cuts of pigmeat. Pig producers relied on these seasonally high leg prices to offset low prices for the other two primal cuts (shoulders and middles) and lower leg prices for the rest of the year.

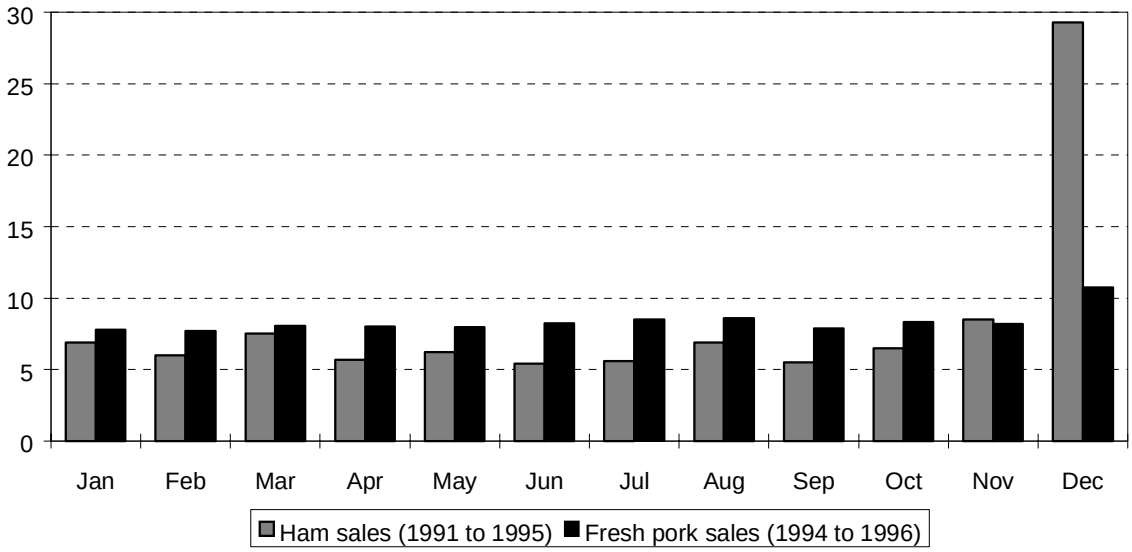
These seasonal price fluctuations developed at a time when domestic pig farmers were insulated from the world market by quarantine restrictions on the import of pigmeat.

Pigmeat processors, in the absence of access to imports

to supplement domestic supplies for Christmas, tended to commence buying well in advance of the seasonal price peak and stockpiled legs for the Christmas market (to the extent that holding costs and chilling/freezing technology permitted).

Australia's seasonal demand pattern for legs of ham does not coincide with Northern hemisphere demand patterns — and price relativities between ham and the other primal cuts also differ, with many foreign markets placing a premium on middles and loins rather than on legs. But these differences did not affect a market protected from import competition.

Ham and fresh pork monthly retail sales(percentage of annual sales)



The relaxation of quarantine restrictions

Quarantine restrictions on the import of pigmeat were reviewed in 1990, 1992, ...

Prior to 1990, the only pigmeat allowed to be imported was canned ham. In 1990, quarantine restrictions were revised to permit the import of *frozen, uncooked* pigmeat from Canada. The restrictions were strengthened in 1992 requiring imported frozen pigmeat to be *boned* prior to shipment *and to be used for processing* (either cooked or fermented) in Australia.

... 1996, ...

In 1996, Canada was given permission to export *chilled*, boned pork cuts for further processing in Australia.

... and again in 1997.

Since October 1997, imports of *cooked* pigmeat from Canada and *uncooked* pigmeat from Denmark also have been permitted. No imports of these products have yet been recorded.

Imports were at relatively low levels until 1996.

When quarantine restrictions were first eased, it took several years for some major processors to respond. Imports of frozen pork (mainly legs) began in 1990 and settled at a level of around 3000 tonnes per year until mid-1996. At these relatively low levels of imports (about 2 per cent of the market for pork and 8 per cent of legs) Australia's seasonal price pattern survived. One reason was that some of the major pigmeat processors — Darling Downs Bacon (a producer-owned cooperative), Chisholm Manufacturing (subsidiary of Woolworths), Don Smallgoods (a sister company of major pig producer Bunge), and Watsonia (vertically integrated with pig farming) — did not use imported pork.

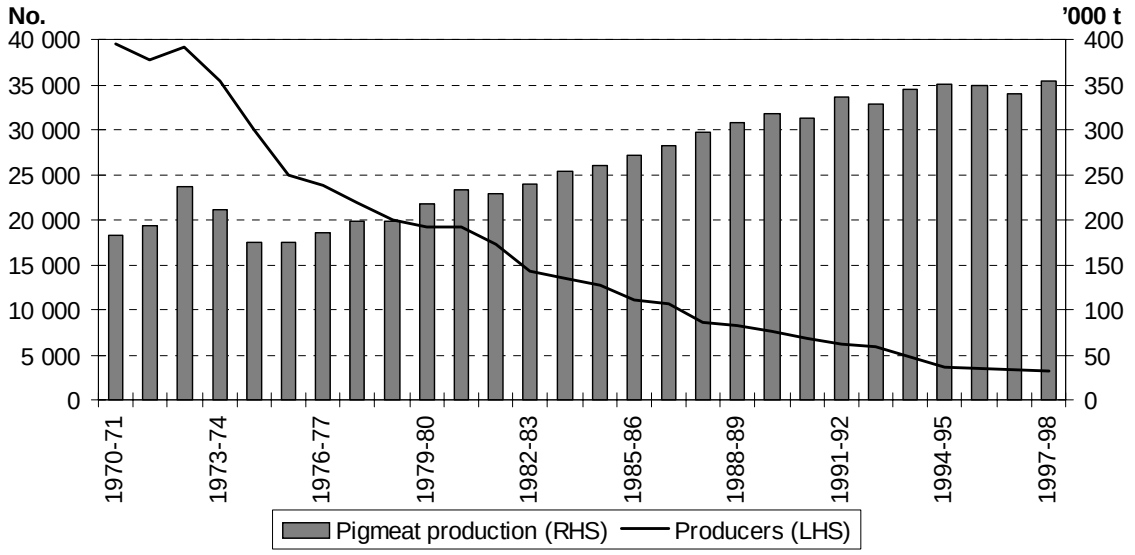
Pressure to import

A cost-price squeeze on pig farmers in 1995 forced many to leave the industry.

Australia's 1994–95 drought had a twofold effect on pig farmers. Grain prices increased by around 30 per cent, significantly increasing pigmeat production costs. At the same time cattle herds were sold and beef prices declined — effectively preventing pigmeat prices from increasing. This cost-price squeeze accelerated the rate of departure of pig farmers from the industry. Between December 1994 and June 1995, the number of producers fell by more than 1000 (23 per cent) and pig numbers and slaughterings declined.

In 1996, with the drought over, grain prices lower, and pig production down, pig prices increased substantially in the lead-up to Christmas 1996. Some processors were already using imported frozen pork. Others had difficulty filling their orders from domestic supplies and commenced importing.

Producer numbers and pigmeat production



In late 1996, high domestic pig prices and low import prices encouraged more processors to import legs of pork.

With domestic pig prices at the highest real level for the decade, and volumes of low price imports (mainly legs) increasing, the policy of some processors of not using imported pork became very expensive. As a consequence, in the latter half of 1996, one of the major pigmeat processors, who had previously agreed not to import, decided to use pigmeat from Canada.

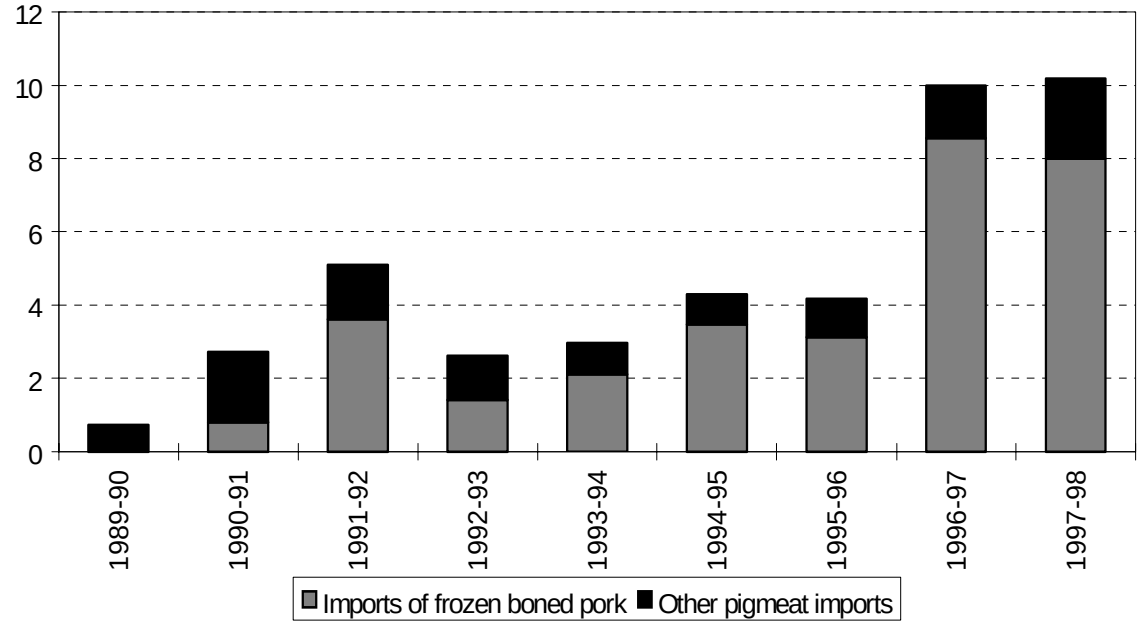
In the early months of 1997, with the price of domestic pigmeat remaining high, imports continued at high levels.

The aftermath of the 1996 surge in imports

Processors responded to the high domestic prices in 1996 by increasing their import orders for the 1997 Christmas season.

Pig farmers responded by investing to expand capacity.

Pigmeat imports (thousand tonnes on board ship)



The traditional seasonal price pattern was broken in Christmas 1997.

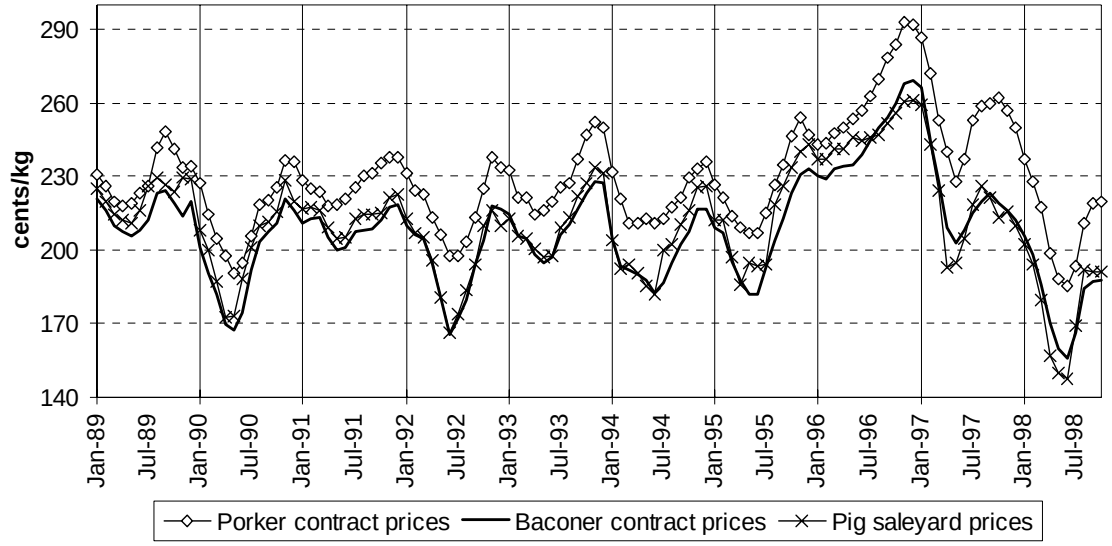
Prices fell, and continued to fall until June 1998.

As a consequence, while prices throughout most of the latter part of 1997 were not out of line with pre-1995 prices, the Christmas price increase pig farmers had anticipated turned into a price fall. Stocks of carcasses built up in cool rooms/freezers and were carried forward into 1998. When these stocks were added to an expanding domestic supply and sold in the early months of 1998 the usual seasonal softening of prices was exacerbated. Prices continued to fall until June 1998. Prices have increased since then but have not reached a level at which most pig farmers are able to cover their production costs.

Exports

At about the same time as imports exerted a significant impact on the domestic market, an important export opportunity opened up.

Pig prices (hot standard carcass weight)



An export opportunity has opened up in Japan.

Taiwan traditionally supplied a significant share of Japan's pigmeat imports. However an outbreak of foot and mouth disease in Taiwan halted that trade and presented an opportunity to Australian exporters. As a result, Australian exports of pigmeat to Japan increased from $4 million in 1996–97 to $23 million in 1997–98 and are expected to continue growing strongly. The domestic industry claims that at this time the major barrier to rapid expansion of this export market is the lack of suitable export accredited abattoir and boning facilities in Australia.

By and large, exports are differentiated from imports. Wild pigmeat accounted for a major share of exports until farmed pigmeat exports increased significantly in the last two years. Of farmed pigmeat, the major exports are of cuts other than legs, while imports are predominantly legs. The composition of this trade reflects the bias in demand in Australia towards legs for processing, as compared with many other countries.

The Future

Market dynamics have changed.

Exposure of the domestic market to import competition has changed the dynamics of the market. While seasonal peaks in demand and price may still occur, it is unlikely that Christmas peaks of past magnitudes will recur. The industry agrees that the market has changed fundamentally.

Rapid structural change is required.

The industry also agrees that further rapid structural change within the industry is required in order to take advantage of the window of opportunity provided by exports and to compete successfully with imports. A trade pattern of importing mainly legs and exporting mainly middles, shoulders and offal may develop.

Exposure to the world market will provide growers with the opportunity to divert more shoulder and middle cuts to the export market. In turn this may result in higher prices for these cuts on the domestic market.

Both domestic and export markets require a consistently high quality product.

While much of the future restructuring within the industry will have an export orientation, many participants stated that there is considerable scope to improve the product and its presentation for the local market. For both markets, pig farmers will need to be able to supply a consistently high quality product at a competitive price. The industry believes that it can do so.

Export standard abattoirs and boning rooms are essential.

New abattoir and boning rooms, accredited for the higher quality export standard, are already in the advanced planning and approval stages. Growers and processors are forming alliances for the purpose of controlling quality and costs.

Integration between pig farming, processing, and marketing will occur.

Many pig farmers, both small and large, already have the capacity or are planning to invest in capacity to increase production. The success of any one of these plans will depend to a large degree on the individual grower's ability to integrate, either formally or informally, with activities further along the production chain — such as slaughter and boning, processing, and marketing.

Successful integration with the world market is unlikely to be compatible with the current common practice of incurring a cost of up to $8 per pig (5 to 6 per cent of the sale price) to transport stock long distances (often interstate) to slaughter and boning facilities.

Safeguard action

The WTO allows for temporary safeguard action against imports

The WTO Agreement on Safeguards allows for safeguard action against imports of particular products. The purpose of safeguard action is to provide temporary assistance, and an opportunity to adjust, to an industry which is seriously injured (or threatened with serious injury), as a direct result of increased imports.

Safeguard measures, if imposed, must be liberalised progressively in order to facilitate industry adjustment to import competition.

Safeguard inquiries must follow WTO processes ...

In responding to the question of whether safeguard action is warranted against imports of certain frozen pigmeat, the Commission has been careful to conduct its inquiry process in accordance with the requirements of the WTO and to follow the procedures and apply the criteria specified in the Safeguards Agreement.

In particular, the Commission is required to:

... and apply criteria specified in the WTO Agreement.

- identify products which are like or directly competitive with the imported product;
- identify the domestic industry producing those like or directly competitive products;
- establish whether or not imports have increased;
- determine whether the domestic industry is suffering serious injury or is threatened with serious injury;
- determine whether imports are the cause of serious injury; and
- identify the measures which would remedy serious injury and facilitate adjustment.

Like or directly competitive products

The imported products in question are uncooked, frozen, boned pork cuts, the majority of which are boned legs from Canada.

The product is uncooked, frozen, boned pork cuts.

The Commission has concluded that pork produced in Australia is *like* imported Canadian pork and that imports of frozen pork cuts are *directly competitive* with dressed carcasses.

The industry

More than 90 per cent of all pigs grown either are sold under contract to downstream processors or butchers for the fresh meat market, or are produced by vertically-integrated pork producers. When sold under contract, the processor generally assumes ownership of the pig from the pig farmer after it has been slaughtered.

The industry includes pig producers and primary processors of pigmeat.

In both cases, there is no identifiable, separate domestic industry which only produces boned cuts of pork from purchased live pigs. Either pig growing, slaughtering, boning and cutting operations are tightly linked in vertically-integrated firms or independent pig growers supply carcasses to downstream processors.

In the Commission's view, imports of boneless pork can be expected to affect the demand for (and prices of) carcasses supplied by pig growers to local processors in much the same way as would imports of live swine or carcasses.

The Commission therefore has concluded that pig producers, as well as primary processors of pigmeat (that is, pig abattoirs, boning and primary cutting operations) constitute the domestic industry producing like or directly competitive products for the purposes of the inquiry.

Have imports increased?

Imports have increased significantly ...

In considering the question of whether imports have increased, the Commission has concluded that an appropriate period of time is 1995 to the present. Until 1995 imports had little impact on the domestic industry. Since then imports have increased significantly, both in absolute terms and relative to domestic production.

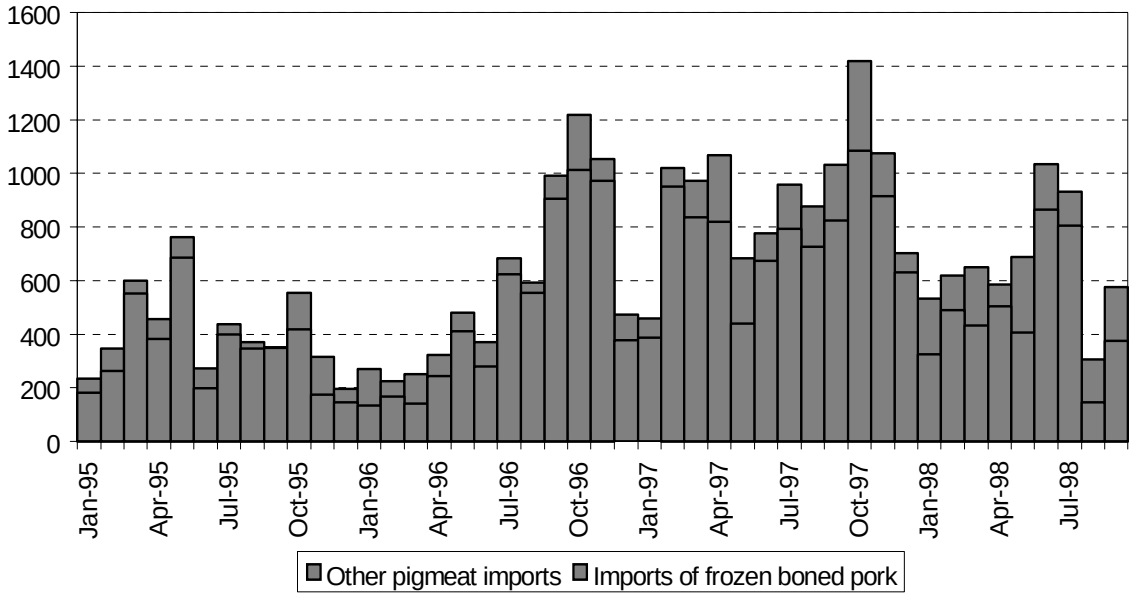
... in absolute terms ...

Imports of frozen uncooked pork increased from 3130 tonnes in 1995–96 to 8550 tonnes in 1996–97. Pigmeat imports in 1997–98 were 7990 tonnes.

... and relative to domestic production.

On a carcass equivalent basis, the market share of imports increased from less than 2 per cent to 4.4 per cent over the same time. On a boned leg basis, the share of imports increased from an estimated 6 to 8 per cent in 1995–96 to 17 to 22 per cent in 1996–97.

Monthly imports of pork(tonnes on board ship)



Serious injury

Although there are no hard and fast rules for determining serious injury, the Commission considers that for the first half of 1998, the loss of market share, decline in price and reduced profitability recorded by the industry constitute serious injury in terms of the WTO Safeguards Agreement.

Loss of market share, decline in price, and reduced profitability constitute serious injury in terms of the WTO Agreement.

As noted above, the industry as a whole has lost market share to imports. Pig prices have fallen significantly since October 1997 and in the June quarter of 1998 were well below production costs of many — probably most — pig farmers. Many pig producers reported losses for 1997–98. A Pork Council of Australia survey showed that for a sample of pig farmers, profitability fell from 7.6 per cent return on capital in 1996–97 to a negative return of 3.5 per cent in 1997–98. These results are in contrast to variable but high profits relative to all agriculture in previous years.

The cause of serious injury

Increased imports have been the dominant cause of serious injury.

The Commission has examined a wide range of factors which may have contributed to the injury described above and has concluded that increased imports were the dominant cause of low pig prices and reduced profitability. While production was increasing, it was only returning to pre-drought levels. The Commission is unable to find any other factor capable of explaining the large fall in demand for local pigmeat and consequent fall in pigmeat prices since October 1997.

The Commission engaged consultants to try to quantify, with econometric studies, the impact of imports on the domestic industry. The results of those consultancies, and of a separate study submitted by a participant, were not decisive, but were not inconsistent with the Commission's conclusion.

What safeguard measure would remedy serious injury caused by imports and facilitate adjustment?

There are several broad constraints on the form, level, and duration of safeguard action which may be applied against imports.

A safeguard measure can be a quota, a tariff quota, or a tariff.

Under the WTO Agreement on Safeguards, a safeguard measure can be applied only to the extent and for such a period of time as may be necessary to prevent or remedy serious injury and to facilitate adjustment. The period should not exceed four years, although measures may be extended for up to eight years in certain circumstances.

The Australian Government has limited possible safeguard measures to a quota, a tariff quota, or an increased level of tariff.

The form, level and duration of a safeguard measure

In considering the form, level and duration of a safeguard measure, the Commission has taken into account the current and likely future circumstances of the industry. In particular, the Commission is mindful of the fairly broad consensus in the industry that further industry adjustment is required. There is likely to be further industry rationalisation in the number of growers and consolidation of herds. There is likely to be greater integration of pig farming and processing activities, improved productivity, quality improvements, and the development of domestic and export markets and export capacity.

The peak industry body and many others requested a tariff quota.

The peak industry body, the Pork Council of Australia, has requested that a quota of 4000 tonnes (and no more than 5000 tonnes) be imposed for four years, with imports outside quota attracting a specific rate of duty of $2 per kilogram (at current price levels equating to about 50 per cent). Most submissions received from individual growers and processors proposed similar measures.

In effect, the industry requested that a quota be set at close to the level of imports in 1995–96.

The Commission does not consider that safeguard measures which reduce imports to such a low level would be appropriate. Since 1995–96 the industry has made significant progress towards operating in a more open trading environment. Turning the clock back to a time before imports and exports increased would not help further that process.

A quota would be inappropriate for this industry ...

Furthermore, the Commission considers that quantitative restrictions would be inappropriate in this industry because of the necessity to keep in touch with the continually changing world market. In addition, quota allocation invariably incurs high administrative cost, is often inequitable, and may introduce distortions within the processing industry.

... a tariff would be better.

If safeguard measures are used, the Commission's preference is for an *ad valorem* tariff which would be simple to administer, which would not completely insulate the industry from the incentives and disciplines of the world market, and which has a transparent protective effect.

If safeguard action is taken, an initial tariff of 10 per cent, phased out over two years ...

In seeking a balance between remedying serious injury and facilitating adjustment the Commission has formed the view that, if safeguard action is taken, a tariff of 10 per cent, phasing to 5 per cent after one year and to zero in two years' time would represent a suitable compromise. The Commission estimates that at present, a tariff of 10 per cent would increase the price of a baconer dressed carcass by about 4 per cent or $6. (This tariff would not apply to imports from New Zealand.)

... can be justified under the WTO criteria ...

The Commission considers that a tariff of this magnitude can be justified under the WTO safeguard criteria. It would not compensate the industry for market pressures on pig prices other than imports, nor return it to its previous state, but would provide a balance between remedying injury caused by increased imports and

facilitating adjustment.

... but may not be the best means of remedying serious injury and facilitating adjustment.

While preferring a tariff over a quota, the Commission nevertheless seriously questions whether even an *ad valorem* tariff is the most appropriate means of remedying serious injury *and* facilitating adjustment in the Australian pigmeat industry.

Industry initiatives to restructure have been taken and are supported by Government assistance.

Noting that the Terms of Reference (2(b)) do not confine "measures" to safeguard measures, the Commission is of the view that remedying injury and facilitating adjustment is better targeted by a combination of direct assistance to those forced to leave the industry and appropriate short-term assistance to facilitate an expansion in export capacity, a reduction in the impediments to exporting, and market development. The Commission notes that initiatives by the industry to promote adjustment are in place and are supported by Government assistance. The Commission is not in a position to address, in this inquiry, the general question of the adequacy of direct assistance to those who leave industries or occupations.

The effects of implementing safeguard measures

The preceding discussion has responded to the Terms of Reference for this inquiry by addressing the question of whether the WTO criteria for safeguard measures have been met and by considering what measures would offset serious injury caused by increased imports and facilitate adjustment.

The Commission's General Policy Guidelines cover broader issues.

In addition, under Part 2 Section 8 (General Policy Guidelines) of the *Productivity Commission Act 1998*, the Commission is required to have regard to a number of objectives designed to promote the regional, social, ecological, and economic goals of the Australian Government.

The Government's general procedures for safeguard inquiries also requires the Commission to report on whether safeguard measures, which may be justified under the WTO criteria, should be implemented.

The following discussion of the likely effects of implementing safeguard action is provided in the context of these broader considerations.

Effects on pig farmers

A tariff would raise pigmeat prices ...

A tariff on imports of frozen boned pork from Canada would directly raise import prices and in so doing indirectly raise the price of Australian produced pigmeat.

... and reduce the market share of imports.

A tariff would also increase the share of the market supplied by domestic production and reduce the share supplied by imports.

These basic effects on an industry-wide basis, would not necessarily be enjoyed uniformly across individual pig farmers. The distribution of benefits within the industry would be determined by a multitude of factors including competition between domestic producers for market share, and individual processor demand for various quantities and qualities of pigmeat.

But any individual pig farmer would not necessarily sell more pigmeat.

The pig farming industry already has sufficient capacity to expand production should that be warranted by market circumstances. Any individual pig farmer would not necessarily be able to sell more pigmeat, but all would benefit from the price effect of a tariff.

Effects on processors and consumers

Processors' input costs would increase, as would consumer prices.

A tariff on imported pork, which raised the price of domestic pigmeat, would increase costs to processors. To the extent that these costs are transmitted to consumers through higher end-product prices, the demand for processed pigmeat would decline, which would in turn

have an adverse effect on processors.

A further implication for processors is that they would be less competitive with potential imports of processed product. Such imports can now occur as protocols for the tariff free import of cooked pigmeat from Canada were agreed to in 1997.

Effects on employment

A tariff may slow, but not reverse, the decline in industry employment.

Employment in pig farming has for many years been declining in concert with industry rationalisation and despite increases in production. A tariff may slow that rate of employment loss, but would not stop or reverse the decline. A tariff could reduce employment in the pigmeat processing sector if the demand for processed pigmeat declines.

Effects on industry adjustment

As in some major pig producing countries, the industry has a long and continuing history of adjustment. Prior to 1990, that adjustment occurred in an environment protected from import competition and reflected mainly rationalisation in response to cost pressures and changes in pig farming technology.

Integration into the world market, through both imports and exports, has added a further dimension to those adjustment pressures. The pressures were evident prior to the surge in imports and were manifest in plans to improve slaughtering and boning facilities in order to service an expanding export market.

A tariff would not promote an export orientation ...

A tariff would not facilitate the necessary early adjustment to an export orientation. Indeed, it could delay the process by making the domestic market relatively more attractive than exports, and making those abattoirs focussing on exports less competitive.

... but other measures might.

While a tariff would provide some marginal producers with more time to adjust to the new market environment, measures targeted directly at achieving adjustment towards enhanced export capacity and competing with imports are more likely to encourage development in the form envisaged by industry representatives.

Regional effects

Pig farms are distributed widely throughout Australia but are concentrated in the major grain-growing areas. Regional effects of industry adjustment, whether induced by imports or rationalisation, will in future be determined mainly by the way in which alliances between pig farmers, processors, and retailers are developed, and by the geographic location of major export accredited abattoir and boning facilities.

Regional adjustment will occur whether or not imports are restrained.

In the context of an industry required to adjust rapidly to an export orientation, the overall effect of a tariff on regional adjustment would be small: adjustment will occur whether imports are restrained or not. Nevertheless, for those regions which may be adversely affected in any event, a tariff may facilitate a slower adjustment process.

Trade effects

Broader trade implications need to be considered.

Safeguard action is consistent with the WTO Agreement. However, Australia needs to consider implications for its other international trading arrangements. Three considerations are important in this regard.

First, the WTO Agreement on Safeguards requires a Member proposing to apply a safeguard measure to endeavour to "maintain a substantially equivalent level of concessions and other obligations to that already existing between it and affected exporting Members". If agreement is not reached on such compensation,

exporting countries can respond in kind (by withdrawing access to a concession under the WTO) but only after a safeguard measure has been in place for three years.

Second, the Queensland Sugar Council and Queensland Department of Primary Industries expressed concern for the preservation of Canadian preferences for Australian sugar. The Pork Council of Australia objected to this stance. The reduction of existing preferences for trade between Canada and Australia is *not* constrained by WTO agreements, as assumed by some participants, but by CANATA (Canada-Australia Trade Agreement).

Third, implications for Australia's open trading credentials need to be considered in the context of the next round of WTO negotiations. The Australian Government has identified agriculture as one of the principal areas capable of providing benefits to Australia.

Findings

The Commission finds that, in accordance with the WTO Agreement on Safeguards:

- the domestic industry producing like or directly competitive products comprises pig producers as well as producers of primal pork cuts (that is, specialist pig abattoirs and boning room operators);
- imports of frozen, boned pork under tariff sub-heading 0203.29 (statistical code 12) have increased in absolute terms and relative to production;
- the industry has suffered and is suffering serious injury as the result of producer prices consistently and appreciably below average production costs during 1998, leading to significantly reduced profitability for most pig producers;
- serious injury during 1998 has been caused primarily by increased imports which have driven down the price of that part of the pig (legs) which traditionally has delivered a premium to local producers; and
- safeguard measures can be justified under the WTO criteria. The Commission considers that an *ad valorem* tariff (on imports under tariff sub-heading 0203.29, excluding imports from New Zealand) of 10 per cent, phasing to 5 per cent after one year, and to zero after two years, if implemented, would achieve a reasonable balance between the WTO twin requirements of remedying the serious injury attributable to increased imports and facilitating industry adjustment. Quantitative measures would not be appropriate for this industry because they would obscure international price signals, while a higher level of tariff could slow the required adjustment unnecessarily.

The Commission also notes that:

- a safeguard measure would not of itself promote adjustment or exports;
- measures that directly promote industry restructuring and an export focus, while providing assistance to those leaving the industry, might be more appropriate than safeguard measures. Various support measures are already in place;
- import restrictions will raise the price of inputs to the smallgoods manufacturing sector, with possible adverse effects on that industry, and increase consumer prices;

- any import restriction on imports of *frozen* pork under sub-heading 0203.29 has the potential to be undermined by imports of *chilled* pork cuts from Canada or Denmark under tariff sub-heading 0203.19; and
- it has no wish to speculate on the question of any response by the Canadian Government. However, the reduction of existing preferences for trade between Canada and Australia is *not* constrained by WTO agreements, as assumed by some participants, but by CANATA.

The Commission finds that the following factors will have a significant influence on the profitability and competitiveness of the pig farming and pigmeat processing industry:

- the price of feed – including the effect of single desk selling of grain exports;
- access to genetic material and vaccines;
- product quality and presentation on both domestic and export markets;
- export standard abattoir and boning room capacity;
- the extent of integration with world markets and with world prices for pigmeat and by-products; and
- links between pig farming, pigmeat processing, and marketing.

The profitability and competitiveness of individual pig farmers will depend also on their access to export standard processing facilities and their links into the pigmeat processing and marketing chain.

1 Introduction

1.1 The Australian pig and pigmeat industries

The Australian pig and pigmeat industries consist of a series of linked sectors: pig farming, which produces pigs; meat processing, 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.

Pig farming is a relatively small sector of agriculture in Australia. In 1996–97, value added in pig farming accounted for just 2 per cent of farm gross product and one twentieth of 1 per cent of Australian GDP (ABARE 1997). The pig and pigmeat processing industries as a whole account for about one tenth of 1 per cent of Australian GDP.

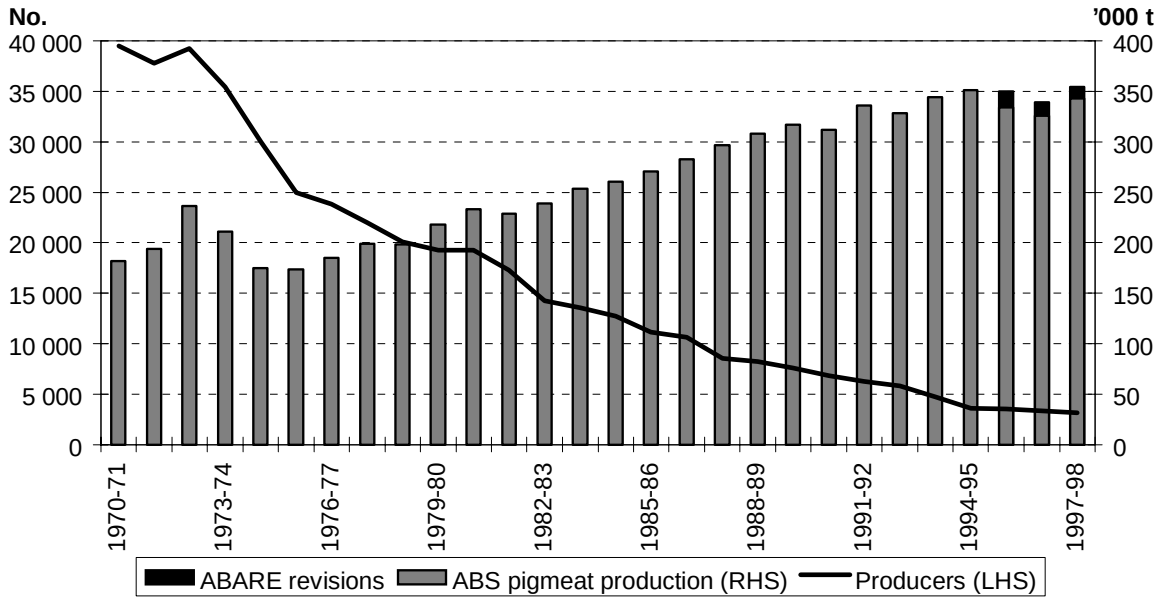
It is estimated that there were 3340 owner/producers and 2140 full-time, part-time and casual employees in pig farming in 1996–97. This is estimated to translate to between 3000 and 3500 full-time jobs, reflecting part-time employment as well as the mixed nature of many small pig-farming businesses. An additional 3000 people are employed in pigmeat processing and over 6000 people are employed in bacon, ham and smallgoods manufacturing (ABS Cat. No. 8221.0).

Unlike many of Australia's rural industries, pig and pigmeat production has not been export oriented. However, there is evidence of this changing as the industry becomes exposed to world markets. In 1997–98, the industry exported around 6 per cent of domestic production, double the previous year.[1]

The pig farming and pigmeat processing industries have been undergoing substantial structural change for several decades. Between 1970–71 and 1997–98, the number of pig producers fell from around 40 000 to fewer than 3200 — about 200 owner/producers left the industry in 1997–98. Over the same period, the average herd size and productivity of the industries increased significantly, with pigmeat production almost doubling (see figure 1.1).

1 Excluding wild pigmeat, on a carcass weight equivalent (cwe) basis.

Figure 1.1 **Producer numbers and pigmeat production**[a]



a 1995-96 to 1997-98 includes ABARE revised figures to correct for apparent under-reporting to the ABS in those years.

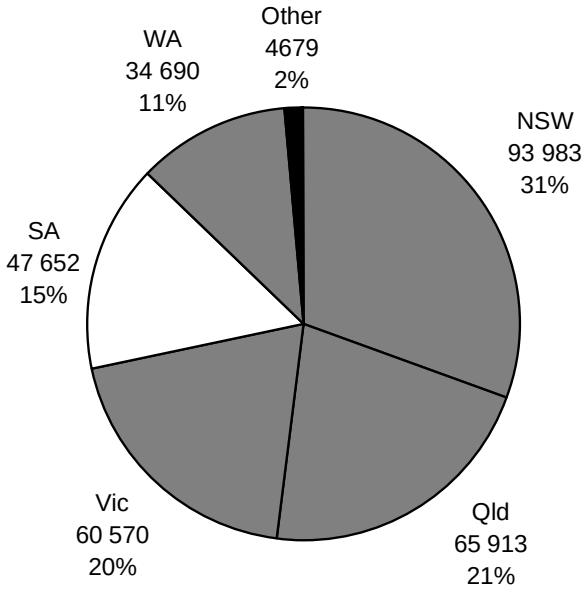
Source: ABS (Cat. No. 7215.0 and unpublished data) and ABARE (1998).

Pig herds are concentrated in Australia's major grain growing areas. In 1997–98, New South Wales had the largest number of breeding sows, followed by Queensland and Victoria (see figure 1.2). Queensland had the highest number of large producers (over 400 sows per herd) including 10 with over 1000 sows. However, Victoria had the highest average herd size.

Some of the large producers are vertically integrated, having expanded from a base of stockfeed manufacturing, or from slaughtering and manufacturing activities. There is significant foreign investment in these integrated businesses.

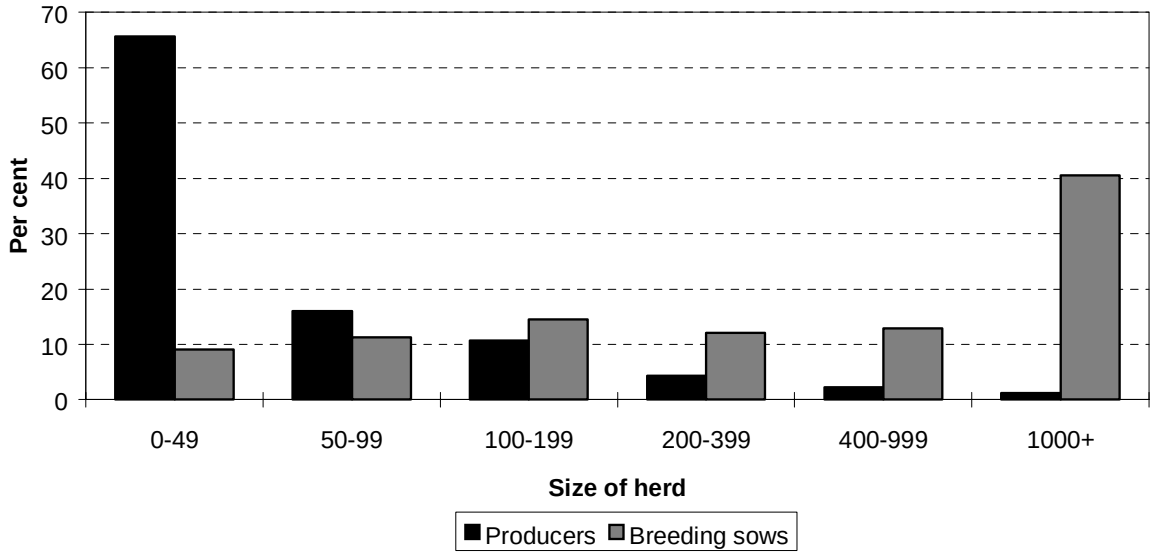
Despite ongoing rationalisation in the industry, there remains a large number of small non-specialist producers. (Producers with fewer than 100 sows are generally considered to be non-specialist.) The 81 per cent of pig producers that have fewer than 100 sows have 21 per cent of Australia's breeding stock. In contrast, over 40 per cent of breeding sows are owned by the 1 per cent of producers with over 1000 sows (see figure 1.3).

Figure 1.2 **Distribution of breeding sows, by State, June 1998**



Source: APC (unpublished data).

Figure 1.3 **Distribution of producers and breeding sows by herd size, June 1998**



Source: APC (unpublished data).

1.2 Background to this inquiry

Prior to 1990, the only imports of pigmeat allowed were canned hams. In 1990, quarantine prohibitions on the import of pigs and pigmeat were revised to permit imports of *frozen, uncooked* pigmeat from Canada. These regulations were strengthened in 1992, requiring imported frozen pigmeat to be boned prior to shipment and to be used for processing (that is, either cooked or fermented) in Australia.

Since October 1997, imports of *cooked* pigmeat from Canada and *uncooked* pigmeat from Denmark (under the same conditions as uncooked Canadian pigmeat) also have been permitted. Apart from uncooked and cooked pigmeat from Canada, uncooked pigmeat from Denmark, some uncooked product from New Zealand, and cooked, canned hams, quarantine restrictions currently prohibit imports of pigmeat.

Imports of uncooked pigmeat enter duty-free, and this zero rate has been bound under the World Trade Organization (WTO) since 1 January 1995.

In 1997–98, imports from Canada accounted for about 80 per cent of the value of pigmeat imports. Imports of uncooked pigmeat from the South Island of New Zealand, and imports of cooked, canned pigmeat accounted for the remaining 20 per cent.

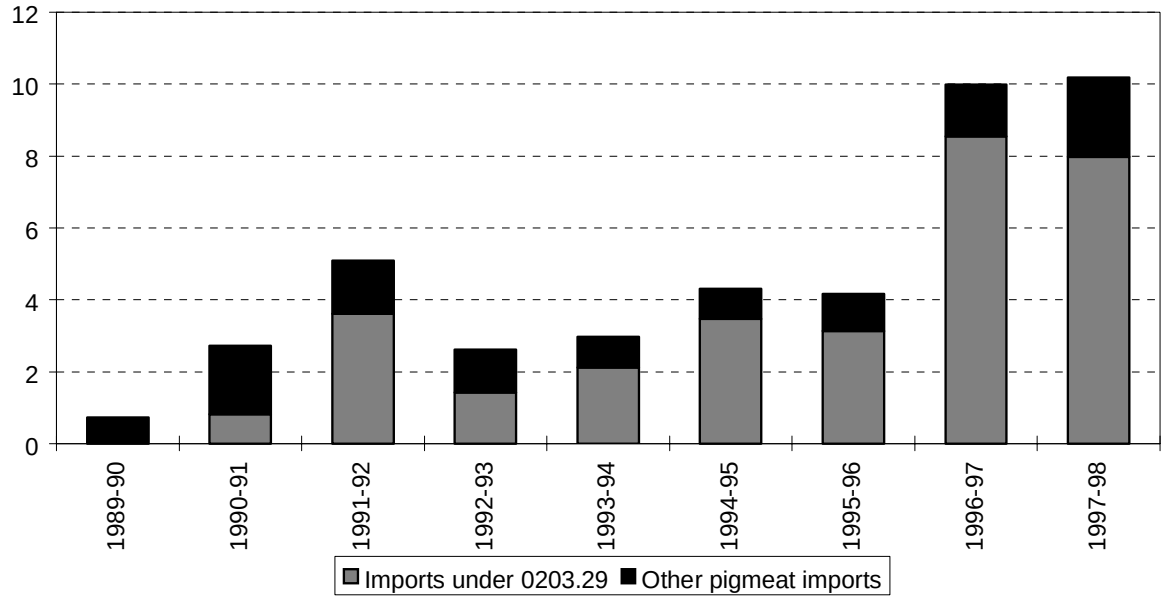
There have been several reports on the industries in recent years including a research report by the Industry Commission in 1995 (IC 1995a) and an anti-dumping and countervailing duty investigation by the Australian Customs Service (ACS 1992), subsequently reviewed by the Anti-Dumping Authority (ADA 1993). As with the current inquiry, these reports were prompted by industry concerns about the impact of imports of frozen pork.

Imports of frozen pork began in 1990 and settled at a level of around 3000 tonnes per year until mid-1996. In 1996–97, imports of frozen, boned pork more than doubled to 8500 tonnes. Other pork imports (predominantly imports of canned hams) remained fairly steady at about 1000 tonnes per year until 1996–97 but have doubled in 1997–98 (see figure 1.4). After lower levels of pigmeat imports during the first half of 1998, imports increased in June before falling again in August and September.

This inquiry was foreshadowed on 10 June 1998 by the Deputy Prime Minister and Minister for Trade, and Minister for Primary Industries and Energy (Fischer and Anderson 1998), as part of an assistance package designed to improve the competitiveness of the domestic pig farming and pigmeat processing industry.

Figure 1.4 **Imports under tariff sub-heading 0203.29 and total pigmeat imports**

Kilotonnes on board ship



Source: ABS (unpublished data).

The package augmented a 1997 initiative to establish a National Pork Industry Development Program. The program aims to assist the pig production and processing sectors to meet import competition and to seek new export opportunities. In addition to the current inquiry by the Productivity Commission, the Government also announced a benchmarking study of the industry and a survey of export opportunities.

1.3 Scope of this inquiry and report structure

The Commonwealth Government has asked the Productivity Commission to report on whether safeguard action, in accordance with the WTO Agreement on Safeguards, is warranted against imports of certain frozen pigmeat. Safeguard measures provide temporary assistance (up to four years), and an opportunity to adjust, to an industry suffering serious injury (or threatened with serious injury) as a result of increased imports.

It should be noted that the Terms of Reference did not ask the Commission to make a preliminary determination regarding application of *provisional* safeguard measures.[2]

The Commission also has been asked to report on factors affecting the profitability and competitiveness of the domestic pig farming and pigmeat processing industries.

Chapters 2 to 6 of this report are concerned with the first part of the reference — that is, the safeguards inquiry. As spelt out in chapter 2, this part of the report necessarily follows the criteria set out in the WTO Agreement on Safeguards.

Chapters 7 and 8 provide a broader analysis of factors affecting the profitability and competitiveness of the local industry.

1.4 Conduct of the inquiry

On 26 June 1998, the Commission received the Terms of Reference for this inquiry into imports of uncooked pork and the profitability and competitiveness of the pig and pigmeat industries. The reference directed the Commission to report by 13 November 1998.

As required by the WTO Agreement on Safeguards, and in line with normal Commission procedures, the Commission encouraged maximum public participation in this inquiry. In early July, advertisements were placed in the national press and a circular was sent to a range of individuals and organisations thought likely to have an interest in the inquiry. An issues paper was released in mid-July to assist participants in preparing their submissions. In total, 67 submissions were received (appendix A, table A.1). All non-confidential submissions (or non-confidential parts of submissions) were made available on the internet, at Commission and State libraries and from Expo Document Copy Centre.

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[2] The WTO Agreement on Safeguards (Article 6) allows imposition of provisional safeguard measures (for up to 200 days) while a full inquiry takes place to determine whether safeguard measures are warranted. Before provisional measures can be imposed, however, there must be a preliminary determination that there is clear evidence that increased imports have caused or are threatening to cause serious injury, and moreover, where it can be shown that "delay would cause damage which it would be difficult to repair". The Commonwealth Government's procedures for safeguard inquiries (Clause 16 — see appendix B) provide that "a reference can also be made to the Commission for an accelerated report to determine whether critical circumstances exist where delay in applying measures would cause damage which it would be difficult to repair". In other words, the Commission can be requested to make a determination regarding provisional safeguard measures. The Terms of Reference for this inquiry did not ask the Commission to make such a determination.

The Commission also held informal discussions with organisations, companies and individuals to seek information and discuss the effects of pigmeat imports. A list of those visited by the Commission is set out in table A.2.

In August, the Commission held public hearings in Brisbane, Sydney and Melbourne. Public hearings gave participants an opportunity to foreshadow and/or elaborate on their submissions. Due to the lateness of the submission from the peak industry body, the Pork Council of Australia, the Commission considered it necessary to hold another public hearing in early October. All parties thus were given an opportunity to respond to this (and some other) late submissions. In total, 13 individuals and organisations gave evidence (table A.3). Transcripts of the hearings were made publicly available on the internet, at Commission and State libraries or through Expo Document Copy Centre.

The Commission engaged two consultants to assist its assessment of the impact of increased imports on the domestic industry. In addition, an independent academic referee was appointed to evaluate both studies (as well as econometric analysis submitted by participants). In October 1998, the Commission held a public workshop to discuss the results of these two models. More than 20 people attended the workshop.

Professor Richard Snape was Presiding Commissioner for this inquiry.

2 What is safeguard action?

2.1 The World Trade Organization Agreement on Safeguards

Article XIX of the General Agreement on Tariffs and Trade (GATT 1994) allows for emergency action (or safeguard action) against imports of particular products. Essentially, safeguard measures are designed to provide temporary assistance, and an opportunity to adjust, to an industry found to be suffering serious injury (or threatened with serious injury), as a direct result of increased imports. There is no requirement to demonstrate that the increased imports are dumped or subsidised.

The Uruguay Round of Multilateral Trade Negotiations resulted in a new Agreement on Safeguards which interprets and elaborates Article XIX (see box 2.1).

A major feature of the new Agreement is its proscription of a range of negotiated trade restrictions including voluntary export restraints (VERs). Such arrangements had proliferated in the 1970s and 1980s, contravening the spirit, if not the letter, of the GATT.

Box 2.1 **Article XIX and the 1994 Agreement on Safeguards**

The World Trade Organization (WTO) Agreement on Safeguards interprets and elaborates Article XIX of GATT 1994. Some provisions of the Agreement are worded differently to the Article. For example, Article XIX stipulates that emergency action is permissible only where the increase in imports (and consequent serious injury) is due to *unforeseen developments*. The 1994 Agreement is silent on this point.

Where there is conflict between an Article of GATT 1994 and a Uruguay Round (WTO) Agreement, the provisions of the Agreement take precedence to the extent of the conflict (Agreement Establishing the WTO, General interpretative note to Annex 1A). The issue is less clear when requirements specified in GATT 1994 are not altered, repeated or referred to in a relevant Agreement. The Commission has addressed this matter where it considers it is appropriate to do so.

The new Safeguards Agreement allows importing countries to take safeguard action against increased imports in certain circumstances, while outlawing less transparent,

negotiated trade-limiting arrangements, such as VERs. It sets out rigorous and transparent procedures and criteria for the imposition of safeguard measures, including a requirement for public hearings and admittance of evidence for consideration of the public interest. Major provisions of the Agreement are summarised in box 2.2. As a member of the WTO, Australia is bound by the Agreement.

In essence, safeguard action is intended to provide a breathing space for industries and to facilitate adjustment to increased competition from imports. Safeguard measures, if imposed, must be liberalised progressively in order to facilitate industry adjustment to import competition. They can be put in place for a maximum of four years, but can extend for up to eight years if circumstances are such that action is still warranted.

In order to maintain a substantially equivalent level of WTO concessions and other obligations to affected WTO Members, a country imposing safeguard measures may offer "adequate means of trade compensation" to affected exporting countries. If agreement is not reached on such compensation, exporting countries are given an opportunity to suspend "substantially equivalent" concessions or obligations under GATT 1994 either after measures have been in place three years, or immediately if safeguard action is taken against imports which have not increased in absolute terms.

Disputes arising from application of safeguard measures are subject to WTO dispute settlement procedures.

2.2. General procedures for safeguard inquiries

The WTO Agreement on Safeguards states that "a Member may apply a safeguard measure only following an investigation by the competent authorities of that Member pursuant to procedures previously established and made public in consonance with Article X of GATT 1994".[1]

The Commonwealth Government has established general procedures for safeguard inquiries by the Productivity Commission, consistent with Australia's obligations under the WTO Agreement. These gazetted procedures are reprinted in full in appendix B.

[1] Article X sets out general requirements for the publication and administration of trade regulations.

Box 2.2 **Summary of the WTO Agreement on Safeguards**

- Safeguard measures may only be applied where 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 a domestic industry producing like or directly competitive products. Measures cannot discriminate between countries (except where a preferential agreement is in place) unless, where a quota is imposed, it can be shown that increased imports from one country are disproportionately high;
- measures may only be applied after a full investigation by a competent authority. Reasonable public notice must be given with the opportunity for all interested parties to attend public hearings or be given other appropriate means of presenting evidence and views. Interested parties must be given an opportunity to respond to the representations of other parties, in particular, as to whether or not they consider application of a safeguard measure would be in the public interest;
- "serious injury", "threat of serious injury", "industry" and factors which must be evaluated in the investigation to determine whether serious injury has been caused or threatened, are spelt out;
- it must be demonstrated that increased imports have caused serious injury. Moreover, if factors other than imports are causing injury simultaneously, such injury must not be attributed to imports;
- safeguard measures, if applied, must only remedy or prevent the serious injury attributable to imports and facilitate adjustment. Measures must be liberalised progressively. Measures can include tariffs and quantitative restrictions;
- safeguard measures are limited to four years, but may be extended to eight years if it can be shown that continuation of measures is required to prevent serious injury, and provided there is evidence the industry is adjusting;
- if measures are applied for more than three years, they must be reviewed mid-term and, if appropriate, withdrawn or liberalised more rapidly;
- the country applying the measures must "endeavour to maintain a substantially equivalent level of concessions and other obligations … between it and the exporting Members which would be affected by such a measure … Members may agree on any means of trade compensation for the adverse effects of the measures on their trade." If an agreement on this matter is not reached, the exporting country can unilaterally suspend application of substantially equivalent concessions (in other words, respond in kind). However, this right can only be exercised by the exporting nation if a safeguard measure has been in place three years, or if safeguard measures are imposed against imports which have increased relative to domestic production but which have not increased in absolute terms; and
- safeguard measures cannot be applied against imports from a developing country unless its share of imports of the product exceeds 3 per cent of total imports, or unless imports from developing countries in aggregate account for more than 9 per cent of all imports.

The Canadian Government (sub. 34, pp. 2–3) has expressed a concern that, because the gazetted procedures do not replicate in full the provisions of the WTO Agreement on Safeguards, and because they have not been enacted as law, the status of the Gazette is unclear, leaving open the possibility of non-compliance with the Agreement. The Commission notes this line of argument.

While the Gazette summarises some parts of the WTO Agreement and the Terms of Reference for this inquiry refer to the Gazette, the Gazette also states that the Commission must comply with the 1994 WTO Agreement when conducting safeguards inquiries. All the relevant parts of the Agreement therefore are binding on the Commission.

Under the Terms of Reference for this inquiry, the Commission is required (a) to report on whether, in accordance with the procedures published in the Gazette, the circumstances are such that safeguard measures would be justified under the WTO Safeguards Agreement and (b) if so, what measures would be necessary to prevent or remedy serious injury and to facilitate adjustment.

As outlined in the Gazette, safeguard measures are justified only after a public inquiry which demonstrates that increased imports (in absolute terms or relative to production) have caused, or are threatening to cause, serious injury to the domestic industry.

Under WTO safeguard procedures *serious injury* is defined as a significant overall impairment in the position of the domestic industry while *threat of serious injury* means serious injury that is clearly imminent. The *domestic industry* means the producers as a whole of *like* or *directly competitive* products operating in Australia, or those whose collective output of like or directly competitive products constitutes a major proportion of total domestic production.

In determining whether increased imports have caused or are threatening to cause serious injury to a domestic industry, the Commission must evaluate all relevant factors of an objective and quantifiable nature, in particular, the rate and amount of the increase in imports in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilisation, profits and losses and employment. In addition, a causal link between increased imports and serious injury must be demonstrated.

Part (b) of the reference requires the Commission to determine which measures would be necessary to remedy serious injury caused, or threatened by, increased imports, and to facilitate adjustment. Safeguard measures might include tariffs, tariff-quotas or quotas, though quotas normally should not reduce imports below their average level for the last three years. It should be noted, however, that the

reference apparently does not limit the Commission's consideration to *safeguard* measures. Thus, the Commission could consider alternative measures which address the injury issue and promote industry adjustment.

Other views

The reference for this inquiry is made under Parts 2 and 3 of the *Productivity Commission Act 1998* (PC Act). Thus, as in all its inquiries, the Commission is required to have regard to the general policy guidelines outlined in Part 2 of the PC Act. These are reprinted in box 2.3. The guidelines give prominence to the need to improve the overall performance of the economy as a means of raising living standards for all Australians.

In addition, the WTO Safeguards Agreement requires that interested parties be given an opportunity to put their views, including "… whether or not they consider application of safeguard measures would be in the public interest".

Box 2.3 Section 2.8 of the PC Act: general policy guidelines for the Commission

In the performance of its functions, the Commission must have regard to the need:

(a) to improve the overall economic performance of the economy through higher productivity in the public and private sectors in order to achieve higher living standards for all members of the Australian community; and

(b) to reduce regulation of industry (including regulation by the States, Territories and local government) where this is consistent with the social and economic goals of the Commonwealth Government; and

(c) to encourage the development and growth of Australian industries that are efficient in their use of resources, enterprising, innovative and internationally competitive; and

(d) to facilitate adjustment to structural changes in the economy and the avoidance of social and economic hardships arising from those changes; and

(e) to recognise the interests of industries, employees, consumers and the community, likely to be affected by measures proposed by the Commission; and

(f) to increase employment, including in regional areas; and

(g) to promote regional development; and

(h) to recognise the progress made by Australia's trading partners in reducing both tariff and non-tariff barriers; and

(i) to ensure that industry develops in a way that is ecologically sustainable; and

(j) for Australia to meet its international obligations and commitm ents.

3 Participants' views

This chapter briefly summarises the evidence submitted to the Commission by the industry peak body, the Pork Council of Australia (PCA), as well as submissions from individual pig growers, abattoir operators and processors, in support of safeguard action. It also summarises evidence submitted by participants opposing the industry's claims.

3.1 Submissions received

Appendix A lists submissions received by the Commission, visits made and those who participated at hearings. Sixty-seven submissions were received. Of these, 61 put an 'industry' view though not all supported safeguard measures. Forty submissions were received from pig producers and/or processors, nine from producer organisations, three from input suppliers to the industry, and nine from State governments or politicians. Six submissions were received from importers, domestic and foreign exporters and foreign governments.

The industry peak body, the PCA, represents pig producers and processors responsible for around 75 per cent of total domestic production. The PCA commissioned a survey of its members for this inquiry. The survey covered 198 pig growers representing an estimated 36 per cent of domestic production. The Commission received submissions from pig producers of varying size — nine from producers with fewer than 200 sows, ten from producers with 200–499 sows, two with 500–999 sows and nine with more than 1000 sows (including four of the largest pig farming-*cum*-processing operators in the country). Altogether, the Commission estimates that submissions (excluding the PCA submission) were received from producers who own more than a third of all sows in Australia.

3.2 The industry's case

3.2.1 The Safeguards Agreement

With regard to the criteria required for safeguard action, the PCA submission (sub. 55) claims that:

- the 'industry' for the purposes of this inquiry comprises producers of pigmeat and the processors of pigmeat, excluding manufacturers of pork smallgoods. This definition is justified by the pattern of ownership of pigmeat and the fact that the price received for boned legs affects the price paid for a carcass;
- imports have increased both in absolute terms and relative to production since 1995–96. It is also claimed that imports are likely to increase further in 1998–99;
- the industry has and is suffering serious hardship. The results of the survey are discussed in more detail in chapter 4, but the main findings were that in 1997–98 profits had fallen substantially while losses had increased substantially; employment had fallen and indebtedness to feed suppliers had increased significantly. Poor profitability was due to producer prices below the costs of production;
- primary processors (including Auspork, Bunge Meat Industries and Darling Downs Bacon) also had suffered serious injury;
- increased imports of frozen, boned legs had been the major cause of lower prices and thus the major cause of serious injury. Ninety-two per cent of survey respondents considered that import competition was the chief cause of injury. The impact of imports on domestic pigmeat prices was supported by analysis conducted by Purcell and Harrison (see sub. 49, appendix 2); and
- serious injury could not be attributed to domestic over-supply, weather conditions, changes in consumer preferences, lower productivity, higher costs, or lower prices for substitute products (especially other fresh meats).

Submissions from individual producers argued along similar lines.

3.2.2 Safeguard measures

The PCA requested immediate application of provisional safeguard measures — a tariff of 200c/kg. Thereafter, imports (under tariff sub-heading 0203.29) should be limited to 4000 tonnes per year (at the bound zero rate of duty) for four years, although a quota of 5000 tonnes would be acceptable. Imports in excess of this quota allocation would attract a duty of 200c/kg. (This out-of-quota rate, which

represent an *ad valorem* tariff of more than 50 per cent for a full leg and around 40 per cent for a higher-valued 3-piece leg, would be prohibitive.)

The PCA based the quota on the level of imports in the period immediately prior to the increase in the second half of 1996. The Commission estimates that a quota of 4000 tonnes per year would translate roughly to an *ad valorem* tariff of 25 per cent at the price of imports extant at October 1998, a quota of 5000 tonnes to a tariff of around 20 per cent.[1]

Most submissions from producers supported a quota of 5000 tonnes per year for four years with an out-of-quota duty rate of 200c/kg. (see, for example, subs 15, 16, 21, 28, 29, 30, 31, 32, 33, 37 and 48). There were some variations — for example, some submissions argued that within-quota imports should attract a duty equivalent to the levy paid by domestic producers to the Australian Pork Corporation and Pig Research and Development Corporation for pig industry marketing, research and development (see sub. 14). Very few proposed progressive liberalisation of the quota (subs 35 and 48 were exceptions). As an alternative, one participant (sub. 51) suggested a specific rate of duty of 150c/kg to apply to all imports.[2] One producer (sub. 61) did not regard safeguard measures as the most appropriate way of assisting the industry. Other submissions were noncommittal (for example, subs 57 and 66).

3.2.3 Adjustment proposals

The PCA did not propose progressive liberalisation of safeguard measures. Nor did it set out a clear picture of how it envisaged the industry would adjust so as to be in a better position to compete with imports when safeguard measures were removed. The PCA did claim, however, that safeguard measures were required to stabilise the domestic industry and to provide a climate of commercial stability, thus allowing "the industry to become more competitive and export oriented, which is where we believe the longer term future lies" (sub. 55, p. 33). In particular, the PCA put the view that market stability was a pre-requisite for investment in export capacity.

Similar arguments were put by several participants (for example, subs 39, 48 and 51). Some participants observed that adjustment would necessitate some producers leaving the industry (for example, subs 48, 57 and 61). Most submissions from individual pig producers stressed the need for greater certainty with respect to the volume of imports in order to facilitate 'orderly adjustment'.

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1 These estimates are highly sensitive to the market share of imports.

2 This is estimated to translate to an *ad valorem* tariff of about 40 per cent for full legs and 30 per cent for 3-piece legs at current prices.

3.3 The opposing case

The Canadian Government, the Canadian Pork Council and Canadian Meat Council made submissions (subs 4, 8, 34 and 43) and presented evidence (trans., pp. 103–15, 186–93) that claimed that safeguard action was not warranted. Their major grounds for opposing the industry's claims were that:

- pig producers could not be regarded as producers of products which were like or directly competitive with imports;
- domestic processors (abattoir and boning room operators) were not suffering serious injury due to increased imports;
- while imports had increased somewhat they still represented only a small share of total pigmeat production and, moreover, import volumes had declined in 1998; and
- difficulties being experienced by pig farmers were attributable to factors other than imports including lower beef prices, market power of downstream processors, high costs, increased domestic production and lower consumption.

3.4 Other interested parties

Under the World Trade Organization Agreement on Safeguards and the general procedures for safeguard inquiries set out by the Australian Government (see appendix B) interested parties must be given the opportunity to present their views including their views as to whether or not safeguard measures would be in the public interest.

A submission was received from the Queensland Sugar Corporation (sub. 19) exploring the potential repercussions on Australia's sugar exports to Canada. (The views in this submission were hotly disputed by the PCA (see sub. 67).) Some other participants, though sympathetic to the pork industry's position (for example, the NSW Farmers' Association, sub. 13), raised broader issues relating to Australia's position on multilateral trade liberalisation. The Department of Primary Industries Queensland (sub. 49, p. 11) also urged that any measure imposed "should not put at risk international trading arrangements for any of our other primary products".

4 The effect of imports on the industry

This chapter addresses part 2(a) of the Terms of Reference for this inquiry. Specifically, the Commission is required to report on whether, in accordance with the World Trade Organization (WTO) safeguard investigation procedures published in the Gazette of S297 of 25 June 1998, circumstances are such that safeguard measures would be justified under the WTO agreement.

4.1 Goods under reference

The goods under review are frozen pork falling within tariff sub-heading 0203.29 (statistical code 12) of the Australian Customs Tariff (see appendix C). This sub-heading covers imports of frozen pork other than carcasses and half carcasses, and other than hams, shoulders and cuts of pork, with bone in. In other words, it covers frozen, boned cuts (including legs, middles, loins and shoulders) of pork.

From mid-1990 until October 1997, there were only two sources of imports falling within this tariff sub-heading — Canada and the South Island of New Zealand. In October 1997, Denmark received approval to export uncooked pork under the same quarantine conditions as Canada (see appendix F). However, there have been no imports of frozen, uncooked pork from Denmark. Under the provisions of the ANZCERTA and as stipulated in the general procedures for the conduct of safeguard inquiries by the Commission (see appendix B), imports of New Zealand origin must be excluded from any safeguards inquiry.

Thus, in effect, the imports under consideration in the safeguard inquiry are imports of frozen, boned pork from Canada, falling within tariff sub-heading 0203.29. This tariff classification captures virtually all imports of uncooked pork from Canada.[1]

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1 Between 1990 and 1992 imports from Canada of frozen pork with bone in were permitted. Quarantine requirements were tightened in 1992 requiring all Canadian imports to be boned prior to entry and then processed on arrival in Australia. In May 1996, a new protocol was agreed with Canada to allow imports of uncooked, *un*frozen pigmeat provided the meat was subsequently cooked in Australia. Official data show that around 150 tonnes of pigmeat have been imported under this protocol in total (under tariff sub-heading 0203.19). In October 1997, Canada was granted AQIS approval to export *cooked* pork to Australia (see appendix F). There have been no imports under this protocol as yet.

Imports of frozen pork enter free of duty and this zero rate has been bound under the WTO since 1 January 1995.

4.2 Defining 'like' and 'directly competitive' products and the 'domestic industry'

As already noted, there are two sources of imports under tariff sub-heading 0203.29 — New Zealand and Canada. Imports from New Zealand have accounted for 3 tonnes, or around 0.00015 per cent of imports in this category in the past three years. Imports from Canada comprise mainly boned legs (between 80 and 100 per cent of such imports) which are (and, under quarantine requirements, must be) subsequently processed to become hams and smallgoods in Australia.[2] Any other parts such as middles and shoulders also must be processed locally.

4.2.1 Interpreting the WTO requirements

The WTO Agreement on Safeguards defines the 'domestic industry' as comprising the producers as a whole of like or directly competitive products, or those whose collective output constitutes a major proportion of the total domestic production of those products. Thus the first step in this inquiry is to establish which domestically-produced goods are *like*, or *directly competitive* with, imported pork.

The Agreement on Safeguards is one of a number of Agreements concluded during the Uruguay Round of Multilateral Trade Negotiations. Its stated aim is to "clarify and reinforce the disciplines of GATT 1994, and specifically those of its Article XIX (Emergency Action on Imports of Particular Products)".

The term *like or directly competitive* is contained in GATT Article XIX. The term *like product* occurs in several articles of GATT 1994 in addition to Article XIX.[3] These include Articles I, III, VI, XIII, and XVI which relate, respectively, to most-favoured-nation treatment, national treatment, anti-dumping and countervailing duties, quantitative restrictions, and subsidies. As noted by Jackson (1969, p. 263), a leading authority on GATT law, "… there is no precise definition of 'like products'

2 While the majority of imports comprise boned legs, there are different leg cuts, for example, full legs or so-called 3-piece legs.

3 GATT 1994 comprises the original GATT (GATT 1947) as amended etc., together with relevant Understandings and Agreements negotiated during the Uruguay Round of Multilateral Trade Negotiations.

or similar phrases and that same term, when used in different clauses of the General Agreement, can have different meanings".

For example, in the context of anti-dumping and countervailing inquiries, the term *like product* consistently has been interpreted as an identical or similar product and, indeed, was defined thus in the 1994 WTO Agreement on Anti-dumping and Countervailing Duties (Article 2:6). A similar definition has been included in the general procedures for safeguard inquiries issued by the Australian Government. With regard to GATT Article I (most-favoured-nation rule), *like* products generally are regarded as those which fall within the same tariff classification (Jackson 1969, pp. 263–4).

However, Article XIX and the Agreement on Safeguards use the explicitly broader phrase — *like or directly competitive* (Jackson 1969, p. 261). Jackson (1997) has noted that "this inclusion is clearly appropriate, because the objective in the escape clause is to ascertain when the imports are harming domestic industry, and obviously competitive products can so harm" (p. 189). On the question of which products can be construed as competitive with others, he observes "GATT jurisprudence being so sparse, considerable leeway seems to exist for interpreting this phrase" (p. 189).[4] In some contexts — for example, GATT Article III, which concerns national treatment on internal taxation and regulation — *directly competitive* has been interpreted as encompassing goods with distinct physical characteristics but which compete for the same consumer market (for example, different types of alcoholic spirits).[5] Here, the objective is to ensure that national taxes or regulations, which discriminate between competing goods, do not act as *de facto* barriers against imports.

In the context of safeguard action, and as noted by Jackson, the objective is to permit action against imports which cause serious injury to a domestic industry. In this context, a narrow interpretation of the term *directly competitive*, which resulted in a large group of producers who were experiencing injury as the result of imports,

4 There is 'sparse' legal precedent interpreting safeguard provisions for two main reasons. First, because safeguards have been little used in comparison with anti-dumping and countervailing procedures and, second, because safeguard actions under the provisions of Article XIX have not often been implemented. Instead of invoking the provisions of Article XIX, voluntary export restraints (VERs) were often negotiated. This situation may change under the WTO Agreement on Safeguards because (a) negotiated agreements such as VERs are now proscribed and (b) use will be encouraged as retaliation by exporting countries is delayed for three years if safeguard measures have been applied where imports have increased in absolute terms.

5 WTO, Appellate Body, 1996, *Japan — Taxes on Alcoholic Beverages*, WT/DS8/AB/R, 4 October.

being excluded from the safeguard action, would appear to run counter to the objective of the Article.

This appears to be the view of the US Congress. The US *Trade Act of 1974* interprets *directly competitive with* in terms of the potential economic effects of imports:

> An imported article is "directly competitive with" a domestic article at an earlier or later stage of processing, and a domestic article is "directly competitive with" an imported article at an earlier or later stage of processing, if the importation of the article has an economic effect on producers of the domestic article comparable to the effect of importation of articles in the same stage of processing as the domestic article. [US *Trade Act of 1974*, Section 201]

Applying this provision, the US International Trade Commission (USITC) has found in certain safeguard cases involving agricultural goods that producers at all stages should be included as part of the domestic industry.[6] The Canadian International Trade Tribunal (CITT) adopted the US interpretation in its safeguard inquiry into imports of boneless beef in 1993 (CITT 1993), and found that the high degree of economic interdependence between cattle producers and slaughterers and boners justified inclusion of cattle producers in the 'domestic industry'.

4.2.2 Views of participants

The Canadian Meat Council and Canadian Pork Council agree that, "whilst there may be different views as to comparability of the products in terms of the way in which they are cut, or their quality" (sub. 8, p. 4), there is an Australian industry producing like products to those imported. However, the Canadian Meat Council, Canadian Pork Council and the Canadian Government (sub. 34) argue that producers of these goods are pork processors, not pig growers. While it is conceded that pig growers might have a legitimate commercial interest in pork processing (similar to their own interest in this inquiry), the Canadian Meat Council and Canadian Pork Council argue that this interest should not, "by some 'bootstraps' reasoning, qualify them [pig farmers] as members of the industry producing like or directly competitive products" (trans., p. 105).[7]

To support this view the submission refers to determinations by the Australian Customs Service (ACS 1992) and the Australian Anti-Dumping Authority

6 See, for example, USITC, Inv. No. TA–201–59 (Pub. 1861) June 1986, which found that producers of apples comprised part of the domestic industry producing apple juice.

7 It may be noted that the appendix to the Canadian Government submission (sub. 34), contrary to the main body of the submission, argues in favour of a very broad interpretation of the industry.

(ADA 1993), in the context of an anti-dumping and countervailing inquiry, that Australian pork processors were producers of like products to the imports. In this case, producers of pigmeat for processing (that is, pig farmers) also were included as producers of like products, but only under a provision in Australian anti-dumping law which allows producers of raw material inputs to initiate anti-dumping actions against imports of *close processed* agricultural goods.[8] The Canadian Government considers that recourse to such a provision supports their view that pig growers do not produce like goods, that is, boned pork (sub. 34, p. 7).

The Canadian Government, Canadian Meat Council and Canadian Pork Council note that the WTO safeguard provisions extend the ambit of the industry to include producers of directly competitive products. However, contrary to the determination of the Canadian International Trade Tribunal (CITT 1993) on boneless beef, referred to above, they claim that upstream products (that is, pigs) cannot be considered directly competitive with downstream products (that is, processed pork). Moreover, it is claimed that the distinction between production stages is not altered by vertical integration of processes or the claim that pig growers generally sell carcasses and not live pigs (sub. 34, pp. 10–12). In other words, they contend that the term directly competitive implies competition between goods at the same stage of the production process and which compete for the same buyer (sub. 8, p. 5). Indeed, it is submitted that inclusion of processors of all types of meat would be more appropriate than inclusion of upstream pig farmers. Hence, the view that, at most, the definition of the industry should be limited to pig processors and abattoirs, with these activities being excised from vertically-integrated pig farming and processing operations. As for the definition of processors, the Canadian Government seems to include primary processors only, while the Canadian Meat and Pork Councils suggest that all processors, including smallgoods manufacturers, should be included.

As outlined in chapter 3, the Pork Council of Australia (PCA), on behalf of domestic pig growers (representing about 75 per cent of domestic production), argues that the domestic industry comprises producers of pigmeat (pig farmers) as well as processors of pigmeat, excluding downstream manufacturers of pork smallgoods. The PCA claims that: (a) a high percentage of pork is owned by growers until it reaches the dressed carcass stage; (b) there is a high degree of vertical integration in the industry (such that a very significant percentage of processors of boned meat are also producers of carcasses) and (c) a change in the price received for boned legs will directly affect the price of carcasses and pigs (sub. 55, p. 11).

8 This amendment to the *Customs Act* (subsection 7(4A)) was passed in 1991. It is similar to provisions in US anti-dumping statutes (see section 4.2.3).

4.2.3 Previous inquiries

As noted, the question of like products was addressed by the ACS (1992) and the ADA (1993) in an anti-dumping and countervailing investigation into imports of frozen pork. In that case, the ADA confirmed an ACS determination that primary pork cuts produced by the domestic pork processing industry were like products with imports. The fact that imports were frozen was not considered to alter the nature of the product.

Nor were some minor differences in types of cut considered to constitute a significant difference between local and imported pork. Domestic producers of like products were determined to comprise *primary* processors of pigmeat, that is, to the stage where processed pork cuts became inputs to downstream smallgoods manufacture.

In addition, and as noted above, in the anti-dumping and countervailing case, producers of pigmeat for processing (that is, pig farmers) also were included as producers of like products under a provision in Australian anti-dumping law which allows producers of raw material inputs to initiate anti-dumping actions against imports of *close processed* agricultural goods. *Close processed* agricultural products are defined as products which are derived substantially or completely from the raw agricultural good, where the raw agricultural good is devoted substantially or completely to the processed agricultural good, and where there is a close relationship between the prices of the raw material and the processed good, or where a significant part of the production cost of the processed good is the raw material input.

A similar provision does not apply to safeguard actions in Australia. However, the Safeguards Agreement explicitly broadens the definition of an industry to include producers of like or directly competitive products.

4.2.4 The Commission's assessment

'Like' or 'directly competitive' goods

As already noted, imports under tariff sub-heading 0203.29 comprise frozen, boned pork cuts and the majority of these imports are boned legs from Canada. The Commission concurs with the view of the ACS and the ADA that freezing does not change the nature of the imported product compared with pork produced in Australia in any way that is significant for this inquiry. Moreover, while there have been and may still be slight differences in quality and cut, participants have

suggested that the two products are very similar (see, for example, trans., p. 77). This does not appear to be disputed by Canadian Meat Council and Canadian Pork Council (see sub. 8, p. 4).

The Commission therefore considers that pork produced in Australia is *like* imported Canadian pork.

Moreover, for reasons discussed below, the Commission considers that imports of frozen pork cuts also are *directly competitive* with dressed carcasses.

Producers of 'like' or 'directly competitive' products — defining the industry

Australian pig farmers produce pigs which are used either for processing (mainly 'baconers' which are pigs of around 95 kg) or for fresh meat ('porkers' around 75 kg). Some porkers are used in processing. Subject to size constraints, pig producers can switch relatively easily between supplying the processing and fresh meat markets.

More than 90 per cent of all pigs grown either are sold under contract to downstream processors or butchers for the fresh meat market, or are produced by vertically-integrated pork producers. The remainder are sold at auction.

When sold under contract, the processor generally assumes ownership of, and pays for, the pig *after* it has been slaughtered. That is, the pig farmer sells a dressed carcass, not a live pig. The abattoir does not assume ownership of the pig, but rather provides a service input, at a fee. Processors, including ham and smallgoods manufacturers, then either cut and bone the carcass themselves or contract out this task to boning rooms. These cuts subsequently are sold as fresh pork or frozen meat or are processed into hams and smallgoods.

This process is spelt out in several submissions including those from Miandetta Farms (sub. 24), Windridge Pig Farm (sub. 48), Auspork (sub. 51) and the South Australian Farmers' Federation (sub. 53), as well as by Bunge Meat Industries (sub. 39, and trans., p. 74).

Of importance to the definition of the industry, ham and smallgoods manufacturers make a choice between purchasing imported frozen pork cuts and purchasing locally-produced pig carcasses or boned cuts. From the processors' viewpoint, that the products are at somewhat different stages of processing is largely immaterial — carcasses sold by pig farmers are directly competitive with imported cuts. Moreover, the fact that they are at different stages of processing reflects quarantine

requirements and not fundamental differences between the products or their end-uses.

Where domestically-produced boned legs and other cuts are offered for sale, these often are produced by vertically-integrated specialist pig farming and processing operations such as Bunge Meat Industries. There is extensive vertical integration in the pigmeat industry. Abattoirs and boning operations responsible for 50 per cent of the national pig kill in 1996–97 were directly connected to pig farming (see appendix D, table D.8). Several of these operations also have associated smallgoods operations. For example, at Bunge Meat Industries, which produces almost 20 per cent of domestic pigmeat, pigs are grown, slaughtered, and boned and then sold to smallgoods manufacturers, including to Bunge's sister company, Don Smallgoods. Auspork and the Darling Downs Bacon Co-operative, which together account for around 20 per cent of domestic pigmeat production, are slaughtering and processing operations owned by pig farmers.

In both cases, however — that is, where there is vertical integration or where pig farmers sell carcasses to smallgoods manufacturers — there is no identifiable, separate domestic 'industry' which *only* produces boned cuts of pork from purchased live pigs. Either pig growing, slaughtering, boning and cutting operations are inextricably linked in vertically-integrated firms or independent pig growers supply carcasses to downstream processors.

There are some independent specialist pig abattoirs and boning rooms which are not involved in growing pigs and which do sell like products. B.E. Campbell (NSW), which processes about 6 per cent of carcasses produced Australia-wide is an example. But such operations are the exception. Moreover, the activity, or value-added, of such operations is slaughtering and boning services, not the production of pigmeat. Although imported pork embodies these services, and thus competes directly with operations such as B.E. Campbell (NSW), imports are primarily pigmeat and pigmeat is produced by pig growers.

The Canadian Government contends that structural and legal arrangements do not alter the fact that slaughtering and boning of pigs together constitute a separate stage of processing and, thus, a separate industry (sub. 34, pp. 10–12). Applying this reasoning, there would be virtually an infinite number of industries in any economy. And as noted above, this narrow view of the industry would be more appropriate if Australia were importing only pig slaughtering and boning services from Canada, not pigmeat.

The Canadian Government submission also argues that inclusion of all meat processors in the 'industry' would be more appropriate than inclusion of pig farmers

alone due to competition between meats. While there is competition between meats in fresh meat markets, imported pork must be further processed in Australia, into ham or other smallgoods. It is unlikely that meats other than pork compete as inputs to ham production.

It is the Commission's view that slaughtering and boning operations essentially are service inputs (provided in-house or externally) to the pigmeat production process. Pigs are rarely grown for any other purpose than the production of pigmeat, and pig production constitutes a major part of the gross value-added of boned cuts (for example, 80 per cent of a boned leg cut).

Consequently, any changes in the markets for pigmeat will directly affect the demand for pigs and the price received by pig producers. In particular, imports of boneless pork can be expected to affect the demand for (and prices of) carcasses supplied by pig growers to local processors in much the same way as would imports of live swine or carcasses.

For these reasons, the Commission considers that pig producers as well as primary processors of pigmeat (that is, pig abattoir, boning and primary cutting operations, and including vertically-integrated operations which cover all or some of these activities) constitute the domestic industry producing *like* or *directly competitive* products for the purposes of this inquiry. Downstream processors of pigmeat into hams and smallgoods — that is, the buyers of imports and *like* or *directly competitive* local products — and downstream operations of vertically-integrated establishments, are excluded.

4.3 Import trends

4.3.1 WTO requirements

A necessary condition for the application of safeguard measures is that imports have increased. Article XIX begins:

> If as a result of unforeseen developments and of the effect of the obligations incurred by a contracting party under this Agreement, including tariff concessions, any product is being imported into the territory of that contracting party in such increased quantities…

The WTO Agreement on Safeguards stipulates that:

> A Member may apply a safeguard measure to a product only if that Member has determined … that such product is being imported into its territory in such increased quantities, absolute or relative to domestic production …

While the requirement for increased imports, either in absolute terms or relative to production, is comparatively straightforward, there is a question as to whether the increase must be due to 'unforeseen developments' and be the effect of obligations incurred under GATT 1994. Article XIX explicitly imposes these criteria, but the Agreement on Safeguards does not.

The Canadian Meat Council and Canadian Pork Council and the Canadian Government argue (subs 8 and 34), on the basis of the Vienna Convention,[9] and a 1996 decision by the WTO Appellate Body[10] that the Article and the Agreement must be read together — in other words, that the requirements of the Article stand though the Agreement is silent on these matters.

The Commission does not consider that this is the only interpretation.

Article 1 of the Agreement on Safeguards states:

> This Agreement establishes rules for the application of safeguard measures which shall be understood to mean those *measures* provided for in Article XIX of GATT 1994. [*emphasis added*]

The *measures* provided for in Article XIX are "to suspend the obligation in whole or part or to modify the concession", as a result of which the injurious imports have increased due to unforeseen circumstances. The Canadian Government contends that the measures provided for in Article XIX can only be taken, *inter alia*, in response to circumstances which were unforeseen at the time the relevant obligations were incurred and, hence, the requirements of the Article still apply.

However, Article 1 of the Safeguards Agreement states that the agreement "establishes rules for the application of safeguard measures". Article 2:1 then sets out the general conditions under which a Member may apply a safeguard measure and these criteria do not include the requirement that the increased imports be due to 'unforeseen developments'. The Commission considers that this modification of the conditions under which safeguard measures (of the type allowed for in Article XIX) can be applied was deliberate.

This interpretation is consistent with the Vienna Convention (Article 31:1) which states that:

> A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given the terms of the treaty in their context and in the light of its object and purpose.

9 The Vienna Convention on the Law of Treaty (1969).

10 WT/DS2/AB/R, 29 April 1996.

Moreover, this interpretation also is consistent with the General Interpretative note to Annex 1A of the Agreement Establishing the WTO (see box 2.1). The ordinary meaning and object and purpose of the Agreement on Safeguards is to establish rules for the application of safeguard measures. The current inquiry complies with these rules.

Although the Commission does not accept that the developments which led to the increase in imports need to be unforeseen at the time that the relevant WTO obligation was incurred, the nature of 'unforeseen' is further explored.

In practice, the requirement that an increase in imports be unforeseen has been very broadly interpreted. The Canadian Government (sub. 34, p. 25) cites the GATT Working Party report on *Withdrawal by the United States of a Tariff Concession under Article XIX*, the only GATT precedent on this matter:

> … the term 'unforeseen developments' should be interpreted to mean developments occurring after the negotiation of the relevant tariff concession which it would not be reasonable to expect that the negotiators of the country making the concession could and should have foreseen at the time when the concession was negotiated. (GATT/CP/106, report adopted on 22 October 1951)

This case concerned imports of hatter's fur into the United States. While the Working Party found that a change in fashion — which had led to a surge in imports of hatter's fur — was not an 'unforeseen development', it was determined that the *extent* of change in this particular case could not have been foreseen at the time the tariff concession was made. On this basis, the Working Party found that the requirements of Article XIX indeed had been fulfilled. According to Jackson, this broad interpretation of 'unforeseen developments' suggests that " … the prerequisite cause of 'unforeseen developments' has been essentially 'read out' of the GATT agreement" (Jackson 1997, p. 187).

In relation to the current inquiry, the Australian market was opened to imports of pigmeat from Canada (under certain quarantine conditions) in mid-1990. Between 1990–91 and 1995–96, import volumes increased to, and stabilised at, around 3000 tonnes per year. A report by the Industry Commission in October 1995 noted that, despite the fact that Canadian imports seemed to be cheaper than comparable local cuts, several major manufacturers had given assurances that they would not use imported pigmeat (IC 1995a, p. 16).

The Commission also observed that imports of pigmeat could increase significantly if Canadian leg pork remained consistently cheaper than comparable Australian cuts. However, at the time, it was anticipated that Canadian pork prices would rise, while Australian production costs would fall when the drought, which existed at the

time, ended. Both of these factors "would help to reduce the incentive to import" (IC 1995a, p. 18).

Australia's acceptance of a bound tariff rate of zero on imports of pigmeat under the WTO Agreement on Agriculture, effective from 1 January 1995, thus had been taken at a time when (a) the major processors had given assurances that they would not use imported product, and (b) when it might reasonably be expected that the price difference between imports and local product would narrow. However, in 1996–97, import volumes (under sub-heading 0203.29) increased to 8550 tonnes (from 3130 tonnes in 1995–96), and remained at just under 8000 tonnes in 1997–98. This significant increase arose mainly because a major manufacturer changed its policy, probably due to the increased differential between domestic and imported prices, and because some of its competitors were importing. Was this change of policy foreseen on 1 January 1995? The Commission's view is that it was not, largely because the *extent* of the increased differential between domestic and import prices was not foreseen. And this wider price gap had not been foreseen because the effect of the drought on producer numbers and pigmeat production levels had not been foreseen.

Thus, even if it is accepted that it is necessary to establish that the developments which led to increased imports were unforeseen in the GATT sense, the Commission is of the view that they were unforeseen at the time the relevant GATT 1994 obligation was incurred.

4.3.2 Have imports increased?

As noted by the Canadian Meat Council and Canadian Pork Council:

> The Agreement on Safeguards does not define the relevant period over which an investigation of this type should consider the effect on imports. (sub.8, p. 5)

The Commission considers that an appropriate period in this case is 1995 to the present. The tariff on pigmeat was bound at zero in January 1995 and the Industry Commission (October 1995a) concluded that imports of pork, up to that time, seemed to have had little impact on the domestic industry. This time period is in line with that suggested by the Canadian Meat Council and Canadian Pork Council who argue:

> Where imports already have a presence in the market, and that presence has been found to be non-injurious in earlier periods (as in this case), it is in our view reasonable to accept the proposition that only a large increase in imports relative to domestic production during a later period can form the basis for a safeguards investigation. (sub. 8, p. 6)

Though the Commission accepts the suggested period for investigation, it does not agree that the increase in imports necessarily must be large. The Agreement on Safeguards requires only that "such product is being imported … in such increased quantities, absolute or relative to domestic production, … as to cause or threaten to cause serious injury …" (Article 2:1).

This section explores the extent to which imports of pigmeat under tariff sub-heading 0203.29 have increased since 1995. The link between increased imports and serious injury is discussed in section 4.5 below.

Between 1995–96 and 1996–97, annual imports of Canadian pork (within tariff sub-heading 0203.29) increased by 173 per cent (that is, almost tripled), from 3130 tonnes in 1995–96 to 8550 tonnes in 1996–97. In 1997–98, 7990 tonnes were imported, about 6 per cent below the level in the previous financial year (see figure 4.1).

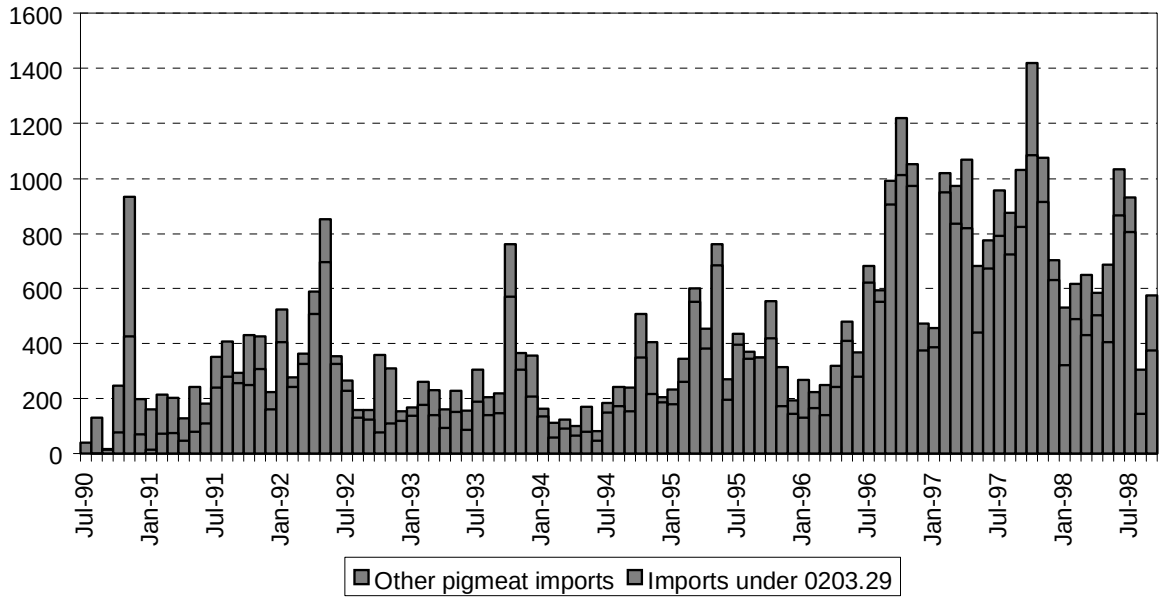
In July 1998, 806 tonnes were imported from Canada, slightly above the level in the same month of the previous year (792 tonnes). In August, Canadian imports fell to 145 tonnes; in September the figure was 375 tonnes. At this stage, it is impossible to say whether this recent fall reflects volatility in monthly figures, the impact of the current inquiry, a fundamental shift in import trends, or some other factor. The Commission observes, however, that import prices currently appear to be quite low (the unit value of imports in September was under 350c/kg), suggesting little diminution in competitive pressure.

Between 1990 and 1995, Canadian imports (12-month moving percentage share) under tariff sub-heading 0203.29 fluctuated between 0.5 and 2 per cent of domestic pigmeat production on a carcass weight equivalent basis. In 1996–97 this share increased to 4.4 per cent of domestic production (see figure 4.2).

Almost all Canadian imports under the sub-heading are boned legs for processing. Assuming that 100 per cent of Canadian imports are boned legs, imports accounted for almost 22 per cent of domestic processed leg production in 1996–97. The share has fallen to 19 per cent in 1997–98, but this is still more than double the estimated share of around 8 per cent in 1995–96 (see figure 4.2).[11]

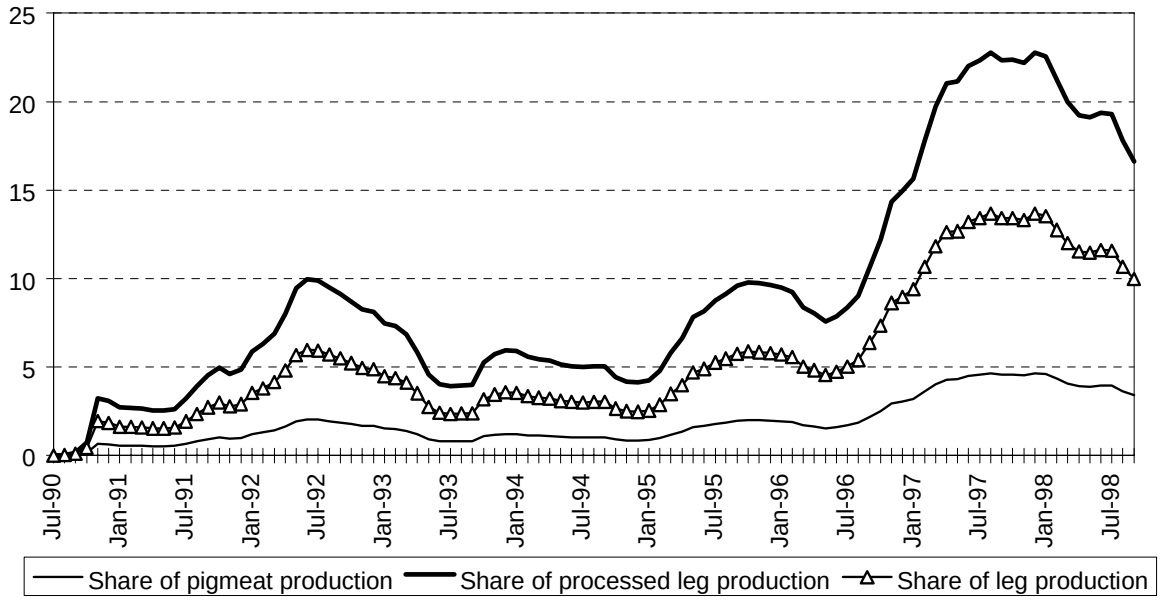
[11] Higher estimates of these shares by the industry and others are due to the use of different conversion factors and the inclusion of imports of pigmeat other than those falling within tariff sub-heading 0203.29.

Figure 4.1 **Monthly imports of pork, tariff sub-heading 0203.29 and total**
Tonnes on board ship



Source: ABS (unpublished data).

Figure 4.2 **Share of production of imports of frozen boned pork**[a]
Moving percentage share of previous 12-months



a Imports under tariff sub-heading 0203.29.

Source: ABS (unpublished data) and Commission estimates.

The Canadian Meat Council and Canadian Pork Council (sub. 43, pp. 20–1) argue that the conversion factor used by the Industry Commission (IC 1995a) to compare imported, boned legs with Australian legs overstated the share of imports. The conversion factors used in this inquiry are discussed in appendix D**.** Although different conversion factors will affect the magnitude of the share of imports of a particular production aggregate, the choice of conversion factor should not affect the movement of the share over time. In other words, whichever conversion factor is used (provided it is used consistently), it can be shown that imports have increased (indeed, more than doubled) relative to the domestic production of pigmeat, relative to the domestic production of legs, and relative to domestic production of legs for processing.

It also is argued by Canadian Pork Producers (sub. 43, p. 21) that the share of imports of the domestic production of pork legs is irrelevant if the domestic industry is defined to include *all* producers of *all* pigmeat. However, the Commission's assessment that imports have increased is not reliant on this particular measure. It has been calculated because it is critical to understanding the impact of imports on the demand for local pigmeat, pigmeat prices and domestic supply, as discussed in section 4.5 below.

4.4 Evidence of serious injury

4.4.1 Defining serious injury

In the WTO Safeguards Agreement *serious injury* is defined as a significant overall impairment in the position of the domestic industry while *threat of serious injury* is serious injury that is clearly imminent.

The domestic industry means "the producers as a whole of the like or directly competitive products" operating in Australia, "or those whose collective output of the like or directly competitive products constitutes a major proportion of total domestic production of those products" (Agreement on Safeguards, Article 4:1(c)).

There are no hard and fast rules for determining *serious injury* (see box 4.1).

Nonetheless, in determining whether increased imports have caused or are threatening to cause serious injury to a domestic industry, the Commission:

> … shall evaluate all relevant factors of an objective and quantifiable nature … in particular, the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilisation,

profits and losses and employment. (Agreement on Safeguards, Article 4:2(a) and *Commonwealth of Australia Gazette*, No. S 297, reprinted in appendix B)

We now address these criteria.

Box 4.1 **What is serious injury?**

There is no rigid formula for establishing serious injury, but 'serious' injury generally is interpreted to imply a more stringent test than *material* injury as required by anti-dumping or countervailing duty law (see, for example, Jackson 1997, p. 190).

A report by the Anti-Dumping Authority (ADA 1989) addressed the question of the extent of injury required to meet the lesser *material* injury test. The ADA concluded that "'material' should be considered in terms of its opposite", that is, "not immaterial, insubstantial or insignificant; greater than that likely to occur in the normal ebb and flow of business". The ADA also concluded that material injury would require diminution of an industry's profits while it was unlikely that injury would be considered material unless imports comprised or threatened to comprise a significant share of the Australian market.

In the WTO Safeguards Agreement *serious injury* is defined as a significant overall impairment in the position of a domestic industry while *threat of serious injury* is serious injury that is clearly imminent.

4.4.2 Is the industry suffering *serious* injury?

Imports and market share

Import data are presented in detail in section 4.3.2. The data show that since late 1996, imports of frozen pork from Canada have increased both in absolute terms (from a level of 3130 tonnes in 1995–96 to almost 8000 tonnes in 1997–98) and relative both to production of legs for processing and total pigmeat production.

This increase was significant and rapid. Import volumes more than doubled in one year. Imports currently account for around 4 per cent of all pigmeat production. Although this volume share is not high, as explained in section 4.5, the increase in imports has been concentrated in a segment of the market that traditionally has delivered a premium to local pig producers (reflecting a local consumer preference for leg hams relative to that in major producing countries). In other words, in the past, pork legs, while accounting for about one-third of carcass weight, have made a relatively greater contribution to the total value of a baconer carcass (around half).[12]

12 For example, it is estimated that a price of 560c/kg for a boned leg translates to around 300c/kg on a carcass weight equivalent basis (see appendix D). Assuming that 23 kg of a 70 kg baconer carcass are legs, this yields around $69 per carcass. In 1995, the average carcass price was 205c/kg, or around $140 per 70 kg carcass. In its 1995 report, the Industry Commission estimated that prices for boned legs ranged between 520c/kg to 600c/kg (IC 1995a, p.15).

Increased imports appear to have driven down, indeed eliminated, the price premium associated with legs. Imports of Canadian pork legs for the past 12 months represent between 16 and 19 per cent of the production of legs for processing, compared with between 6 and 8 per cent in 1995–96. (The lower estimates assume that 80 per cent of imports are legs; the higher, that all Canadian imports are legs.)

The total pigmeat market share of imports (on a carcass equivalent basis) has tracked the production share. It is estimated to have increased from 2 per cent in 1995–96 to 4.4 per cent in 1996–97, steadying to around 4 per cent in 1997–98.

Any imports of other cuts will have directly affected the demand for local equivalents. There also is evidence (see Darling Downs Bacon (sub. 52, p. 2), and Bunge Meat Industries (sub. 39, p. 23), for example) that imports of legs have affected the demand for other cuts — as legs have become cheaper they have been substituted for other cuts in processing (for example, displacing shoulders in ham production).

Sales volume

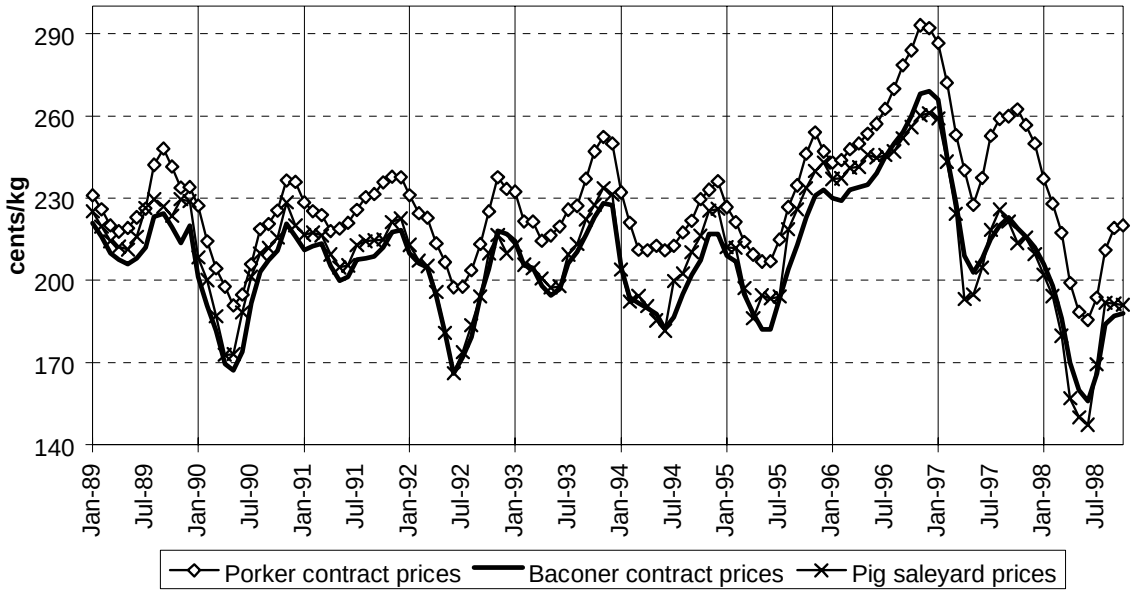
Official sales data are not available, but as stocks of pork or pork products in any form can be stored for no more than about six months, total sales will be closely related to production plus imports. Carcass sales closely track sales of domestic pork products plus exports. Trends in production are discussed below.

Sale prices

Historically, pig prices followed a seasonal pattern, falling through the first half of the year, then rising to peak in November and December as processors increased demand in anticipation of the Christmas consumption of hams (see figure 4.4). In 1997, prices began their usual upward trend in June, reaching around 223c/kg in September. However, from the end of September 1997, prices declined, with average baconer contract prices falling to 156c/kg in June 1998. Prices have risen since to around 187c/kg in September and just below 190c/kg in October, but these prices are well below prices normally received at this time of year. Prices for porkers as well as pig saleyard prices have followed a similar pattern over this period (see figure 4.3).

Figure 4.3 **Pig contract and saleyard prices**

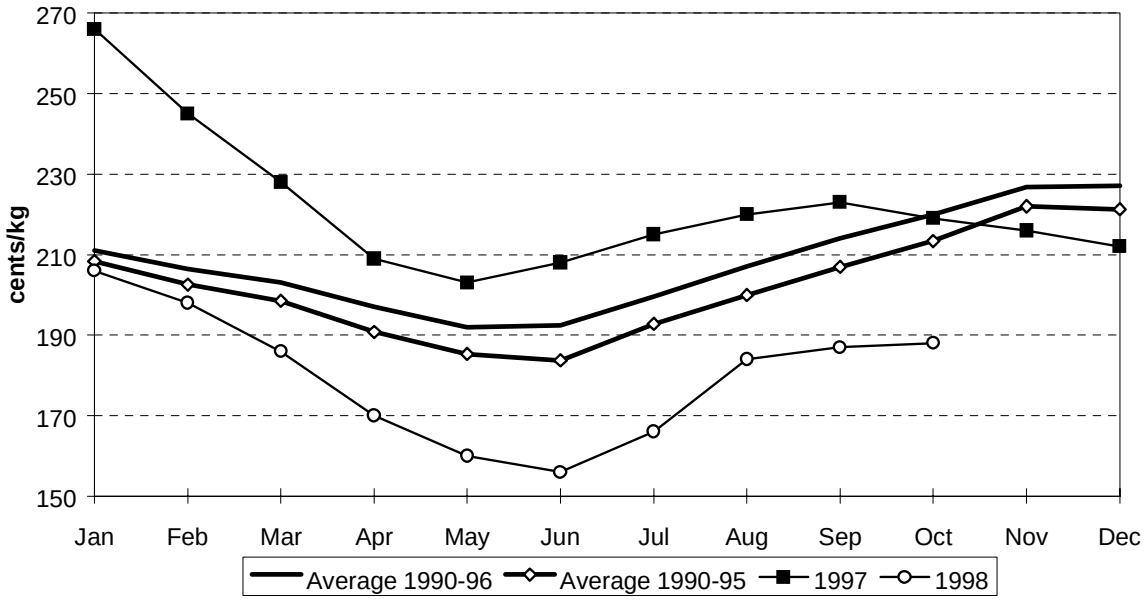
Hot standard carcass weight



Source: ABARE (unpublished data) and QPPO (unpublished data).

Figure 4.4 **Seasonal contract price patterns for baconers**

Hot standard carcass weight



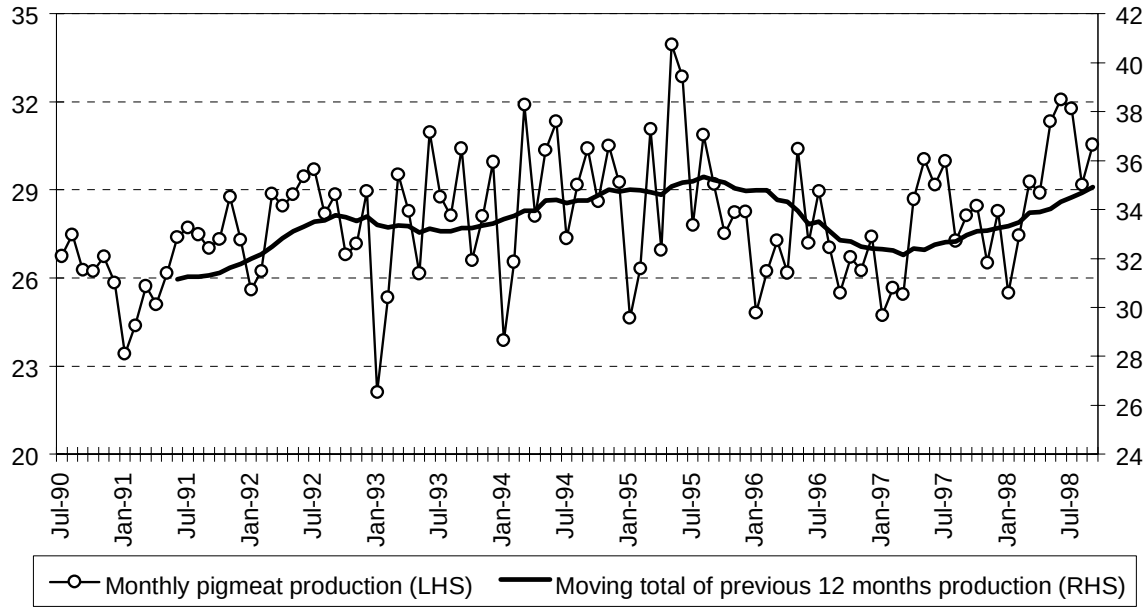
Source: QPPO (unpublished data).

Production

Pigmeat production rose steadily from 1990 until 1995–96. In that year, production declined as a result of substantial rationalisation in the industry following the drought which had occurred over 1994–95. By the end of 1997–98, production had recovered to pre-drought levels (see figure 4.5).

Despite lower prices over 1998, production is unlikely to respond for several months and, indeed, could increase if breeding stock is sold off. Producers appear to be confused about future price movements and, even if decisions were taken to reduce production when prices bottomed in June 1998, it will require one pig breeding cycle before production cuts are visible. There is some evidence of reductions in herd numbers (see subs 14, 16 and 29) but, on the other hand, some growers have said that they have increased sow numbers in order to reduce fixed costs per unit (see, for example, sub. 11). The latter strategy would appear to be unsustainable unless it is supported by productivity improvements (or unless a farm's unit costs decline as output expands).

Figure 4.5 **Monthly and annual pigmeat production**
Kilotonnes cwe



Source: ABS (Cat. No. 7215.0 and unpublished data).

The survey submitted by the PCA (sub. 55, covering 198 or 6 per cent of producers and 36 per cent of production) showed that, of the 198 respondents, the majority (58 per cent) predict no change in production, while 23 per cent expected some expansion and 17 per cent, a contraction. Those expecting no change or contraction

appeared to be mainly smaller pig growers. This response pattern is supported by evidence received by the Commission. Submissions received from some pig growers with up to 300 sows (see subs 21, 22, 33 and 41) suggest that repairs, maintenance and expansion plans have been put on hold.

Productivity and capacity utilisation

There are no official data on labour and capital productivity or capacity utilisation in the industry and evidence submitted to the Commission is mixed. Some submissions suggest that lower demand for local pigmeat has created some unused capacity which indicates lower output per unit of capital stock. For example, Amitie, (which owns two piggeries with 3500 sows) stated that:

> We are presently operating our business at less than potential capacity not only in an effort to contain costs but because we are not confident that the situation will not be repeated in 1999. (sub. 31, p. 4)

Pig producers Arthur Stacey, Greenwood Farming and Qld Pork (subs 14, 16 and 29 respectively), also claimed that they had reduced herd numbers.

On the other hand, the survey undertaken for the PCA appears to show an increase in capacity utilisation. The submission claimed, however, that this is not indicative of increased demand but rather:

> Many producers have increased their output and sow numbers to distribute costs over a greater number of sales thus endeavouring to maintain gross returns but on a smaller margin. This has been made possible because many producers have left the industry. (sub. 55, p. 30)

Labour productivity in pig farming may actually have risen because employee hours appear to have been reduced (see below).

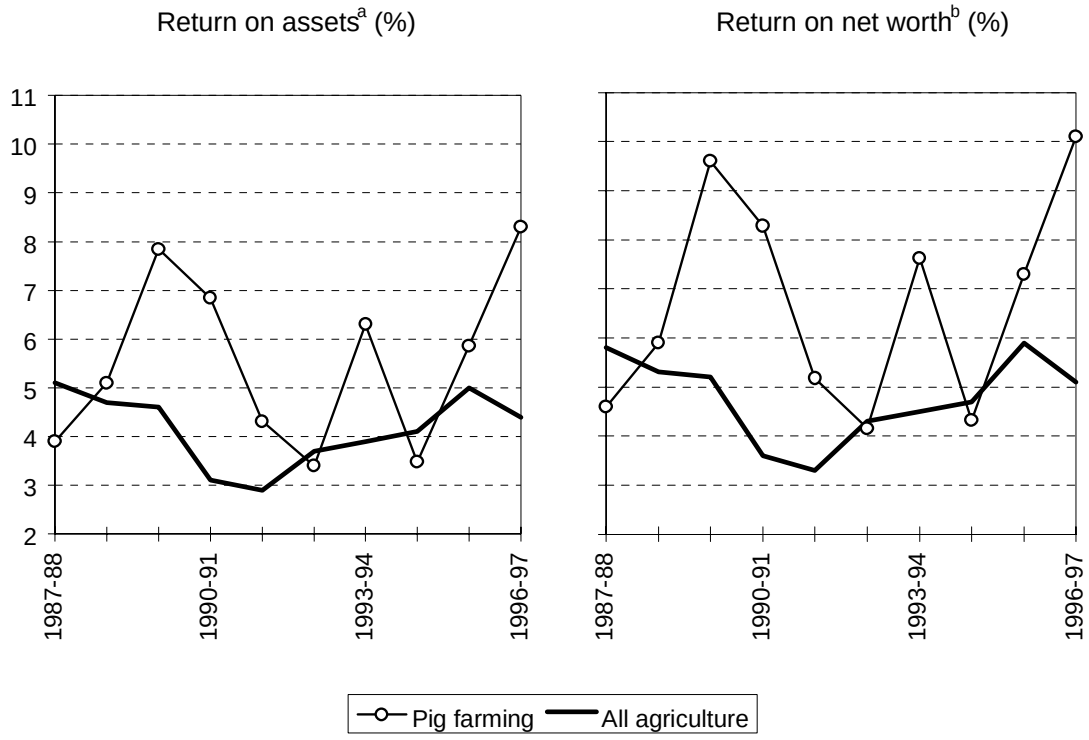
Profits and Losses

The return on assets and return on net worth provide broad measures of the profitability of an industry. Historically, return variability has followed climatic conditions. For example, low profitability during 1994–95 was attributable to high grain prices caused by drought. High profitability in 1996–97 was largely the result of low grain prices caused by bumper crops and high pig prices caused by low stock levels in the aftermath of the drought.

It can be seen from figure 4.6 that ABS data show pig farming profitability, on average, to be higher (and more volatile) than that for the average agricultural activity. This reflects the highly-specialised nature of pig farming. In other words,

once capital is invested in pig farming (sheds and land) it cannot be used to produce anything else. If pig prices fall, pig farmers will take a large loss because they have no alternative that would use the same land and sheds (see sub. 51, p. 28). Several participants have indicated that banks have written down the value of their piggeries (see, for example, sub. 12). Moreover, in the short term, production is virtually fixed because of supply lags and the fact that pigs must be sold at certain weights. Pigs cannot be put out to pasture to wait for price recovery. These factors suggest that investment in pig production is relatively high risk.

Figure 4.6 **Profitability measures for pig farming and all agriculture**



a Cash operating surplus/average total assets. **b** Cash operating surplus/average net worth.
Source: ABS (Cat. No. 7507.0).

While official data on profitability are unavailable for 1997–98, evidence for this period was submitted by participants.

The PCA survey showed that, across the sample, profitability fell from a 7.6 per cent return on capital employed in 1996–97 to a negative return of 3.5 per cent in 1997–98 (sub. 55, p. 21). Total profits of $15.2 million were reported for the sample in 1996–97, with some producers recording losses totalling $0.83 million. In 1997–98, reported profits fell to $2.24 million (down by 85 per cent) while reported losses increased to $9 million.

The survey also reported an increase in indebtedness of pig producers, especially to feed suppliers. Ridley Corporation, which supplies feed to a significant proportion of the local pig industry, gave evidence that average debt per customer had increased in Queensland and South Australia where production units tended to be smaller (sub. 57, p. 4).

Industry data for 1996–97 estimate that the average cost of production (live weight) was around 170c/kg (see appendix D, table D.16). This translates to about 224c/kg for a dressed carcass. This figure includes depreciation and a return on capital, which the PCA estimated add about 10c/kg and 30c/kg respectively (see sub. 55, p. 22). These are average figures (for an 'average' quality) and some producers' costs are lower (and some higher) but very few, if any, it seems would cover even variable costs at a price of 160–170c/kg (dressed carcass).

The Department of Primary Industries Queensland (sub. 49, p. 5) provided data on the financial performance of 15 pig herds in Queensland. They consider that this group is representative of a larger group (comprising 35 herds) monitored by the Department. The data show that over the June quarter 1998 each of the 15 farms made a loss, though it is worth noting both the range of prices received — 150c/kg to 208c/kg — and losses — 5c/kg to 79c/kg. The average price received was 170c/kg and the average loss 39c/kg, implying an average cost of about 210c/kg.

That losses have been widespread over 1998 is borne out by numerous submissions from individual pig producers (both large and small) as well as primary processing operators. Even pig producers who claim to be among the most efficient reported substantial losses in the first half of 1998 (see sub. 61).

Abattoir and boning operations also claim to be experiencing reduced profitability due to lower demand and prices for local pork legs and other parts of pigs (especially shoulders) which are substitutable with legs in processing (see subs 39, 46, 51 and 52).

Figure 4.6 shows that profitability in the pigmeat industry has been subject to wide swings in the past while average prices appear to have fallen below average production costs in the June quarter in several of the most recent years (see figure 4.3). This raises the question whether low profitability over the second half of 1997–98 and in the first quarter of 1998–99 is within the 'normal course of business'.

Monthly prices for pigs over 1998 (for the 9 months to September 1998) have been consistently lower than average monthly prices received for the years 1990 to 1996 (see figure 4.4). Recent price recovery (to around 185–190c/kg for baconers) will mean that the most efficient producers are covering costs, though not the 'average'

pig producer. Moreover, while feed grain prices, at least over 1997–98, were much lower than during the drought, they were somewhat higher than prices over the period 1990–91 to mid-1994 (see appendix D, figure D.5). In other words, the impact of low pig prices is not being cushioned by low input costs. Although pig producers usually experience a period of poor prices (and profitability) in the first half of the year, the Commission considers that the pattern, depth and duration of the recent fall in price and profitability is not within 'normal' bounds.

Employment

The PCA estimated that there were 3340 producers and 2140 full-time, part-time and casual employees in the industry in 1996–97. By June 1998, it is estimated that 200 producers (6 per cent) had left the industry while estimated staff numbers had declined by 7 per cent (approximately 200 people) (sub. 55, p. 21).

Submissions received by the Commission indicated that many farms were operating with the bare minimum of staff. These claimed that most casual labour had been laid off in early 1998 and many permanent staff had been cut.

The submission from B & L Dahlheimer is representative of submissions received from relatively small pig farmers:

> During 1997, when prices for pork was fair to good, we employed one full time staff and one casual. We have since retrenched our casual labour and had it not been for our stud cattle enterprise, would have been forced to retrench our permanent. (sub. 22, p. 1)

Large producers, such as Amitie, also indicated they had made extensive lay-offs:

> This company, which owns and operates two piggeries, had a combined herd of some 3500 sows, and was in expansion mode, until June 1997.
>
> Since that time, and due to the impact of ever increasing imports from Canada ... staffing levels have been reduced by fourteen people over the last twelve months. This has been done with great reluctance. (sub. 31, p. 1)

Overall, 13 submissions were received from individual growers who said they had reduced staff numbers.

The Commission received no evidence regarding employment in specialist pig abattoirs and boning rooms.

4.4.3 The Commission's assessment

Based on official data as well as the evidence submitted by participants, the Commission is of the view that the domestic industry (defined as those whose

collective output of the like or directly competitive products constitutes a major proportion of total domestic production of these products) has suffered and is suffering serious injury caused by pig prices lower than average production costs for most of 1998. This has resulted in financial losses across the entire spectrum of pig growers. Reduced demand for local boned legs and other cuts by smallgoods manufacturers also appears to have affected profitability of specialist pig abattoir and boning operations (see, for example, sub. 52).

While losses or, at least, lower profitability in the early months of the year, appear to be part of the normal pig cycle, losses in 1998 appear to be far more pronounced and prolonged than in previous years, causing a significant overall impairment in the position of the domestic industry.

Lower profits have been driven by lower prices. The industry normally would expect lower prices in the first six months of the year. However, the recent price fall began during the traditional high demand period for legs (in October 1997) and continued until mid-1998. Since July 1998, prices have risen, reaching just under 190c/kg for baconers in September and October. However, this price is around 25c/kg below the average September/October price received between 1990 and 1996, 20c/kg below the average September/October price received between 1990 and 1995 (thus excluding the 1996 peak) and 30c/kg below the price received at the same time last year. The flatness of prices over September and October suggests that there will be no 'Christmas premium' this year.

There is some evidence of reduced employment in piggeries and patchy evidence regarding production levels. However, the Commission considers that, given the nature of the industry, production effects inevitably will lag lower prices and reduced profitability.

4.5 Attributing serious injury to imports

Safeguard measures may be imposed only if it can be demonstrated that increased imports (in absolute terms or relative to production) have *caused, or are threatening to cause,* serious injury to the domestic industry.

It is also a requirement of the WTO Safeguards Agreement that, if other factors have contributed to the serious injury, such injury shall not be attributed to increased imports.

4.5.1 How imports might affect the domestic industry

Before attempting to quantify the impact of increased imports on the domestic industry, this section examines how imports in just one segment of the pigmeat market might affect producer prices and output.

It has been suggested by some participants (see subs 34 and 43) that, because imports are allowed to compete in only one market segment, and represent only a comparatively small share of the total market for pigmeat in Australia, it is unlikely that they are causing serious harm to domestic producers.

However, this appears not to be the case. Given the joint nature of supply of pigmeat (that is, legs cannot be produced without shoulders, middles, loins etc.), and the existence of different consumer markets for pigmeat (ham, bacon, fresh pork) it is possible that the introduction of imports into a high-value consumer market could affect pig prices significantly. For example, if hams are relatively highly-valued by consumers, processors will be willing to pay more for a kilogram of leg meat than other parts of the pig. As the price of a pig reflects a weighted average of demands (and prices paid) for the various parts of the pig, if the price of legs is driven down by the availability of imported legs, a comparatively large portion of the value of a pig could be depressed, even though the volume of imports relative to total pigmeat production is quite low.

In particular, with import competition, an increase in demand for hams, or other processed products which use importable pigmeat, will not translate into an increase in the domestic price of legs and pigs. If imported leg pork is highly substitutable with local leg pork, seasonal premiums for hams, for example, could be eliminated altogether. Imports thus effectively impose a price ceiling on the price of pork legs, with the height of the ceiling determined by international prices rather than local market conditions.

There is evidence that Australian consumers have a strong preference relative to other countries (that is, value more highly) leg hams over other pigmeat products including other processed pigmeat (for example, bacon) and fresh pork. This preference appears to be especially strong over the Christmas season. The extent of this preference is revealed by the relative prices for legs and other pork cuts in Australia and overseas. In Australia, legs (and hams) have attracted a premium relative to other cuts, while overseas, where consumers' preference is biased towards middles and loins, this pattern is reversed. While cheaper prices of imported legs may to some extent reflect lower pig production costs in Canada, it is unlikely that the entire price difference (which, in 1995, the Industry Commission (1995a, p. 15) suggested was of the order of 15 to 30 per cent) can be attributed to

relative production efficiency. In other words, Canada's apparent comparative advantage in pork legs may reflect a different consumption pattern as much as a production advantage.

The degree to which imports actually affect pig prices will depend on the price of the imports relative to the price that would prevail in the absence of imports (which will be determined by a range of factors which are discussed below), the supply response by pig producers to price changes, the strength of consumer demand for other parts of the pig, and the substitutability of imported pork for the local product. For example, if import prices are not much lower than domestic prices, the impact of imports on pig prices will be slight. And, while import competition would be expected to drive the local price towards the import price, comparable local pork may continue to attract a premium reflecting differences in quality or other characteristics (including availability).

Moreover, it is likely that a fall in leg prices due to imports of legs leads to a reduction in pig supply, which in turn could lead to a rise in the prices of other parts, tempering the overall fall in pig prices. To the extent that legs are directly substitutable with other parts of the pig, however, the price of these other parts will tend to fall along with leg prices.

Of course, the impact of imports on an industry is not just measured by lower prices. Lower prices, eventually, will induce lower output. In the short run, production of pigmeat is probably relatively inelastic, that is, it cannot be altered very much. This is due to supply lags caused by breeding and growing cycles (around 39 weeks), as well as the very short selling opportunity for pigs when they mature (as short as one week before size penalties are incurred). This means that, in the short term, prices could overshoot their long-run level, and impose large losses on owners of the specific or 'sunk' capital in the industry — that is, pig farmers. Over time, production will be cut back in response to lower prices and some growers could be expected to leave the industry. As a result of this longer-term adjustment, the price of pigs will rise, but the equilibrium price is likely to remain lower than the price without imports.[13]

4.5.2 The role of other factors

There is a range of other factors that might affect pigmeat prices, including changes in domestic supply, changes in costs (for example, grain prices), other meat prices

[13] This assumes that the long-run industry supply curve is upward sloping, reflecting the presence of a factor specific to the pig industry.

(which can affect consumer demand for pork), and changes in demand, including export demand.

Likely effects of changes in these other factors include:

- to the extent fresh pork and other fresh meat are substitutable in consumption, a fall in other meat prices will tend to reduce demand for fresh pork, and thus reduce pig prices;
- an increase in the domestic supply of pigs due to cost reductions (for example, due to lower feed prices or higher productivity) will tend to reduce pig prices without affecting long-term profitability;
- a fall in demand for pork (whether fresh or processed, unless it is for cuts that are competing directly with imports) will tend to depress pig prices and supply;
- any factor (other than imports) that depresses pig prices will tend to lead to a reduction in imports;
- any rise in pig prices due to a rise in feed or other costs of growing pigs will be moderated by the availability of imports — more of the adjustment will occur through a reduction in domestic supply than without imports; and
- exports provide scope to increase pig prices *provided* export markets command a higher price than the domestic market for equivalent pork cuts. Indeed, if Australian producers were to increase exports of cuts other than legs, and expanded production on this basis, the domestic supply of legs would increase and crowd out leg imports.

4.5.3 Evidence of causation

Imports of frozen pork from Canada have been allowed since mid-1990. The Industry Commission in 1995 (IC 1995a) concluded that imports had had little effect on the domestic industry, though it observed that, if Canadian imports remained consistently cheaper that local pork legs, imports could increase substantially (p. 18). The Commission also noted that four major pork manufacturers — Darling Downs Bacon, Chisholm Manufacturing (associated with Woolworths), Don Smallgoods (a sister company of Bunge) and Watsonia — had given assurances that they would not use imported pork (p. 16). Three of the four also had large pig farming interests. In practice, these assurances had the potential to act as a *de facto* restriction on imports, particularly if there was upward pressure on domestic prices.[14]

[14] Manufacturers may have benefited from lower import prices even though they did not import. This would occur if their combined demand did not exceed domestic supply of boned legs, at the

In 1994–95, drought pushed up grain prices by around 30 per cent, significantly increasing pigmeat production costs. This increase in costs could not be fully passed on to consumers because the drought also encouraged selling of cattle herds, keeping retail beef prices flat (see figure D.4). This cost-price squeeze reduced the number of pig producers — between December 1994 and June 1995, over 1000 (mainly small) producers left the industry (producer numbers fell from 4683 to 3615). Sow numbers fell by almost 10 per cent over the same period.[15] Rationalisation of this absolute magnitude was not unprecedented — the number of pig producers had fallen from around 40 000 in 1970–71 to around 4500 by 1994–95 (see appendix D, table D.4). However, it was unprecedented in relative terms — almost one quarter of producers left the industry in six months.

In 1996, with the drought over, feed costs were lower. With pigmeat output lower due to the rationalisation in the preceding year, pigmeat prices rose substantially, attaining very high prices (about 260c/kg for baconers (dressed carcass)) in the second half of 1996 (see figure 4.3). Lower costs and high prices produced significant profits for those left in the industry, enabling a reduction in debts accrued during the drought.

It appears that in this situation of high domestic prices and an increased differential between domestic and import prices of leg meat (in particular, in the lead up to the traditionally high-demand Christmas period), one of Australia's largest manufacturers decided to change its policy and to import pigmeat from Canada. This is supported by evidence from participants (see sub. 52, p. 19) as well as the official data. As figure 4.1 shows, from July 1996, monthly imports of pigmeat jump significantly. While domestic prices still reached record levels, the increase in import supplies would have tempered the rise somewhat.

This shift appears to have changed the dynamics of the market for leg pork for processing. The *de facto* import restriction imposed by the tacit agreement by several processors not to use imported product, which had kept the domestic leg price above the import price, disappeared and the market began to operate in the same manner as any market subject to effective import competition. World prices of legs now set the market price. Thus, in the second half of 1997, when demand for legs expanded, the expected rise in local prices due to excess demand was curtailed by the availability of imports. In the short term, with producers unable to reduce domestic supply quickly, this led to excess local supply in both the processing and

import price. However, these companies account for a large part (40 per cent) of domestic ham and smallgoods production and they may have forgone the benefit of cheaper imports in order to sustain domestic pig prices, especially if also involved in pig farming.

15 The sale of sows over this period appears temporarily to have boosted pigmeat production.

fresh pork markets and a build-up of stocks by processors.[16] When these stocks eventually were sold in the early months of 1998, the usual seasonal softening of prices was exacerbated.

Evidence from participants suggests that the price paid for locally-produced legs (and other leg cuts) in September 1998 was about 5 per cent above the comparable import price. (This comparable import price is based on the *cif* import price plus a margin of around 8 to 10 per cent to allow for importers' margins and the additional cost incurred thawing imported frozen cuts.) The 5 per cent or so domestic premium might reflect more timely delivery of local product or other 'local' advantages. But it appears that the estimated price margin of between 15 to 30 per cent in 1995 has all but disappeared (see trans., p. 77).

Thus, whereas local boned (full) legs are estimated to have sold at an average 520c/kg to 600c/kg in late 1995 (IC 1995a, p. 16), they now must compete with imports which, converted to a comparable basis, currently cost manufacturers around 400c/kg to 420c/kg. The Commission estimates that, all else constant, a fall in the domestic price of boned legs from around 560c/kg to around 440c/kg would roughly convert to a 20c/kg fall in the price of a baconer (dressed carcass).[17] In addition, to the extent legs are substitutable with other cuts, import prices will also tend to drive down the price of these cuts and the price of pigs.

A fall in price is, of course, the immediate impact of import competition — over time, domestic output will tend to fall, restoring pig prices to a sustainable, albeit lower, long-run level. It is impossible to say by how much production might fall. This will depend on the strength of demand for other parts of the pig by processors, consumers of fresh pork and export demand, the long-run elasticity of pig supply and the ability of the domestic industry to improve productivity.

So far, it seems, and not unexpectedly given supply lags, most of the reaction to import competition (and thus most of the serious injury) has been in the form of lower prices rather than reduced production. However, several participants have

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16 Supply to the fresh market increased because growers diverted pigs away from the processing sector.

17 In 1995 the Industry Commission (IC1995a) estimated that domestic legs price ranged between 520c/kg and 600c/kg. This calculation assumes an initial average price for domestic legs of 560c/kg, while evidence from participants suggests that the current price is about 5 per cent above the import price. The estimated fall in the baconer price of 20c/kg assumes that one-third (23 kg) of a 70 kg dressed carcass is legs. The conversion of boned legs to a carcass equivalent is discussed in appendix D. It also is assumed that there are no market adjustments which affect the pig price, such as supply adjustments or changes in prices of other parts of the pig (due to substitution effects), or changes in demand for fresh pork.

indicated they will cut back production and investment or will be forced to leave the industry if current conditions persist.

The role of other factors

Broadly-speaking, other factors can be grouped into two categories — factors that affect the demand for pork and factors that affect the domestic supply of pork. Some other factors have also been suggested by participants. These also are considered.

Demand factors

Consumer tastes

The most recent official data show a reduction in pork consumption per head since 1994–95 (see appendix D, figure D.1). This figure is 'apparent consumption' which is calculated as domestic production *plus* imports *minus* exports *minus* the change in stocks (divided by population). Given that the ABS production figure appears to be underestimated (see appendix D, table D.4), the apparent consumption figure likewise will underestimate consumption. If consumption data are revised to correct for the estimated under-reporting of production, consumption per head has remained reasonably stable and suggests that total consumption of pigmeat has grown in line with population growth.

Of course, the *ex post* consumption figure does not reveal whether consumer tastes have changed such that a large fall in price was required to maintain consumption levels. Retail prices for pork appear to have fallen in the June quarter 1998, but this fall has lagged rather than led the fall in producer prices. There does not appear to have been any recent event (such as a health scare or a large fall in the price of substitute products in 1998) which would explain a collapse in the demand for pork (at constant prices).

Other meat prices

Analysis by ABARE (1995) and the Commission's consultants suggests that prices of substitute meats (especially beef) have a strong influence on the domestic price of pigs — consumers of fresh meats appear to be sensitive to changes in relative prices of the various meats. Thus, it is feasible that lower beef, lamb or chicken prices may have reduced demand for pork, especially fresh pork, driving down the price of porkers. This, in turn, may have switched pig supply to the baconer market, depressing baconer prices.

ABS retail price data for pork and beef are presented in appendix D, figure D.4.[18] Beef retail prices have been relatively stable since June 1996. There was a slight softening in retail beef prices in the first half of 1997 but the data suggest that retail beef prices firmed in early 1998. In June 1998, retail beef prices were estimated to be higher than in late 1996. Retail lamb prices also have been reasonably steady over this period. These data do not suggest that consumers have had a strong incentive to switch to consumption of other meats in recent months.

Beef retail prices have tracked movements in beef saleyard prices, albeit with substantially less volatility. Beef saleyard prices fell sharply in 1996, with some recovery in late 1997 and early 1998. Beef saleyard prices are unlikely to affect pig prices directly because pig and beef production are not highly substitutable. Falling beef saleyard prices early in 1996 did lead to lower beef retail prices, but this fall was accompanied by high pig producer and consumer prices.[19] Recovery in beef prices in 1998 (although beef saleyard prices remain at low levels) occurred at the same time as pig prices fell significantly.

The Commission accepts that prices of other meats influence the demand and therefore prices for fresh pork (and demand by meat processors for some pork cuts substitutable with beef and other meats). However, the Commission does not consider that the evidence sustains the argument that falls in the price of other meats have been the major cause of the recent fall in pig and pigmeat prices.

Export demand

Exports as well as imports can transmit world prices to the domestic market. Thus it is possible that lower domestic prices reflect lower world prices for pork received by exporters. Lower prices would be transmitted via a reduction in exports (or lower than anticipated exports), and increased supply to the domestic market.

Australian exports of farmed pork more than doubled over 1997–98 (see appendix D, table D.9) and there is no evidence that export sales have been lower than anticipated. Exports of pigmeat in May and June 1998 were at record levels (1800 tonnes and 1600 tonnes respectively). Indeed, several participants (see, for example, from Bunge Meat Industries (sub. 39) and Auspork (sub. 51)) have told the Commission that they could export significantly more with additional processing

[18] Fresh meat, in supermarkets in particular, often is discounted. The Commission understands that such discounting is incorporated in ABS price data.

[19] These price changes could be due to consumers suddenly preferring pork instead of beef, possibly because of the 'mad cow' scare. Such a shift occurred in Europe but there is no evidence of a consumption switch in Australia.

capacity.[20] This suggests that producers have been responding to higher prices on the export market compared with the domestic market. If exporters can find higher-valued markets for parts of the pig (other than legs), exports of pork will limit the price depressing effect of imports of pork legs on pig prices. Therefore it would appear that higher exports of farmed pigmeat may have eased the decline in pig prices rather than caused or exacerbated it.

Supply factors

Domestic production

A fall in domestic pig prices might be caused by domestic over-production rather than increased import competition.

As discussed above, since the drought in 1994–95, domestic production has gradually increased to pre-drought levels (see figure 4.5). Given fairly steady consumer demand (see above) and increasing export opportunities, the re-building of sow numbers and production levels and new investment in late 1996 and early 1997 does not appear, *ex ante*, to have been misplaced. Independent analysis undertaken for this inquiry by the Institute for Research into International Competitiveness (IRIC) suggests that there has not been domestic over-production compared with the past 5 to 6 years. It might be argued that local producers should have taken more heed of the potential impact of increased imports, especially given the large increase in import volumes in late 1996. But given that producers appear to respond principally to price signals, their investment and production decisions in late 1996 and early 1997 probably were not unreasonable.

That said, however, the substantial fall in producer prices early in 1998 was exacerbated by a supply overhang from the Christmas period. These were mainly legs stored by processors for sale over the summer months, the demand for which was lower than expected due to increased imports. These stocks could have been sold at a lower price in 1997 but, it seems, their sale was delayed until 1998. While at the time it was planned the expansion of domestic production may not have seemed unreasonable, it is clear that when combined with the increased imports, it contributed to the price fall.

Productivity

[20] However, this begs the question why pigmeat was not diverted from the domestic to the export market by those processors with export certification, particularly as domestic prices were low.

Recent poor profitability in the industry does not appear to have been caused by a decline in productivity. Indeed, evidence suggests that long-term productivity in pig production (in terms of pigs per sow) and processing has been steadily improving (see chapter 7). It is possible that the recent slump in pig prices may have caused a short-term decline in capital productivity in some farms due to under-utilisation of capital, but it also appears that labour productivity has increased due to shedding of paid staff.

Input costs

Feed is the major cost of pig production, accounting for around 60 per cent of variable costs. As shown in appendix D, figure D.5, the slump in pig prices and profitability has corresponded with a period of moderate, though not historically low, feed costs. Thus while the ratio of grain prices to pig producer income is at a high level, the decline in profitability is due to low income, not abnormally high grain prices.

Nor does it appear that other costs are the cause of low profitability over 1998. For example, interest rates in Australia have been at historically low levels, wages growth has been modest and producer costs in general, as measured by the GDP deflator, grew by less than 2 per cent over 1997–98.

Other factors

Exchange rates

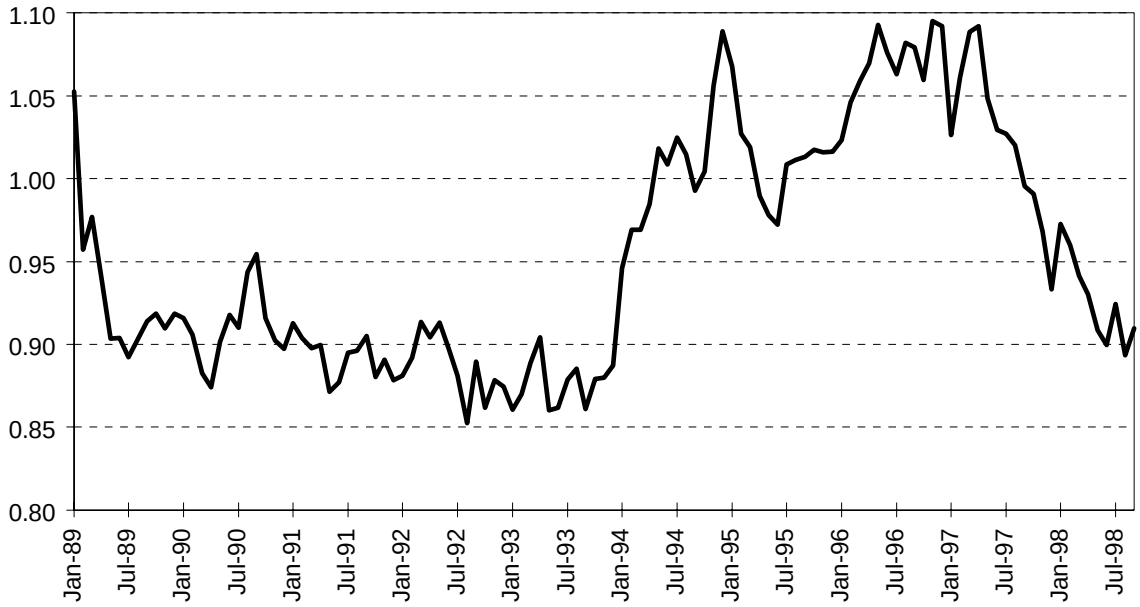
The Canadian Meat Council and Canadian Pork Council (sub. 43) have suggested that appreciation of the Australian dollar against the Canadian dollar may explain the increase in imports in late 1996. As shown in figure 4.7, the Australian dollar appreciated by around 15 per cent against the Canadian dollar between 1993 and 1994. Between December 1994 and December 1995 there was a slight depreciation. Between January 1996 and December 1996 the Australian dollar appreciated by about 7 per cent reaching a high of about A$1 = Can$1.09 in December 1996. Since then, there has been a substantial depreciation, at least up until October 1998.

While there was some appreciation of the Australian dollar over 1996, this was not large enough to explain the rise in imports in the second half of 1996. Moreover, imports did not fall along with currency depreciation over the course of 1997.

It is also suggested that changes in cross-rates with the US dollar might explain Canadian export patterns. While it may be the case that the attractiveness of export destinations for the Canadian Meat Council and Canadian Pork Council will be

affected by relative exchange rate movements, and thus is relevant in predicting trade flows, the fact that a sudden increase in exports to Australia is caused by a more attractive Can$/A$ rate compared with the Can$/US$ rate is immaterial to the question whether those imports have seriously injured the Australian industry.

Figure 4.7 **Australian dollar/Canadian dollar exchange rate**
A$/Can$



Source: Reserve Bank Bulletin (various).

Market power of user industries

A view expressed in appendix 2 to the Department of Primary Industries Queensland submission (sub. 49) as well as by the Canadian Meat Council and Canadian Pork Council (sub. 43) is that lower producer prices for pigs are the result of market buying power of downstream processors and retailers. An apparent stickiness (downwards) in retail prices is cited as evidence of market power.

There are several reasons why retail prices might be less volatile than producer prices. For example, retailers tend to smooth short-run price fluctuations in order to contain the transaction costs associated with changing prices, incurred both by sellers and buyers. Thus retail prices tend to move in line with producer prices but with a lag and with far less volatility. The most recent data (for the June quarter 1998 — see appendix D, figure D.4) show a decline in pork retail prices.

The issue discussed here is whether buying power of downstream processors, rather than imports, might be the cause of lower producer prices for pigs.

If the domestic market were of the simplest textbook form of perfect competition, import prices would have set the domestic leg prices from mid-1990, that is, when restrictions were lifted. However, it takes time for importers to develop relationships with overseas suppliers, to ensure quality and delivery etc. Moreover, it seems that vertical integration in the industry and the fact that there are relatively few large ham and smallgoods manufacturers actually delayed the full impact of imports. This was because vertically-integrated operations (with pig farms) had an interest in sourcing domestic supplies. Even those operators who did not have pig farming interests apparently were keen to be seen supporting the Australian industry.

However, in late 1996, when domestic prices rose, some downstream manufacturers not importing found it increasingly difficult to compete with processors who were using cheaper imported pork. It was at this point that, more than six years after the market had been opened, imports began to drive the domestic price of legs in a way that standard competitive trade theory predicts. The fact that some processors-*cum*-retailers may have had 'market power' in fact supported the domestic price between 1990 and 1996. Far from depressing the domestic market it appears that they sustained it, that is, until competitive pressures and the differential between domestic and imported leg prices made their position untenable.

It has been suggested that the availability of imports has given manufacturers and retailers market power because they can force domestic producers to reduce their price to the import price. As noted, this would happen anyway (and, moreover, immediately) in a perfectly competitive market. Indeed, if downstream manufacturers had exerted monopsony power over pig producers *before* import restrictions were lifted, the availability of imports at a given price, would effectively remove this monopsony power.[21] If processors cannot affect the world price of pigmeat it makes no sense for them to attempt to reduce that price by restricting their purchases.

In addition, whatever power retailers might have in consumer markets, this is irrelevant to the quantity of local legs purchased. This amount will be determined by the competitiveness of local legs *vis-à-vis* imports.

Quantitative evidence of the impact of imports

Two consultants were commissioned to analyse the effect of imports on the domestic industry, namely the Institute for Research into International

[21] That is, assuming Australia is a price taker. As Australian imports of pigmeat account for around 0.5 per cent of world exports, and about 2 per cent of Canadian exports, this assumption seems reasonable.

Competitiveness (IRIC) (at Curtin University of Technology) and Dr Garry Griffith (NSW Agriculture, Armidale). Both consultants used time series modelling techniques. In addition, the Department of Primary Industries Queensland (subs 49, 56, and 63), Darling Downs Bacon (sub. 52) and Ingoldsby Piggery (sub. 3) presented econometric analyses of the impact of imports. The analysis conducted for Department of Primary Industries Queensland was cited by the PCA (sub. 55) and Primary Industries and Resources (SA) (sub. 58) as evidence of the effect of increased imports on producer prices.

The Commission also appointed an independent referee, Dr Brett Inder, a Senior Lecturer in Econometrics at Monash University, to assess both of the studies undertaken for the Commission as well as studies conducted for the Department of Primary Industries Queensland by Mr Tim Purcell and Associate Professor Steve Harrison (sub. 49) and Mr Tim Purcell and Mr Rodney Beard (sub. 63).

Extracts from the studies undertaken for the Commission, and Dr Inder's report, are reprinted in appendix G. Full copies of these reports are available on request or on the Commission's website (http://www.pc.gov.au).

Overall, the econometric analysis failed to produce clear-cut results, in some cases, it would appear, due to the use of inappropriate methodologies, but also because most of the events of importance (that is, increased imports and lower prices) occurred at the end of the data series. It seems there were insufficient observations, at the end of the series in particular, to produce robust statistical conclusions.

Dr Garry Griffith analysed the impact of pigmeat imports on the NSW pig industry, essentially updating evidence prepared for the 1995 Industry Commission report (IC 1995a). Dr Griffith used Granger and Sims (pairwise) causality models as well as a more general Vector Autoregressive (VAR) model designed to capture the effects of several key factors. Analysis of the period 1990 to 1998 suggested no consistent causal effect of imports on farm, wholesale or retail pigmeat prices in NSW, though some results suggested that imports had a causal effect on wholesale prices. Different results emerged when a shorter period — 1993 to 1998 — was examined. VAR analysis found a significant effect of imports on retail prices though no significant effect on farm prices, while effects on wholesale prices and production were mixed. Dr Griffith surmised that "other prices may have been influenced by imports in recent months, but the data are not available in sufficient quantities to allow that to be shown in the statistical analyses".

The IRIC also used VAR techniques but with a different model of the industry and a different data set (Australia-wide for the period 1984 to 1998). Their results indicated no casual relationship between imports and prices for pigmeat. However,

the consultants noted that data limitations may have affected the theoretical specification of their model, a point also noted by the referee. They also observed that "most of the action in the data is at the end of the sample. This places severe restrictions on the econometric models ability to make sensible statements about the effects of the changes occurring in the market … it is our view that, at this stage the econometrics must remain somewhat agnostic about the events at the end of the sample".

Various studies conducted for the Department of Primary Industries Queensland and Darling Downs Bacon by Tim Purcell, Steve Harrison and Rodney Beard consistently found that imports of pigmeat had affected pig saleyard prices significantly. For example, the study forming appendix 2 to sub. 49, found that an additional 1000 tonnes of imported pigmeat would push down producer prices by just under 11c/kg (plus or minus 5c/kg). A re-working of this analysis (sub. 56) in response to a submission from the Canadian Government (sub. 34, attachment 1) found a slightly higher effect on producer prices, as well as some counter-intuitive effects on other variables. For example, the model found that an additional kilogram of imported pigmeat would *increase* domestic production, while an increase in import prices would *reduce* domestic production. A subsequent study using Kalman filter techniques (sub. 63) seems to attribute the fall in producer prices from October 1997 to a sudden fall in exports (even though official data suggest that exports of pigmeat continued to grow to record levels in 1998).

Given the conclusions of the Commission's two consultants, and fundamental concerns about the methodologies employed in the various studies conducted for the Department of Primary Industries Queensland and Darling Downs Bacon (see appendix G), the Commission has relied more on its understanding of the industry and economic analysis to assess the probable effect of imports. Nonetheless, the conclusions drawn are not inconsistent with the econometric analysis. As the independent referee appointed by the Commission to assess the econometric studies observed, imports "… do show up as significant a number of times — too often for this result to be entirely spurious".

4.5.4 Are increased imports threatening to cause serious injury?

Import levels in 1998 are below the levels for the same months in 1997. Nonetheless, they remain at substantially higher levels than in 1995–96 and it seems clear that import prices now constrain the price of domestic legs for processing as well as the price of substitute cuts. This suggests that, while import prices and domestic consumption of pigmeat remain near current levels, the domestic supply of pigmeat to the domestic market will need to be reduced (whether through

production cuts or increased exports), and/or costs reduced substantially, in order to restore profitability. This adjustment will require extensive rationalisation of the industry, probably including a reduction in grower numbers. 'Serious injury' is being experienced and is likely to continue for a large section of the industry during the adjustment process.

4.6 Have the WTO criteria been met?

The Commission considers that increased imports from Canada since mid-1996 have caused serious injury to the industry as defined above. Moreover, the Commission considers that increased imports were the primary cause of low pig prices and negative rates of return (lower than could have been expected given rebuilding of domestic production over 1997–98) in 1998 which, in turn, caused a significant overall impairment in the position of the domestic industry. There does not appear to be any other factor capable of explaining the large fall in demand for local pigmeat and consequent prolonged and pronounced fall in pigmeat prices which has occurred since October 1997.

5 Safeguard measures

Part 2(b) of the Terms of Reference for this inquiry is addressed in this chapter. Having found that increased imports have caused serious injury to the domestic industry, the Commission is required to consider what measures would be necessary to prevent or remedy serious injury and to facilitate adjustment.

5.1 WTO and Australian Government requirements

5.1.1 WTO requirements

Under the World Trade Organization (WTO) Agreement on Safeguards, a safeguards measure can be applied only to the extent necessary to prevent or remedy serious injury *and* to facilitate adjustment. Although the Agreement does not specify the particular measures that may be used, Article XIX:1 of GATT 1994 states that a Member is free " … to suspend the obligation in whole or in part or to withdraw or modify the concession" where the concession or obligation referred to is that which has resulted in increased imports, which have caused or threatened serious injury.

However, while Members may reimpose measures which had been in effect prior to incurring the obligation, safeguard measures are not limited to such action. In other words, Members can, and have, imposed a variety of tariff and quantitative measures under Article XIX (see WTO 1995, pp. 522–3). The WTO Agreement on Safeguards proscribes some measures (voluntary export restraints and other orderly marketing arrangements, for example) and constrains to some degree the application of quantitative measures (normally, a quantitative restriction should not be below the level of imports in the last three representative years). It also states that "Members should choose measures most suitable for the achievement of these objectives [that is, preventing or remedying serious injury and facilitating adjustment]".

The Agreement also specifies that:

- safeguard measures must be applied to a product irrespective of its source, though some exceptions are allowed (Articles 2:2, 5:2(b), and 9);

- safeguard measures may be applied only to the extent and for such a period of time as may be necessary to prevent or remedy serious injury and to facilitate adjustment (Articles 5:1 and 7:1). The period should not exceed four years, though measures may be extended for up to eight years if it can be shown that continuation of the measures is required to prevent serious injury and provided there is evidence the industry is adjusting (Article 7:1 and 2);
- in order to facilitate adjustment where the expected duration of a safeguard measure exceeds one year, the measure shall be progressively liberalised at regular intervals during the period of application (Article 7:4); and
- if duration of the measure exceeds three years, the Member is required to review the situation by the mid-term of the measure and, if appropriate, withdraw it or increase the pace of liberalisation (Article 7:4).

5.1.2 The Terms of Reference

The Terms of Reference for this inquiry require the Commission (a) to report on whether the circumstances are such that safeguard measures would be justified under the WTO Agreement and (b) "if so, what measures would be necessary to prevent or remedy serious injury and to facilitate adjustment".

The Australian Government (in the general procedures for safeguards inquiries gazetted on 25 June 1998 — see appendix B) has limited possible safeguard measures to a quota, a tariff quota or an increased level of tariff. In addition, under the terms of the ANZCERTA, safeguard measures cannot be imposed against imports from New Zealand.

5.2 Safeguard measures which remedy or prevent serious injury and facilitate adjustment

5.2.1 The industry's proposal

As outlined in chapter 3, the peak industry body, the Pork Council of Australia (PCA), requests that a quota of 4000 tonnes (and no more than 5000 tonnes) be imposed for four years. Imports outside quota would attract a specific rate of duty of 200c/kg. Most submissions received from individual growers and processors proposed similar safeguard measures, although the suggested quota volume varied somewhat, ranging from 3000 to 6000 tonnes per year. The Western Australian Ministry of the Premier and Cabinet (sub. 65) endorsed a non-transferable monthly

quota limit, a requirement that only whole, boned carcasses be imported and not selected cuts, and tariffs set bilaterally to match other countries' tariffs on Australian pork exports.

The PCA has not given the Commission a clear idea of how it envisages the industry must adjust in order to be in a better position to compete with imports in a few years' time. Nor has it spelled out how it envisages safeguard measures will facilitate that process, except to state that such measures would "allow for the industry to become more competitive and export oriented, which is where we believe the longer term future lies" (sub. 55, p. 33 and trans., pp. 159–62).

The Commission does not support the safeguard measures proposed by the PCA.

- A quota of 4000 tonnes per annum (supported by a tariff of 200c/kg for out-of-quota imports) in effect would almost halve the current volume of imports (under tariff sub-heading 0203.29), setting a limit close to the level of imports in 1995–96. This level of restriction does not take into account the adjustments to imports which have already taken place in the industry, especially the development of export markets and structural changes which have reduced costs. WTO safeguard measures are not intended to be used to compensate for adjustments already undertaken by the domestic industry.
- In the world pigmeat market, as in many agricultural activities, large supply and demand shifts and price volatility are part of the normal course of business. The Australia pigmeat industry will need to become attuned to changes in world prices if it is to become internationally competitive, which is the stated objective of industry participants. Tariffs and quotas have different effects on protection levels as market conditions change. For example, if domestic demand increases over time, a binding quota (on the volume of imports) will provide higher protection because the domestic price will rise with the higher demand. On the other hand, if an *ad valorem* tariff were applied, the *rate* of protection afforded the local industry would remain unchanged and additional demand could be met from additional imports. In other words, with a fixed import quota, any change in the market which increases domestic demand will lead to a higher rate of protection for the local industry. In effect, at the margin, the good becomes non-tradeable. While it would be possible to allow for quota expansion over time in line with market expansion, this would be practically infeasible, while a tariff allows some of this demand to spill over to imports automatically.
- The PCA has given no indication how a quota should be allocated. Should quotas be auctioned or allocated to processors based on their importing history? How quotas are allocated is critical in determining who appropriates the windfall gains which quotas deliver (that is, the margin between the import price and the

domestic selling price). In addition, as Australia does not have quota arrangements in place for any other products, the task of establishing and allocating a quota could be time-consuming. Auspork suggests the quotas should be allocated to exporters, but this would give the benefit of higher prices to foreign exporters by allowing them to charge a higher price for their exports to Australia than to other markets (see trans., p. 182).

- The PCA has not proposed any liberalisation of the quota over time and yet progressive liberalisation of measures at regular intervals is a requirement of the WTO Safeguards Agreement (where safeguard measures are in place for more than 12 months).

5.2.2 Nature of serious injury and industry adjustment

An appreciation of the nature of the serious injury and the adjustments required if the industry is to be better placed to compete with imports is critical to determining appropriate safeguard measures.

The nature of serious injury

As discussed in chapter 4, low domestic prices and profitability over 1998 as a result of increased imports have been the principal manifestation of serious injury to the industry. While prices and profitability could have been expected to be lower over 1997–98 compared with 1996–97 due to rebuilding of production levels after the drought, the size and duration of the fall in prices cannot be explained by increased production.

In 1995, Canadian pork legs were estimated to be 15 per cent to 30 per cent cheaper than equivalent Australian legs but, also at that time, the quantity of Canadian imports effectively was restricted by the decision by some major local processors only to buy local pigmeat. Over 1996, the price difference between imports and local pigmeat increased, leading to more than a doubling of imports of boned legs in the 1996–97 financial year. This increase in imports would have moderated price rises but did not cause serious injury over 1996–97 because of an apparent domestic supply shortage (following the drought which had led to around 25 per cent of producers leaving the industry). But as domestic production came back on stream to 'normal' levels over the course of 1997 (see chapter 4, figure 4.5), reflecting increased investment by remaining pig producers, the price-depressing effect of increased import levels was exposed. There has been some easing of import quantities over 1998 but imports remain at least double their level in 1995–96 and there is no indication that import levels will return to their pre-1996 level. Indeed,

evidence from participants suggests that prices for Canadian legs have fallen, despite recent depreciation of the Australian dollar relative to the Canadian dollar. Official data show that the unit value of Canadian imports under tariff sub-heading 0203.29 fell from 355c/kg in August 1998 to 333c/kg in September.

The nature of the adjustment

The Australian pigmeat industry comprises over 3000 pig producers and more than 270 processors. From evidence submitted, it is clear that performance is not uniform across the industry and that the extent of serious injury largely has been a function of relative efficiency.

If imports continue at or close to present levels, the domestic industry will continue to feel the pressure of increased import competition though the nature of the effect is likely to change. In the absence of a significant fall in world prices, domestic prices are unlikely to return for any lengthy period to the low levels reached in early 1998 for two main reasons:

- local and export demand for fresh pork and other parts of the pig (for processing) which cannot be imported (and which are not directly substitutable with pork legs) will place a floor under the price of pigs; and
- such lower prices will induce a reduction in domestic supply.

Thus, some part of the local pigmeat industry will survive import competition but how large that industry is and what form it will take will depend on the industry's ability both to develop new markets and to reduce its overall cost structure.

The inevitability of further rationalisation in pig production was recognised in several submissions. For example, Socom Piggery observed that:

> … the whole Australian pig industry has to restructure very rapidly and that many of the current players will not be able, for different reasons, to be part of the new arrangements … Those who have large, functional and well located facilities who are prepared to accept change and lock into contract growing arrangements with large breeding organisations, survival is likely. Those who do not have this type of facility and/or attitude will be forced to leave the industry. (sub.61, p. 2)

Windridge Pig Farm (sub. 48) saw the industry responding in a similar way, with some producers leaving the industry, though it considered that safeguard measures were a pre-requisite for orderly adjustment. Bunge Meat Industries (sub. 39), B.E. Campbell (NSW) (sub. 46) and Auspork (sub. 51) stressed the need to expand export capacity.

At first blush it might appear unusual to have an agricultural industry that is simultaneously import-competing and exporting. But, to a large extent, exports and imports comprise different parts of the pig — Australia has a high demand for legs relative to other cuts as compared with many other countries.

In view of the submissions, hearings and visits, the Commission considers that there is fairly broad recognition in the industry that adjustments are required and, moreover, that these adjustments will require some producers to leave the industry. In addition to a reduction in the number of growers and a consolidation of herds, adjustments are likely to include greater integration of pig farming and processing activities, improved efficiency, quality improvements and the development of domestic and export markets and export capacity.

The critical question is whether safeguard measures will promote or impede these adjustments. A majority of participants claimed that safeguard measures were required to:

- restore confidence and certainty to the industry so that investment plans (especially plans to expand export capability) could proceed;
- ensure that efficient producers were not forced to leave the industry; and
- allow those who did leave to receive better prices for their sows and capital — to 'leave with dignity'.

Another view is that import restrictions, by raising domestic prices, could slow the adjustment process by encouraging some marginal producers to remain in the industry and, arguably more importantly, by discouraging exports. If domestic prices rise as the result of import restrictions, the opportunity cost of exports will rise and thus reduce the incentive to export. This possibility has been raised by Socom Piggery:

> I do not want to see tariffs and/or quotas used at this or any other time. They will simply make the exportation of pork more difficult and I am sure I do not need to lecture the commissioner on this matter. With Australia on the threshold of developing its own export sector it will long regret any tariff action …
>
> If you were to impose tariffs I believe you would slow the rate of change to such a pace that we might fall so far behind the Canadians and Americans that we will never recover. (sub. 61, pp. 3–4)

5.2.3 The Commission's assessment

The Commission does not consider that safeguard measures which reduced the level of imports to that which prevailed before the increase in imports would be

appropriate. As noted above, this would fail to take into account market growth (including exports) over the past two years and, most importantly, the adjustment already undertaken by many domestic producers, in particular the recent development of export markets, in response to pressure from imports.

In addition, the Commission considers that quantitative restrictions would be inappropriate for this industry because of the necessity to keep in touch with the world market, on which prices are continually changing. The importance of keeping attuned to market signals was stressed by the Department of Primary Industries Queensland:

> The provision of such [safeguard] measures should recognise the need for market signals to continue to flow to the industry … (sub. 49, p. 11)

In addition, the allocation of the quotas would be a difficult administrative exercise and could introduce distortions within the processing industry. On the other hand, an *ad valorem* tariff is simple to administer, affects all industry participants in the same way, transmits changes in import prices and its protective effect is transparent. Compared with a specific tariff, it provides a constant degree of protection in the presence of changing import prices.

While preferring a tariff over a quota, and an *ad valorem* tariff over a specific tariff, the Commission nevertheless has strong reservations about the ability of a tariff to remedy serious injury and facilitate adjustment in the Australian pigmeat industry because:

- temporary import restrictions cannot protect high cost producers except in the very short run, and thus may not provide much assistance to those who have suffered most injury and who, sooner or later, will be forced to leave the industry; and
- on the other hand, those who remain in the industry will need to become internationally competitive as quickly as possible in order to be able to develop export markets. But import restrictions generally are not conducive to export development because they promote a home-market bias by raising prices on the domestic market.

In other words, while safeguard measures might provide a breathing space it is not clear that this time necessarily would be used to foster the change that is required. For some it may simply delay exit, while for those who intend to stay in the industry, it would be essential that they view any restriction on imports as temporary.

The Commission thus considers that if a tariff is imposed, the level and duration must be such as to achieve a delicate balance between remedying serious injury caused by increased imports and facilitating adjustment. In the Commission's view, this would suggest a rate of tariff of 10 per cent, phasing to 5 per cent after one year, and to zero in two years' time. Based on participants' evidence, the Commission estimates that a 10 per cent tariff applied on the *fob* value of imports would raise the price (in store) of an imported full leg by around 35 to 40c/kg and the price of a baconer carcass by 5 to 10 c/kg or about 4 per cent at current prices.

In considering what level of safeguard measure would remedy serious injury, the Commission has been mindful of somewhat lower import volumes over 1998 as well as adjustments already under way in the local industry which have improved or will improve its competitiveness. It also has been careful not to specify a tariff level that would compensate the industry for the price-reducing effect of increased domestic production over 1997–98. In other words, the Commission has discounted the effects of increased production on prices from its assessment of serious injury caused by imports.

Importantly, a 10 per cent tariff, phased out over two years, would moderate but not block international competitive pressure which is essential if the industry is to continue to adjust. A 10 per cent tariff, phasing to 5 per cent after one year and zero after 2 years, would provide short-term price relief to relatively efficient producers but would not provide a fortress for relatively high-cost producers.

Although the Commission considers that a tariff of this magnitude can be justified under the WTO safeguard criteria, it also notes that:

- a package of measures designed to enhance export capacity and to assist producers who wish to leave the industry is in place already. Such schemes may facilitate expansion of export capacity and promote export market development and target assistance to those forced to leave the industry more effectively than safeguard action. The Commission is not in a position to address, in this inquiry, the general question of the adequacy of direct assistance to those who leave industries or occupations. As to the adequacy of measures already in place to assist the pigmeat industry, little evidence was submitted to the Commission on this issue, though several participants complained that schemes designed to promote export capacity did not support pig farmers. However, the benefits of schemes designed to generate additional markets for pigmeat will accrue in the medium to long term. The Commission also notes that the PCA in its submission to the Rural Adjustment Scheme Advisory Council (RASAC) in May 1998, recommended changes to the Farm Family Restart Scheme (FFRS) (which

provides income support for farmers experiencing financial hardship) to make the scheme more accessible to pig producers; and

- it may be feasible for local ham and smallgoods manufacturers to switch to importing *chilled*, boned pork cuts from Canada or Denmark. (These cuts, which fall under tariff sub-heading 0203.19, are outside the Commission's Terms of Reference.) Such imports from Canada have been permitted since May 1996 and from Denmark since October 1997. While volumes to date have been relatively small (about 150 tonnes from Canada in total), presumably reflecting the higher costs of transporting chilled pork compared with frozen pork, the additional costs of importing chilled pork product may set a limit to the practical effect of any safeguard action on frozen pigmeat falling within tariff sub-heading 0203.29.[1]

[1] The Commission has been advised that temperature control must be more precise for chilled meat than for frozen meat, hence, the additional cost.

6 Additional considerations

The reference for this inquiry is made under Parts 2 and 3 of the *Productivity Commission Act 1998* (PC Act). As outlined in chapter 2, Part 2 of the Act requires the Commission, when carrying out its functions, to have regard to several general policy guidelines (see box 2.3). This chapter considers the effects of safeguard measures against the relevant criteria.

In addition, the World Trade Organization (WTO) Agreement on Safeguards requires that the evidence and views of interested parties, including importers and exporters, be admitted to the inquiry, including " … their views, *inter alia*, as to whether or not the application of a safeguard measure would be in the public interest". These comments are incorporated in the relevant sections below, in particular, in section 6.9.

6.1 Safeguard measures and overall economic performance

Trade liberalisation generally increases national income. National income is increased because capital and labour can move out of protected import-competing industries into other uses and because competition from imports encourages more efficient local production and management processes. There may be additional gains if imports reduce market power of domestic firms or if wasteful rent-seeking activities (to maintain protection) are discouraged. Adjustment costs must be offset against the gains from trade, but adjustment costs are likely to be transitory, while the gains from trade are permanent.

Import restrictions, by reducing trade and import competition, generally will reduce the potential resource allocation and dynamic gains from trade.

Application of safeguard measures on imports of frozen pork will reduce real national income on two margins — by raising consumer prices and reducing consumption, and by encouraging use of higher-cost local pigmeat in the production of ham and smallgoods.[1] While it is possible in principle that these 'static'

[1] It is highly unlikely that Australian demand affects the world price for pigmeat (Australia's imports of pigmeat represent about 0.5 per cent of world trade). Thus, decreasing imports is unlikely to reduce the price of imports.

efficiency effects could be offset by other static efficiency considerations, the Commission has seen no evidence of these. That plant and equipment may be used that otherwise may be idle is a gain to the owners of these assets but this is an income distribution, rather than an efficiency, matter.

Because the pig and pigmeat industries are very small in relation to the Australian economy (less than 0.1 per cent of GDP in 1996–97), the net loss of national income due to the static effect of import restrictions on resource allocation would be barely perceptible in aggregate figures. However, as discussed in section 6.4, income transfers between producers and downstream users and consumers could be much larger.

The impact of safeguard measures on productivity within the industry is unclear. Increased import competition has highlighted the need for accelerated productivity change in the industry if it is to be internationally competitive. If this pressure is eased, it is possible that reform efforts likewise will be relaxed. On the other hand, if safeguard measures do not block world price signals, and provided the industry accepts that it will be fully exposed to international competition in a few years' time, efforts to reduce costs and improve quality are likely to continue. For these reasons, the Commission has argued in favour of limited *ad valorem* tariffs over a quota or a specific rate of duty *if* a safeguard measure is to be imposed (see chapter 5).

6.2 Safeguard measures and internationally competitive industries

Import restrictions, in general, are antithetic to the development of efficient, enterprising, innovative and internationally competitive industries. Safeguard measures, because they are temporary and must be progressively liberalised to facilitate adjustment, are less likely to foster inefficiency and a home-market bias. Nevertheless, by increasing the prices received on the domestic market, even for a short time, safeguard measures could discourage, or at least slow, necessary rationalisation and undermine export competitiveness by increasing the attractiveness of domestic sales *vis-à-vis* exports.

An alternative view put by many in the industry (see, for example, subs 24 and 51) is that, by giving producers a breathing space (and higher producer prices), safeguard measures will allow the industry to rationalise, to implement reforms and to undertake the investment necessary for improving long-term competitiveness.

As discussed in chapter 5, it is the Commission's view that, if the industry is to become internationally competitive, it must continue to be exposed to world price signals. If measures are imposed which block these signals, it is conceivable that the

industry will experience another crisis in three or four years' time when any safeguard measures inevitably are removed.

In addition, as discussed below, the competitiveness of the ham and smallgoods manufacturing sector is likely to be harmed by measures which raise the cost of a major input.

6.3 Safeguard measures and industry adjustment

This issue is discussed in chapter 5.

6.4 Effects of safeguard measures on users and consumers

As outlined in chapter 5, section 5.2, allowable safeguard measures include tariff, tariff-quotas and quotas. All of these measures, under reasonable assumptions about international markets, will tend to raise the domestic price of imported pigmeat as well as the price of domestically-produced pigmeat. The likely impact on the pig and pigmeat industries is discussed in chapter 5. The focus here is the impact on related industries and consumers.

Safeguard measures and user industries

The opening of the domestic market to imports of pork for use by pigmeat manufacturers in 1990, will have increased the *effective* rate of assistance to the downstream processing sector.[2] At the same time, the effective assistance available to pig production would have fallen from a virtually infinite level (due to the import embargo) to close to zero.[3] Safeguard measures, if imposed, will tend to increase effective assistance to pig production while reducing effective assistance to downstream manufacturers.

The demand for pigmeat by ham and smallgoods manufacturers is directly related to the quantity and unit value of ham and smallgoods sold. If the cost of a major input — pigmeat — rises, the cost of supplying ham and smallgoods also will rise. A higher supply price will tend to reduce consumption and the quantity of ham and

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2 Effective rates of assistance provide a measure of the *net* assistance given to a production activity, taking into account assistance on outputs of the activity adjusted for assistance provided to inputs. If inputs are taxed (or protected) the effective rate of assistance to the user industry will be less than the assistance given to the output of that industry.

3 The *de facto* import restriction which resulted from the decision of several large processors not to use imports would have meant that, in practice, the effective rate of assistance was positive.

smallgoods sold, and lead to a reduction in processors' demand for pigmeat. With a safeguards action, imports will bear the brunt of this reduction in demand while demand for local product will expand. Nonetheless, the local ham and smallgoods sector is likely to contract, reflecting lower demand induced by higher prices, while consumers will be worse off, paying higher prices and consuming less.

If imported products compete with local hams and smallgoods, the domestic prices of these products effectively will be set by the import price. In this situation, a rise in the price of a major input (due to application of safeguard measures) will increase domestic production costs but ham and smallgoods producers cannot raise the selling price because of import competition. These manufacturers will face a price-cost squeeze that is likely to lead to a reduction in output and, in time, to some of them leaving the industry. In this scenario, the more similar are imported and local goods, the more adjustment will be borne by the local processing industry because consumers can substitute imports for local products at the prevailing world price.

Until October 1997, the only processed pork allowed into Australia was in the form of canned hams. They attract a general tariff rate of 5 per cent, but also have been subject to countervailing measures in the past. In October last year, Canada received approval to export processed, uncanned product to Australia. The Commission understands that such imports would be chilled rather than frozen and would enter free of duty. Although there have been no imports in this category so far, the potential exists for increased competition in the ham and smallgoods market.

If safeguard action were to restrict imports of the pork which is the subject of this inquiry, it is feasible that Canadian pork producers could switch to exporting final goods, though this will depend on the cost of exporting. The Commission has been advised that a limited shelf life and higher costs of transporting processed product may provide local producers significant 'natural' protection against such imports. Nonetheless, if importing proved to be economically viable, local ham and smallgoods manufacturers would be hit twice, having to pay higher prices for pigmeat as well as receiving a lower, import-constrained price for their output. Output — and employment — would tend to fall due to the combined impact of imports plus the safeguard restriction on pigmeat.

Several smallgoods manufacturers do not use imported pork (see, for example, sub. 5) However, the effects described above would be felt by all downstream processors. This is because the domestic price of pork cuts used in processing, whatever their source, will tend to be driven by the import price of equivalent cuts. If imports are restricted and their price rises, so too will the price of domestic cuts.

Market power

The Department of Primary Industries Queensland (sub. 49) suggests that imposition of safeguard measures (in particular, quotas) could reduce the market power and margins of so-called middlemen and thus improve national welfare. Specifically, the paper by Purcell and Harrison (which forms appendix 2 to sub. 49) contends that the benefits of cheaper imported pigmeat are not being passed on to consumers. This, they argue, is due to 'middlemen' increasing their margins. Moreover, it also is argued that, if consumer prices do not fall and consumption remains static, while local pigmeat is displaced by Canadian imports, imports actually may reduce national welfare.

The Commission does not agree that downstream processing and retailing is uncompetitive in the manner suggested. At any rate, even if market power did exist, the claim in the submission appears to be based on an incorrect interpretation of the gains from trade. Replacement of higher-cost domestic production by lower cost imports represents a gain from trade whether or not there is market power exercised by processors and/or retailers.

The inference that the availability of imports will increase market power of buyers of pigmeat is puzzling. If imports are available at a given price, local buyers will have little scope to exert market power — in effect, they become price takers, albeit to their advantage, at a lower world price. A tariff or quota, which increases returns to producers of pigmeat and encourages displacement of imports, will reduce the gains from trade, not increase them. Indeed, a quota could encourage buyers of pigmeat to re-exert market power (if they had such power before imports were allowed). Once the quota has been filled, buyers with market power may try to limit their demand for local product, thus restraining the rise in the domestic price (which would otherwise occur as the result of the quota) and raising their selling prices.

Safeguard measures and consumer welfare

As discussed above, if safeguard measures were imposed, consumer prices of processed pork products would be expected to rise, unless the price of these products is determined by import prices or, for that matter, export prices. It seems unlikely that the domestic price of leg hams has been set by the world price in the past, despite the availability of imported canned hams.[4]

[4] It would appear that canned hams are not considered by consumers to be a good substitute for leg hams.

However, the decision in October 1997 to allow imports of uncanned, processed pork from Canada (see appendix F) opened an avenue for direct competition with Australian hams. Subject to the economic feasibility of importing these products, this opening of the market will limit the extent to which domestic consumers of hams will face higher prices caused by the imposition of import restrictions on frozen pigmeat. As noted above, however, such insulation would be obtained through imports of processed products, at a cost to local smallgoods manufacturers.

Consumers of fresh pork and other processed pork products could also be affected by safeguard actions. If imports of legs and lower prices of pigs have encouraged a reduction in local output, the price of some parts other than legs could have risen (subject to the constraints of competition from other meats). This price effect would be moderated by safeguard measures. On the other hand, to the extent lower prices for legs used in processing have encouraged pigmeat producers to divert legs to other markets (for example, the fresh pork market), prices in these markets may have fallen. This effect would be reversed to some degree by the introduction of import restrictions.

6.5 Safeguard measures and employment

As outlined in chapter 4, there is some evidence that increased imports have led to labour-shedding (especially paid labour) by some pig farms.

It does not necessarily follow, however, that safeguard measures would restore these jobs. With safeguard measures being imposed in such a way as to facilitate adjustment (as is required by the WTO Agreement on Safeguards), they might slow production and employment losses in the pig farming sector, but neither stop nor reverse the decline.

Moreover, as indicated in section 6.4 above, safeguard measures could reduce employment in the pigmeat manufacturing sector.

6.6 Safeguard measures and regional development

Some participants (see, for example, subs 7 and 48) have stressed the strong linkages between pig farming and other rural-based activities, and the potential detrimental effects of piggery closures on rural businesses and towns.

Pig production is a rural-based activity spread throughout grain-growing regions (see appendix D, figures D.6 and D.7). There is some clustering of producers (especially larger producers) around large, specialist pig abattoirs and processing

operations (for example, Bunge Meat Industries at Corowa (NSW) and Darling Downs Bacon at Toowoomba (Qld)).

The pig production sector is undergoing rapid structural change, driven in part by price pressures but also by structural change in the abattoir and processing sectors (see chapters 7 and 8). Rationalisation of abattoirs, including a shift to specialist pig abattoirs-*cum*-boning rooms, is having a profound effect on the viability of some pig farmers who are no longer in reasonably close proximity to an abattoir. In addition, pressures by processors to buy pigs from selected suppliers also will have implications for those farmers not in a position to form alliances with processors and other farmers. Yet such restructuring appears essential if Australia is to become an internationally competitive producer of pigmeat. Moreover, as far as the Commission can gauge from evidence submitted, most producers in the industry accept the inevitability of such restructuring whether or not safeguard measures are put in place.

As discussed in chapter 5, safeguard measures have the capacity to slow such restructuring but will not stop it, nor is it appropriate that they do so. Structural change necessarily will involve regional adjustment but, given the broad geographical reach of pig production, and the impossibility of predicting producer alliances, it is not possible to say in which regions pig farming will survive and expand and in which regions it will contract. The location of processing facilities will, however, be a factor.

6.7 Safeguard measures and trade liberalisation by Australia's trading partners

The Australian Government has identified agriculture as one of the principal areas providing greatest potential benefits to Australian exporters.[5] Whether or not a new round of multilateral trade negotiations under the WTO commences in the next year or so, the WTO Agreement on Agriculture is scheduled to be revisited, starting in 1999.

As noted by the NSW Farmers' Association and the Pork Council of Australia (PCA) (see subs 13 and 55 and section 6.9 below), safeguard action is entirely consistent with WTO rules. However, the NSW Farmers' Association observes that it is important that, if Australia wishes to argue for further liberalisation, its free-trade credentials are not diminished. The Department of Primary Industries Queensland also urged that:

5 Deputy Prime Minister and Minister for Trade (the Hon. T. Fischer MP), *Media Release*, Singapore, 13 December 1996.

... any such measures should not put at risk international trading arrangements for any of our other primary products. (sub. 49, p. 11)

6.8 Safeguard measures and ecologically sustainable development

Piggeries and abattoirs are subject to very strict environmental requirements in all States. The external costs of pigmeat production and abattoir and boning operations would appear to be included in the private costs of production.

6.9 Safeguard measures and Australia's international obligations and commitments

Australia, the WTO and trade liberalisation

As noted by the PCA, application of safeguard measures in accordance with the WTO Agreement is WTO 'legal'. Indeed, the PCA (sub. 55, p. 44 and trans., pp. 133–4) stresses that safeguard action is a mechanism designed to promote trade liberalisation. Nonetheless, safeguard measures, provide a means for Member countries to suspend commitments and obligations under the WTO.[6]

Consequently, member countries are not *required* (or encouraged) to take safeguard action even if the criteria justifying such action are met. Indeed, extensive use of such measures could be regarded as contrary to the spirit, if not the letter, of the international trading system, a system to which Australia is strongly committed.

The NSW Farmers' Association submission encapsulates this dilemma:

> Australia plays an important role in lobbying for further reform of agricultural trade — particularly in its role as Chair of the Cairns Group. This role will be increasingly important in the preparations for and during the WTO round of negotiations on agriculture scheduled for 1999. It is important that Australia retains credibility as a free trading nation so that its ability (and that of the Cairns Group) to push for further reform is not diminished.
>
> *The Association recognises this and is convinced that any actions taken to safeguard any industry must conform with internationally agreed trade rules. [emphasis in original]* (sub. 13, p. 4)

At the same time, the Association notes:

6 See, for example, Hoekman and Kostecki (1995, p. 168) who note that "The relatively stringent conditions for obtaining Article XIX cover for protection reflected the fact that such protection violates earlier tariff commitments".

However, it is equally important that Australia ensure that it makes full and effective use of the measures legitimately available under those rules. [emphasis in original] (sub. 13, p. 4)

Safeguards and bilateral trade relations

The Queensland Sugar Corporation has pointed to the preferential (zero) tariff rate applied to its sugar exports to Canada under the Canada-Australia Trade Agreement (CANATA). The submission states:

> *In the absence of CANATA, Australia would be the only raw sugar exporter in the world required to pay the full Canadian MFN duty. [emphasis in original]*
>
> If by way of retaliatory action the Canadian government sought to exclude sugar from CANATA (a relatively small step in the context of WTO rules), the impact would be to effectively exclude Australia from the Canadian import market. This would have flow on effects to the value of Australian sugar in other export markets. (sub. 19, p. 4)

The PCA responded in the following terms:

> The fact that QSC [Queensland Sugar Corporation] has raised the possibility of retaliation in this way is a clear indication that it does not understand the nature and purpose of the Safeguard measures to which it is so opposed. The fact is that Safeguard measures are not unfair trade measures that might legitimately warrant retaliation. Rather, as this Council's Submission to the Commission points out, Safeguard measures as requested by the pigmeat industry are legitimate rights under the WTO Safeguards Agreement, designed to address a situation whereby serious damage is caused to an industry as a result of an unexpected import surge. It is for that reason that the Agreement specifically prohibits retaliation, as Safeguard measures represent the exercise of legitimate rights under the Agreement. Such measures do not constitute unlawful action in any respect. (sub. 67, pp. 1–2)

The Commission agrees with the PCA that Australia is entitled to take action under the WTO Safeguards Agreement, in accordance with the provisions of the Agreement. In so doing it is required to "endeavour to maintain a substantially equivalent level of concessions and other obligations to that existing under GATT 1994 between it and the exporting Members which would be affected by such a measure" (Article 8:1). There is no scope for the affected exporting Member (in this case Canada) to take retaliatory action within the context of the WTO — that is, to suspend "the application of substantially equivalent concession or obligations under GATT 1994, to the trade of the Member applying the safeguard measure", provided that the safeguard measure is exercised for three years or less.[7]

[7] Such retaliatory action may be taken earlier if safeguard measures have been imposed where imports have not increased in absolute terms. This does not apply in the current case.

The Commission does not wish to speculate on the question of any response the Canadian Government may take. However, as major participants have raised the question of preferences, it is the understanding of the Commission that while, under the WTO agreements, Australia and Canada would not be able to increase preferences for the products of each other (short of forming a free trade area or customs union), the WTO agreements do not constrain the reduction or removal of existing preferences. The conditions under which such preferences could be reduced or removed by either party are a matter for CANATA not for the WTO. The preferences are not "concessions or obligations under GATT 1994".

7 Competitiveness and profitability: pig farming

In addition to examining possible safeguard action, the Terms of Reference for this inquiry require the Commission to report on the factors affecting the profitability and competitiveness of the domestic pig farming and pigmeat processing industries. This chapter considers these issues for pig farming while chapter 8 examines the pig processing sector, especially abattoirs. Both chapters are supported by data in appendix D.

While the safeguards inquiry examines short term issues relating to injury and adjustment, this chapter focuses on longer term issues that will determine the future for pig farming in Australia and on what longer term adjustments the industry may need to make to become competitive and profitable in the international arena.

7.1 Developments in competitiveness and profitability

7.1.1 Recent structural change

Prior to the easing of quarantine restrictions in 1990, the international competitiveness of the Australian pig farming industry was not critical to its profitability. But, even without exposure to international competition, significant structural change continued to occur in pig farming over a long period with the higher cost (often non-specialist) units, or those farmers with better alternatives, leaving the industry. Their market share was taken by existing or new lower cost farmers. Such changes have been accompanied by ongoing price falls, with real pig prices declining by an average of two per cent a year over the last 25 years.

Many existing producers have invested to improve productivity, thereby establishing lower real pig prices at which less efficient producers could not compete. Industry efficiency has also been enhanced by new operators taking over the existing or abandoned piggeries. Some farmers with particular expertise have been re-employed by expanding farms.

The rate at which such adjustments occur will partly reflect the disparities in costs between individual producers and partly the rate at which more efficient producers are able to expand their output. Stringent State government planning and environmental requirements on new piggeries or expansions of existing piggeries have placed some restrictions on this process.

7.1.2 Impact of imports

The process by which imports have played a far greater role in setting domestic pigmeat prices since 1996 has been outlined in chapter 4. Essentially it became untenable for large non-integrated bacon, ham and smallgoods manufacturers to pay well in excess of import prices for local pigmeat while their smaller competitors used significant amounts of cheaper imports. Hence, larger processors not vertically-integrated with the pig growing sector commenced or increased the use of lower priced imported product.

In chapter 4, it is argued that the resultant increase in imports of frozen legs in 1996–97 — by moving domestic leg meat prices closer to import parity levels — was an important factor explaining the significant fall in domestic pig prices during 1997–98. Once established, this pattern of using imported leg meat if local prices start to rise significantly above world prices is not likely to be reversed. In particular, the seasonal pig price increases traditionally observed towards Christmas should now be minimal because imports are available to meet demand peaks for leg meat. Significant adjustment is likely to be required if the pig growing industry is to adapt successfully to this very different market environment.

As Australia is a small market for major pig producers such as Canada, the competitive pressures are now much greater than when only cost differences between domestic producers was driving change. Any lack of competitiveness in the domestic industry, from whatever source, will now have to be borne by domestic pig producers. Previously these costs would have been largely carried by domestic consumers in terms of prices higher than those prevailing in overseas markets.

7.1.3 The pig industry's response to international competition

Although initially quite muted, the Australian pig industry's response to the more intense and permanent competitive pressure imposed by the availability of imported product in the domestic premium market, has been more fundamental than previous structural adjustment. There is now a greater urgency in the search by firms, at all levels in the industry, for ways to improve efficiency and restore profitability. These developments, many of which are still in the embryonic stage, include:

- entry to or expansion into export markets to obtain premiums for quality, product suitability (for example, meat colour) or market (for example, Japan), to seek (higher) world prices for cuts other than legs, and to export products which have limited markets (for example, offal and other by-products) in Australia;
- closer relationships between various links in the pigmeat chain. By developing closer long term business relationships processors and pig farmers can create greater certainty, improve quality control and achieve scale economies throughout the production, distribution and selling systems. Agreements between processors and major retailers can generate similar benefits. Development of longer term relationships provides a framework for investing in fundamental changes such as quality assurance and entry into export markets. These options may be less accessible to smaller pig farmers because of the higher transaction costs in dealing with many small operators. Co-operative style ventures such as Darling Downs Bacon offer a means to achieve greater vertical integration for efficient small farmers. However, they do not guarantee continuity of operation for farmers: the rate of decline in Darling Downs Bacon membership between 1991 and 1997 was more rapid than that for Queensland pig farmers as a whole;
- changed methods of operation and marketing by pig farmers to improve their efficiency and returns and to diversify their customer base; and
- processors moving into more value added products with higher returns. Competition between processors should mean that some of these gains are returned to pig farmers in higher prices.

In conjunction with the above developments, the traditional adjustments observed in periods of low prices and poor profitability continue to occur. There has been a continued decrease in the number of pig farmers, although the rate of reduction in 1997–98 was relatively slow (less than 200, or about 6 per cent) compared to that in earlier periods of poor profitability.

Benedek Consultancy (an importer of pigmeat) argued that the pig farming industry's rate of adjustment has been too slow:

> ... the local pigmeat industry has had almost 20 years to re-adjust in a manner which would ensure competitive presence against imported product as well as to become a significant exporter to world markets. Hence, the solution to existing problems of the Australian pigmeat industry needs to be rectified within this country first, before looking to blame others elsewhere ... (sub. 2, p. 4)

There have been indications that the current rate of exit from the industry is relatively slow due to hopes of improved conditions and the large capital losses that would be incurred by exiting in the current market environment. The Department of Primary Industries Queensland stated:

> Few producers appear to have left the industry in Queensland over this crisis period. Many are postponing their decision until the traditionally high pre-Christmas pig price period has passed, in the meantime accumulating huge debt to associated agribusiness which is similarly affected. (sub.49, pp. 1–2)

The relatively low level of pig farmers' net debt at the end of 1996–97 (see table D.19) would have made staying in the industry somewhat easier.

One factor that delayed the response of the local pig farming industry was the slow take up of Canadian imports by local processors. This action softened the impact of North American leg meat prices on the Australian market. Submissions received by this inquiry indicate that this delay, by encouraging domestic expansion on the basis of local prices that were not fully reflecting world prices, has made the eventual adjustment more painful for local pig farmers. Because the increase in imports occurred at a time of declining world pig prices and followed a sharp upswing in prices in the Australian market in 1996, they have caused particular financial difficulty for those Australian pig farmers investing and expanding in response to those high prices. Lea Newing indicated the rationale for the further expansion of her family's farm to 800 sows in 1997:

> Pig prices in the 1990's had always averaged above $2.10 per kilo, the buoyant prices he obtained in 1996, coupled with the lowering of interest rates gave him the confidence to expand. He believed now Australia was part of a global market, prices would be sustained. (sub. 59, p. 3)

The enterprise is now in liquidation. If domestic prices had more fully adjusted to import prices earlier, some expansions of this nature may not have occurred.

It appears that some lower cost pig farms are closing down or being sold because of cash flow problems and lack of access to finance, particularly if they have recently borrowed to fund expansion. Often this investment would have been made to improve long-term productivity.

Many remaining farmers have indicated in submissions to this inquiry that they have cut back production in response to prices below avoidable production costs. Importantly, many also indicated that they had shelved expansion plans or stopped existing expansions before completion. Some have also indicated that they may soon be forced to cease pig production or have cited examples of recent departures.

Submissions from pig farmers have also described short-term, cash flow generating savings in input costs. These include reductions in paid labour (often replaced by extra hours worked by owners), delays in maintenance expenditure and improvements in feed efficiency. While such adjustments help ameliorate short-term cash flow problems, some are not sustainable in the long term. More permanent

efficiency improvements will be needed if the industry is to compete effectively with imports and on the export market.

7.1.4 Future developments

Discussions with all sectors of the industry, together with submissions from pig producers and processors, have reinforced the view of an industry in a particularly dynamic but uncertain environment with individuals and groups of producers testing many different strategies to improve performance and profitability. While not all will be successful, the degree of change at all levels in the industry suggests the emergence of a more productive and lower cost industry with the potential to receive better returns for its product than at present.

Some of these developments may require smaller producers wanting to succeed in the new internationalised environment to change their methods of operation in order to obtain some of the cost advantages available to larger enterprises. This is particularly so in an environment of emerging production chain relationships.

The existence of a potentially very large supply of imports available at less than two months notice lessens the incentive for processors to freeze local product for long periods. In the absence of any other changes, this development suggests that the domestic pig growing industry would contract somewhat. However, as outlined above, the industry is already pursuing a number of strategies which would allow it to continue growing.

There is likely to be much less variability in efficiency and product specification and quality between individual producers than at present. Only the most effective producers can expect to survive in an industry closely integrated with the world market. Socom Piggery observed:

> Those who have large, functional and well located facilities who are prepared to accept change and lock into contract growing arrangements with large breeding organisations, survival is likely. Those who do not have this type of facility and/or attitude will be forced to leave the industry. (sub. 61, p. 2)

7.1.5 Exports

Some sections of the industry argue that, with the provision of sufficient export slaughtering capacity, exports can provide a solution to the industry's current difficulties. As there is only limited indication of industry-wide scale economies to suggest that the industry can become more profitable just by getting bigger, the major benefits from exports will need to come through price premiums in some

markets (particularly Japan) for products carefully targeted on the requirements of these markets, better prices for local low value cuts, more use of higher value added branded products, and larger markets for by-products such as offal and trotters.

The significant current and planned investments in processing plants and piggeries for future exports by major pig producers and processors such as Darling Downs Bacon, Auspork and DanPork suggest that at least some of the leading Australian producers expect the domestic pig growing industry to be competitive on world markets in the future. This implies that in the long term they must also expect to be competitive in domestic markets for legs and other cuts without depending on a large Christmas premium price for legs.

However, there remains uncertainty surrounding some of these investments, reflecting the recent price and production volatility in the Australian and world pig markets. In particular, the prices of below $1.50/kg being received for a dressed carcass by some producers during 1998 created doubts among those considering investments in slaughtering capacity, about the sustainability of much of the domestic pig growing industry. Hurstbridge Abattoirs commented:

> ... Hurstbridge Abattoirs has recently undergone a complete rebuilding and refitting program which has been partially completed. There are still numerous projects in this program placed on hold caused once again by the uncertainty of the industry. (sub. 18, p. 2)

Miandetta Farms identified developments required for export growth to extend beyond the large producers.

> For its part, industry will need to continue its export thrust into Asia. It will need to construct new efficient processing facilities. Pig producers will need to network into groups, adopt quality systems and continue to improve production efficiencies.
>
> The industry is preparing a plan for an export company to facilitate exports, set and monitor standards and provide an opportunity for processors to co-brand products and jointly work together to fill orders. (sub. 24, pp. 2–3)

The concept of an export company to provide marketing and technical support to producers involved or interested in exporting has support in the industry (including the Pork Council of Australia (PCA)) but developments are still at an embryonic stage.

However, other industry participants were less certain about the profitability of export markets. Ingoldsby Piggery observed:

> We have yet to see any objective evidence of substantial export markets being available for Australian pigmeat at prices or volumes able to be provide significant benefit to the Australian pig industry.

Sunnydale Farms argued:

> I have yet to observe any lasting evidence that our future, as we are regularly informed, lies in exports. I have yet to see a study that concludes that there is a net benefit to Australian producers by processors attempting to export unsubsidised product onto subsidised world markets. It is patently absurd calling for producers to export, as producers surrender control of their product at the farm gate. (sub. 33, p. 2)

Bunge Meat Industries was ambivalent about the immediate prospects for exports.

> ... in terms of suggesting there's a premium for shoulder meat and middle meat out there, it's difficult to forecast at this stage. Certainly our exports have in more recent times provided an improvement over the domestic price ... (trans.,pp. 78–9)

Two conditions that must be met if individual pig producers are to be profitable in the internationalised market they now face, are cost competitiveness with overseas producers and obtaining international prices for parts of the pig that have returned relatively low prices in the domestic market in the past. These issues are examined below.

7.2 Current cost competitiveness of Australian pig farming

Cost competitiveness of an industry in a particular market is its ability to produce an item of a given quality for that market at a cost equal to or less than other countries. Hence, cost competitiveness will be a mixture of productive efficiency, input prices, transport costs and exchange rates and it will change over time with movements in these variables. An industry's relative competitiveness will vary between markets due to transport costs.

The main focus of the pig industry in recent years has been its competitiveness against imports in the Australian market. Domestic competitiveness is also important for the industry's longer term plans for increasing exports. Only if it is cost competitive with imports in the domestic market (where it has an advantage in convenience and transport costs) can the pig industry hope to be competitive on export markets where it has to incur additional transport costs.

Comparing an industry's competitiveness with another country (benchmarking) is often undertaken to identify ways of improving performance. Cost competitiveness is also of interest to assess the prospects for an industry facing international competition. In this regard it is important to recognise that competition, particularly in the shorter term, will usually not be with the costs of the lowest cost producer or country, but rather with the costs of the more marginal producers in the market. In

the longer term as more efficient producers expand the highest costs producers will cease production. In competing with North American pig producers on the Australian or world markets, Australian farmers are competing with the prices available to those producers in North America, not with the costs of the most efficient farmers in that region.

While cost competitiveness provides the foundation for moving into export markets, it is not the only factor determining the Australian pig industry's ability to achieve sales overseas. Inquiry participants have indicated that other important requirements include product quality and specification, developing longer-term relationships with overseas importers and lowering of trade barriers in some export markets.

7.2.1 Productive efficiency

An important part in an industry's competitiveness is the efficiency with which it uses its resources relative to other countries. The Australian pig farming industry has argued that its best producers are among the most efficient in the world. Windridge Pig Farm commented:

> There seems to be a wide discrepancy in methods of calculation of the cost of production of pigmeat. Nevertheless, information available suggests there is a wide range of costs of production within the Australian industry and also in other countries. The balance of the information we have been able to find on Australian and other pigmeat industries indicates that the more efficient Australian producers are competitive with producers in other countries at the farm gate. (sub. 48, p. 2)

Certainly Australia has natural advantages which give the domestic pig growing industry the potential to be highly competitive in both productive efficiency and cost. The absence of extremely cold weather, plentiful grain production, availability of water, relatively cheap land and a low level of disease, all provide important sources of competitive advantage. Canada suffers from severe winters which add to costs of effluent disposal, shed costs, heating and transport.

The Australian industry also has some disadvantages to productive efficiency in pig farming. Consumer preferences for leaner meat result in the production of lower average carcass weight animals than in Europe and North America, hence, detracting from both farm and abattoir productivity (in a cost per kilogram sense). Auspork (sub. 51) estimated that each ten kilograms extra in carcass weight saves 15c/kg production costs. Pig farming is less geographically concentrated in Australia than North America and Europe and, hence, on average farmers need to transport greater distances from feed mills and to abattoirs.

The long-term annual average real pig price decline of two per cent since the early 1970s indicates that there have been ongoing improvements in the efficiency of the Australian pig farming industry. The introduction of imports in 1990 and the recent further easing of quarantine restrictions has placed even more competitive pressure on Australian pig producers.

Some participants have observed significant variations between the performance of domestic pig producers and have speculated that the industry may have a long tail of less efficient producers. Ridley Corporation submitted:

> It is generally acknowledged that in terms of key farmgate performance parameters (herd productivity, unit cost of production, etc.) the best operators in Australia are competitive with those overseas, but on average, Australian producers are not. If this situation does not change it may result ultimately in the industry being dominated by a small number of large producers. (sub.57, p. 12)

This confirmed Cresap (1990) findings of 1986 to 1988 average US production costs of A$1.04/kg (liveweight, at an exchange rate of A$1 = US$0.76), compared to Australian best practice of 96c/kg and highest cost of 147c/kg. However, it also reported Canadian average cash costs of production A$0.25/kg below average cash costs in the United States, suggesting a sizeable gap between Australian and Canadian total production costs. The Industry Commission (1995a) commented that many participants and industry sources used in that inquiry held the view that the most efficient Australian producers were around world cost levels.

Martin et al (1998) estimated costs of pig production (excluding costs related to marketing, breeding stock, veterinary and medical costs and manure disposal) based on standardised budgets for specific pig production systems. Differences in costs between regions were generated by regional differences in factor prices. For a 1200 sow piggery on Canada's eastern prairies they estimated costs of around Can$0.80/kg live weight and Can$0.84/kg for the western prairies. On a dressed carcass basis, at current exchange rates these costs would be equivalent to approximately A$1.15/kg to A$1.20/kg. A number of other regions of Canada and the United States were estimated to have costs in the A$1.30 to A$1.40 range. While these results involved significant assumptions and excluded important cost elements, they suggest relatively low cost pig production in certain areas of North America.[1]

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1 The 26 farms surveyed for *PigStats 97* (APC 1998) had animal health costs representing nearly 4 per cent of total production costs. Australian health costs are generally much lower than in other countries. Hence, for this cost alone, an increase of close to 10 per cent to the Martin et al (1998) estimates would seem appropriate for comparison with Australian total production costs.

The cost data cited below are indicative of a wide range of performance levels in the Australian pig farming industry at present. In addition, a number of the submissions from individual pig farmers and industry bodies have argued that the industry needs time to restructure to match international competition in domestic and export markets. This suggests that they may believe that a good deal of the industry is at somewhat less than best practice efficiency at present.

Data on production costs of individual farms shows a wide variation. While not all of this variation will reflect efficiency — some will be due to different input prices, quality and type of product, treatment of capital costs and individual firm's scale of operation — it suggests that some producers are performing well below best practice. For the June quarter 1998, data from 15 farms on the Department of Primary Industries Queensland's Sowtel herd performance recording system indicated weighted average costs of 209c/kg (sub. 49). Five farms reported costs in the 172–182c/kg range while five returned costs in excess of 230c/kg. However, unless accrual costing is used, quarterly returns will be influenced by changes in the stock of pigs and feed. In addition, differences in product type and quality would influence individual farm costs.

PigStats 97 (APC 1998), provides production cost data for 26 commercial pig producers with over 28 000 sows in total. Weighted average costs (converted to a hot standard carcass weight basis) were around 220c/kg. A number of farms were operating in the 190–200c/kg range while four had costs in excess of 240c/kg. The PCA's (sub. 55) survey of 198 pig farmers showed break even costs averaged a little over 190c/kg, while producers' assessment of the price needed to provide sufficient returns to stay in business averaged around 221c/kg.

Information provided by participants, several claiming to be at the more productive end of the industry, showed less variation in production costs and were suggestive of costs in the 190–205c/kg range. However, these data need to be treated with some care as individual farmers may be using different definitions of costs particularly with regard to costing owner's labour and returns on capital. Socom Piggery (600 sows) (sub. 61) suggested that its returns (price less cost) were around 40c/kg to 50c/kg better than most producers and Auspork (trans., p. 172) indicated that it was just over break even at current prices (around 190c/kg). Edson Piggery (140 sows) (sub. 30) submitted that its production figures equalled the best in Australia and generated costs of 190c/kg. The Queensland Pork Producers' Organisation (QPPO) estimated 175c/kg as the likely most efficient cost of pig production in Australia (trans., p. 34).

Sunnydale Farms (300 sows) (sub. 33), Miandetta Farms (1500 sows) (sub. 24), Baconett Piggery (120 sows) (sub. 36) and Arthur Stacey (sub. 14) all reported costs

of around 200c/kg while Amitie had production costs excluding administration costs and financial charges of 198c/kg. R and D Fraser (200 sows) (sub. 32) argued that their piggery's performance was in the top 20 per cent in Australia and required over 200c/kg just to survive. Ingoldsby Piggery (300 sows) (sub. 3) indicated a break even price required for 1997–98 costs of a little under 205c/kg.

Expansion plans signalled by low cost producers such as Auspork and Socom Piggery suggest that those at the higher end of the cost scale will find more difficulty in competing in the future.

Important gaps appear to remain between Australian and North American best practice. Lean Team Technical Services saw a need for very large investment for the industry to compete on the world market.

> More than 90 per cent of our production units are continuous flow. To compete in the international market place these units must be converted to multi-site batch flow. (sub. 26, p. 1)

Socom Piggery (sub. 61) and Bunge Meat Industries (sub. 39) also viewed growing out or multi-site arrangements as the model for the future.

Benchmarking efficiency of industries across countries based on industry-wide data is fraught with dangers. Structural and data collection differences can produce misleading results and it is often difficult to pinpoint causes of observed differences. Firm specific analysis is likely to yield more useful outcomes, although caution needs to be used in generalising the results.

The Pig Research and Development Corporation (PRDC) has commissioned a benchmarking study into the physical and financial performance of around 30 leading pig producers in each of six countries including Australia. The study is due to report in early 1999 and the results should provide an important indicator of the productive efficiency and cost efficiency of pig growing in Australia. Because it focuses on a sample of individual producers rather than reporting industry aggregates, the study should also highlight the areas in which performance and costs need to be improved to reach world's best practice and quantify some of the impediments to improved performance identified in this report.

7.2.2 Input costs

Even if productive efficiency of the pig farming industry is near world standard, the industry will not be competitive unless the costs of its inputs are also in line with those facing overseas competitors.

Feed costs

The major input into pig production is feed. The share of feed costs varies with grain prices, but *PigStats 97* (APC 1998) data indicate that, in recent years, on average around 60 per cent of total input costs (excluding return on equity) in pig farming are feed. Grain makes up around 60 per cent of this for a typical cost share in the vicinity of 35 per cent. Pig producers have indicated that Australian domestic pig feed prices are often above those paid by Canadian and US pig farmers and were generally higher than export prices for wheat and barley during the 1990s. The PCA argued:

> Clearly, grains are the key driver to determining the competitiveness and profitability of pig farming. Unfortunately, although the domestic feed industry has recently been deregulated, domestic feed prices tend to, on average, be higher than grain prices charged on the export market. The inability of Australian pig farmers to access feed grains at export-parity prices has necessarily placed them at a competitive disadvantage *vis-a-vis* their North American counterparts. (sub. 64, p. 2)

Sunnydale Farms agreed:

> The effect of imports is exacerbated by the gross inconsistency in trade policy expecting our industry to be internationally competitive (without government assistance) whilst denying our industry access to international grain markets when we need it most. As a precondition for international competitiveness this anomaly must be addressed. (sub. 33, p. 2)

Currently, exports of wheat and barley can only occur through statutory marketing authorities (single desk selling). While domestic market sales of wheat, and in some States, barley, are transacted outside these authorities, their size and buying power provides considerable influence over supply to the domestic market and hence over domestic prices. The pig industry has argued that at various times these export marketing arrangements have resulted in domestic grain prices well in excess of prices obtained for grain exports and above those paid by their overseas competitors, for the same grains.

The complexity of marketing arrangements for grain makes estimates of the impact of single desk arrangements somewhat problematic. For barley, the Centre for International Economics (CIE) observed:

> Price formation on the domestic feed barley market is complex and comparisons of prices between domestic and export sales are difficult to make because of different sales conditions. At times (around harvest) the pooling system acts to deflate domestic prices below world prices. At other times the Australian Barley Board's monopoly on exports can shift product from the domestic to export markets, raising domestic prices. (CIE 1997, p. xiii)

The impact of single desk selling arrangements on domestic feed grain prices varies over time. Because of plentiful local production, domestic grain prices currently are close to world prices. However, in times of supply shortage domestic prices have risen significantly above world prices, most recently in the widespread drought of 1994–95. Larkin and Heilbron observed:

> It is widely accepted in the domestic feed using industries that the AWB export monopoly has the effect of amplifying domestic price spikes in periods of relative shortage of domestic supply. (Larkin and Heilbron1997, p. 31)

CIE (1997) estimated that the maximum potential premiums that the Australian Barley Board could have obtained in the five years to 1996–97 if it had perfect information regarding demand elasticities, was somewhat under $3 per tonne.

If grain could be freely imported, then even with single desk export powers, domestic prices would be limited to import parity. However, quarantine restrictions designed to protect the grain industry from disease mean that imported grains must be treated before use. Together with storage and transport costs, these restrictions mean that the effective import parity price is significantly above export prices. Primary Industry and Resources SA said:

> The inability to import feedgrains, because of sanitary/phytosanitary concerns, combined with an export orientation of grain industries gives rise to a situation where domestic intensive animal industries are not purchasing cereal feedgrains from an open market at world price, but from a functionally separate domestic market which may or may not be supplying feedgrains at world parity prices. This constitutes a competitive disadvantage to intensive animal industries in Australia, including the pig industry. (sub.58, p. 11)

Bunge Meat Industries suggested longer term detrimental impacts of single desk arrangements:

> The Government's continued support of boards such as the AWB inflates the price of grain on the domestic market which discourages diversification of the grain industry and prevents value adding to our grains by Australia's livestock industries. (sub.39, p. 49)

Reviews of the powers of grain marketing authorities have been scheduled under the Competition Policies Agreement endorsed by COAG in 1995. In Victoria and South Australia the feed barley domestic market is to be deregulated but single desk export arrangements are to remain until at least June 2000. In New South Wales a review of the *NSW Grain Marketing Act* is currently underway. A review of the monopoly export powers for wheat is scheduled to occur in the next two years. In examining the net national interest benefits of these arrangements such reviews need to consider their implications for intensive livestock industries such as pig growing.

While domestic regulation appears to have raised wheat and barley prices for Australian pig farmers above those paid by North American farmers, there are also

natural advantages in the production of other sources of pig feed which give North American pig growers a further competitive edge. United States producers in particular have access to large quantities of lower cost feed such as corn (maize) and soy beans not generally available to Australian producers. Bunge Meat Industries (sub. 60) indicated that the gap between US corn prices and Australian domestic wheat prices was around $40 per tonne over the last 18 months, equating to around 9c/kg for a dressed carcass in additional production costs.

Labour

Labour inputs represent around 10 to 15 per cent of the cost of growing pigs. The Commission received little comment from participants regarding the costs of hired labour. Sara McClintock (trans., p. 97) considered Australian labour costs comparable to those in Canada, while the PCA (sub. 55) considered real labour costs had fallen since 1995. However, Windridge Pig Farm (sub. 48) argued that wage rates and on-costs were excessive and inflexible work practices were difficult to remove. Bunge Meat Industries (sub. 39), the largest employer of labour on pig farms in Australia (employing over 400 staff in 1998), had no comments on farm labour issues.

For smaller farms, a significant portion of labour input is provided by family members. Many submissions from such farms have expressed satisfaction with the hired labour that has had to be retrenched due to low pig prices in 1998. For bigger operators, the existence of a large rural labour force in areas of relatively high unemployment is likely be an advantage.

Environmental and planning costs

Australia has stringent state-based planning and environmental requirements for the establishment and expansion of piggeries. Although these requirements add to costs of production, most participants did not indicate particular concerns in this area. Ingoldsby Piggery (sub. 3) felt that these requirements may be less onerous for North American pig farmers, but observed wide variations between jurisdictions in the United States. Windridge Pig Farm (sub. 48) while not currently incurring large expenditure for environmental regulation expressed frustration with periodic cost burdens due to inappropriate application of environmental policies. The PCA (sub. 64) indicated that its recent survey of 200 producers identified environmental costs as having a negative impact on viability, particularly for larger producers (more than 400 sows). It suggested review of the various environmental regulations impacting on pig farming.

With regard to relative international costs Bunge Meat Industries stated:

> Whilst significant costs are incurred for EPA and its licences and EIS, Australia probably compares equally with North America and Europe. However, EPA regulations and costs vary between States and differ between large and smaller producers. (sub. 39, p. 56)

More innovative operations such as Miandetta Farms (sub. 24) appear to have developed effluent control into a profitable by-product. Larger scale farms will often have some advantages in lower unit costs of use or removal of effluent.

Veterinary costs

Australia's low disease status provides an advantage over most foreign competitors in veterinary costs. Windridge Pig Farm observed:

> Disease is an enormous cost in intensive livestock operations. Australia does not have many diseases in pigs which are found on other continents and which increase production costs considerably. (sub. 48, p. 10)

In addition, the absence of many substances used to treat diseases add to consumers' perceptions of product quality. Nonetheless, further reductions in disease can provide added advantages in productivity. Bunge Meat Industries argued:

> The pig industry in Australia is very small on a world scale, and like many other industries must compete globally. We are therefore at a disadvantage if technology (new vaccines or medications) which are available to our competitors take several years to become available here. (sub.60, p. 1)

Animal medications need to be registered by the National Registration Authority (NRA) prior to use in Australia. Bunge Meat Industries (sub. 60) indicated that the registration procedure takes at least 15 months. It expressed concern regarding cases of long and costly delays in registering vaccines for some diseases. The factors considered by the NRA cover genuine concerns regarding animal welfare, quarantine and occupational health and safety. However, to the extent that delays reflect testing effectiveness of products for Australian conditions when their general effectiveness has already been evaluated abroad, there would seem to be scope to hasten the registration process by allowing users to make their own decisions on this matter.

Genetic material

An important determinant of cost competitiveness of modern piggeries is the quality of genetics of their herds. Improved genetics can result in efficiencies in areas such as growing rates, feed conversion, meat quality, disease resistance and reproductive

performance. Currently Australian pigs tend to grow slower but are leaner than those in many overseas countries. The Australian Pig Breeders Association (sub. 38) submitted that Australia already has top quality breeding stock which is in demand in Asia.

Because certain diseases can be contained in genetic material, there has been a ban on its importation since the mid-1980s, with the exception of one importation from Norway. In particular, Australia is one of only three pig producing countries to be free of Porcine Respiratory and Reproductive Syndrome (PRRS), a disease which has only appeared in the last decade and can be carried in genetic material. This provides an important advantage in productivity and veterinary costs for Australian producers.

The highly competitive environment in which the Australian pig industry now operates requires that all avenues for improved productivity be explored. The Australian Pig Breeders Association indicated:

> We believe that the standard of the Australian pure bred pig herd is second to none in the areas of growth rate and carcass quality. However, we believe there may be productivity gains to be made in such areas as pigs reared per sow per year. (sub. 62, p. 1)

Regarding the possibility of importing genetic material, Luxford and Thornton argued:

> In the difficult matter of arriving at what is an acceptable risk, decisions should be consensual and conservative, particularly in dealing with what may be a newly emerging disease. (Luxford and Thornton 1995, p. ii)

AQIS has established an import risk assessment panel to examine the efficacy of varying restrictions on importing porcine genetic material.

Transport and other costs

The relatively large distances between farms and feed supplies, abattoirs and markets in Australia, creates a disadvantage for many pig producers. Porfect Pigs, a 200 sow unit in the upper north of South Australia, with production figures it believed were in the top 10 per cent nationally, illustrated this impact.

> Because of our location in SA we have extra freight cost on feed and freighting pigs to slaughter of approximately 25 cents a kilo which at farm gate makes our cost of production in the top 5 per cent in the country. (sub. 44, p. 2)

Submissions to this inquiry have indicated significant expenditure on transport of pigs or pigmeat. For South Australia, this partly reflects its traditional role as an

exporter of pigmeat to other states. Processors and smallgoods manufacturers taking advantage of short term regional pig price differences will always have weighed up transport costs against price advantages. However, some of this recent activity also appears to represent short term reactions to market changes caused by imports and competition between processors. As farmers have lost customers in the current industry adjustment they have had to seek new markets elsewhere. The long lead time in adjusting production and the need to sell pigs at a particular weight has made this task an imperative. However, in the longer term, further rationalisation in location and operation of farms and abattoirs may be needed to reduce transport costs in order to maintain industry competitiveness.

The small scale and geographical dispersion of the Australian pig farming industry creates some natural cost disadvantages for local producers. For example, Sara McClintock observed:

> Much of the equipment in North America is cheaper because it is mass-produced. This doesn't happen much in Australia (for instance, the farrowing crates are hand made). (sub. 6, p. 5)

7.2.3 Exchange rates

In order to assess competitiveness, domestic costs for pig farming in different countries need to be converted to a single currency. Since the floating of the Australian dollar in 1983 there have been very large swings in exchange rates. In 1990–91 when Canadian frozen pigmeat imports were first allowed, the Australian dollar was worth around 90 cents Canadian. Commencing in 1994 the Australian dollar began to rise against the Canadian currency, reaching a high of close to Can$1.10 at the end of 1996. This was the period in which Canadian frozen pork imports started to grow strongly and would have been particularly competitive with Australian production. Between the end of 1996 and October 1998, the Australian dollar devalued by around 12 per cent against the Canadian dollar, providing an important boost to the competitiveness of Australian pig farmers. However, this improved cost competitiveness may not have shown up in lower import prices because North American prices of pigs have fallen in the interim.

The price of pigs and pork products in the North American market will be very much influenced by demand in the US market and supply of product from the US pork industry. Hence, the pigmeat prices available to Canadian producers will be strongly influenced by the relationship of the Canadian dollar to the US dollar. Since the beginning of 1997, the Canadian dollar has devalued by over 10 per cent against the US currency and this would tend to make pig prices in Canadian currency somewhat higher than otherwise.

The combined effect on price competitiveness of these two factors is reflected in the relationship between the Australian and US currencies. Since the start of 1997, the Australian dollar has devalued by around 20 per cent against the US dollar. For Canadian pigmeat exporters this substantially increases the relative attractiveness of the US market compared to Australia.

However, as the prices of many items of pig feed (the major cost of raising pigs) are broadly linked to world prices, the impact of exchange rate changes on competitiveness will be significantly muted. While a devaluation of the Australian dollar would improve competitiveness on the price side it would also add to the price of feed to the extent that domestic grain prices follow world prices.

The significant fluctuations in exchange rates and the growing exposure of the Australian pig industry to international markets suggests that exchange rate movements will be an important influence on future competitiveness and profitability of pig farming in the short to medium term. In the longer term other more fundamental factors will be more important.

To the extent that Australian pig farmers and their international competitors are exposed to world grain prices, there will be a significant automatic hedge of input price changes due to exchange rate movements offsetting some of the currency induced movements in competitiveness and final product prices.

7.2.4 Product quality and specification

Cost comparisons require either equivalent quality of output or appropriate adjustments in costs to reflect quality differences. One of the potential advantages that Australia has as a pigmeat exporter to Asia is the quality, specification and disease free image of its product. Such attributes, by providing price premiums, may allow profitable production at higher cost than in some competitor countries. Windridge Farms observed:

> Our high health status also allows us to produce better quality pigmeat completely free of substances that may be found in pigmeat produced in other countries. (sub.48, p. 10)

In addition, the type of pigmeat produced in Australia may have advantages in some markets. Auspork stated:

> ... there is now product differentiation, given that particularly the Americans as opposed to the Canadians use a lot of maize, ... and that creates a different colour of fat - and again we're getting feedback that there may be a premium in the marketplace for that sort of product as opposed to the Americans, who I guess in that Japanese market are our key competitor. (trans., pp. 180–1)

Similarly, Bunge Meat Industries argued:

> I think the Canadian pork in fact is a lot more similar to ours, whereas I would say both types are perceived as better in the Japanese market than the US product but the US are the major exporter to that region just out of sheer volume. (trans., p. 80)

Proximity to South East Asian markets also gives Australian producers the opportunity to obtain price premiums for the supply of chilled product with relatively long shelf life, rather than selling frozen pork. But even in North East Asia there appears to be an advantage. Bunge Meat Industries (sub. 64) stated that it was one of the few operations in the world to be able to send chilled product into Asia by ship and guarantee 45 days shelf life. The PCA observed the potential for differentiating Australian pork:

> This is particularly the case for the lucrative Japanese market, where factors other than price (such as consistency of quality) are more crucial to securing long term contracts. (sub. 64, p. 6)

Australian consumers favour relatively light-weight low-fat pigs and the pricing of pigs in the domestic market contains heavy penalties for excess weight or fat. However, some export markets prefer somewhat fatter pigs. Opportunities exist for cost efficient producers to grow heavier pigs (with associated lower per kilogram costs) to target such markets specifically.

Australian producers are also at a potential disadvantage in export markets because of the concerns of Asian consumers to the possibility of boar taint in meat from entire male pigs. Boar taint is also an issue in the domestic market as the Asian population increases and concerns are raised regarding the impact of tainted pork on other consumers' preferences for pork. In discussions with various sectors of the industry the Commission has heard conflicting views about the significance of boar taint. Up to now the pig growing industry has largely ignored the issue. However, widening price differentials between female and entire male pigs and growing opportunities for export into Asia are likely to see greater importance placed on dealing with boar taint for both domestic and export markets.

Ridley Corporation suggested that high quality product would be a prerequisite for the success of pig farmers in the future:

> Evidence from our feed operations in the United States and Canada, supports the contention that only those customers who meet high standards of uniformity and quality are able to survive in the pig industry which is now globally competitive. (sub57, p. 3)

The pork industry has developed a quality assurance program to assist pork producers wishing to improve the quality of their product and provide consumers with an assurance of product quality.

Discussions with smallgoods producers have indicated that in recent years there appears to have been no appreciable quality difference for processing purposes, between frozen pork imports and Australian produced pig legs. Bunge Meat Industries (trans., p. 77) concurred with this view.

7.3 Profitability

Productive efficiency and cost competitiveness do not guarantee profitability. Only if prices obtained by Australian producers are as high as those achieved by overseas producers, will cost competitiveness result in similar profit performance to comparable overseas producers.

In addition, as discussed in section 7.2.4, superior product quality may generate higher returns for producers. In Asian markets, efficient Australian producers, once established, have the potential to gain premium prices for product quality and specification. On domestic markets, enterprises which are able to provide consistent product of a quality required by processors, retailers and customers will be the producers that retain markets in an industry likely to become dominated by vertical alliances. Such attributes will be needed for survival in a more competitive domestic market.

In the case of pigmeat, where different cuts of meat have traditionally attracted somewhat different prices in Australia to overseas, introduction of lower world prices for the premium part of the pig (in Australia, the leg) without achieving world prices for the domestically lower priced portions, would mean that Australian producers would receive lower prices for pigs than overseas competitors. In this situation, even if Australian producers are cost competitive, they will tend to not be as profitable as overseas competitors. These difficulties are further accentuated because the seasonal price cycle in North America is the reverse of that in Australia. Hence, at a time when Australian prices are seasonally high because of local demand conditions, imports will tend to be priced at their lowest levels.

Appendix D (table D.18) shows that over the decade to 1996–97, average profitability of pig farming has been consistently higher than for the rural sector as a whole. During this period return on net worth in pig farming averaged 6.7 per cent, compared to 4.8 per cent for all agriculture. Like other agricultural industries, — but to a greater extent than the average for rural industries — returns to pig farming have exhibited variability due to fluctuating weather conditions (particularly as they affect grain prices and availability), movements in input and output prices and changes in production levels.

Submissions to this inquiry indicate that the large fall in pig prices in the first half of 1998 led to significant losses for the bulk of the pig industry. The PCA's survey of 198 pig producers (producing around one third of the industry's output) indicated net losses in 1997–98 of $6.8 million on capital employed of $192 million, representing a return of minus 3.5 per cent (sub. 55). These producers earned net profits of 7.7 per cent on capital in 1996–97, which was similar to the industry wide figure of 8.3 per cent return on assets reported in table D.18.

Contract prices prevailing in the second half of 1997 are likely to have provided small positive returns for the bulk of the industry, while prices in October 1998 appear to be generating break-even results for the most cost efficient producers. Auspork stated:

> We have a situation where currently we've risen to a level probably slightly above break-even and that in the current situation there's not too much more positive going on with that. (trans., p. 172)

Socom Piggery observed the depth of the price falls in 1998, but also noted significant productivity differences between producers:

> SOCOM Pty Ltd while a low cost producer, with considerable economies of scale compared to smaller producers, still suffered losses for a considerable part of 1998. I realise that if we were losing $3000/week for four months (15–20c/kg) then most producers at that time would have been losing 60–70c/kg. Furthermore, they would have been losing money long before we were even aware a problem existed and long after we were back in the black. (sub. 61, pp. 2–3)

7.3.1 Domestic prices

The prices of direct relevance to the profitability of pig farmers are the per kilo prices paid for pigs by processors or other users. These prices represent the derived demand for pigs from the demand for various types of pigmeat (and by-products) in final markets.

With increased imports of legs, Australian farmers are now competing with lower world prices for their traditional prime cut, while on the domestic market they are receiving lower than world prices for middles and shoulders. B.E. Campbell (NSW) observed the dilemma facing pig processors in trying to obtain higher prices for these cuts:

> If the market for other cuts would allow us to compensate for the reduced revenue from leg meat the situation would not be as serious. But the demand is quite elastic — if we raise the price past a point the demand reduces considerably and we are left with huge quantities of stock in cold storage. (sub. 46, p. 2)

Salkim indicated that:

> Canada have different values to Australia for each portion of the carcase. They place a lower value on the hind leg which allows the Australian importers to take advantage of this fact, and now command 30 per cent of Australian leg meat sales. (sub.15, p. 1)

Rather than there being a single Australian pig price, for a variety of reasons there are variations in pig prices between regions. Transport costs and contractual arrangements allow such disparities to continue. In Western Australia prices have been held up somewhat by processors maintaining minimum prices to farmers. However, this arrangement has been suspended. Similarly, Darling Downs Bacon has recently paid somewhat above market rates to its members for their pigs as a way of effectively bringing forward the distribution of profits from processing and manufacturing activities during a period of very low pig prices.

In addition, per kg prices vary for different sorts of pigs. Salkim observed one of these differences but also the link between prices.

> The pork producers command an extra 20 cents to 30 cents per kg compared to bacon prices to compensate for the extra cost of producing a smaller pig. Because the cheap imported product helped to reduce bacon prices in Australia, the pork prices fell [also]. (sub. 15, pp. 1–2)

The price obtained for pigs is largely derived from prices paid by final consumers less margins of various levels of processors together with transport, wholesalers and retailers. A number of farmers have raised concerns about the level of retail margins on pork and have claimed that the major retail chains are in a position of market power. Others have complained of the power of abattoirs or smallgoods manufacturers. The failure of retail pig meat prices to fall as rapidly as prices obtained for pigs, has further added to these concerns. In chapter 4 it is argued that up until 1996, the combined market power of major processors not using imports, kept pig prices higher than they otherwise would have been. Prices of leg meat are now established by import prices and this undermines any market power that processors or retailers may have had.

7.3.2 Export prices

Now that the Australian pig industry has become part of the international market, a fundamental requirement for local farmers to be profitable in the long term is that the prices they obtain for their pigs reflect international prices for the various cuts of pigmeat. Several participants have observed that Australian producers have traditionally received relatively low prices from shoulders and middles. This has been offset by higher than world prices (particularly close to Christmas) for leg meat. The New South Wales Government argued:

> Not surprisingly, legs and leg meat are the premium priced products in the Australian industry. However, this is not the case in other countries. In Canada and the USA premium prices are paid for middles and loins. Similarly, the largest importing nation in the world, Japan places a premium on loins. The Australian leg meat trade is then an ideal market for the Canadian industry. Seasonal price trends are reversed in the two countries and the demand and a premium is placed on a lower priced product. Meat traders have recognised this. An earlier focus on importing carcases has been replaced by a preponderance of leg meat imports. (sub. 66, p. 2)

The introduction of imports of frozen legs now appears to have permanently removed most of the premium for local producers. This has focused attention on export markets to obtain better prices for some parts of the pig. However, world pig prices have declined in recent years and in the current environment the profitability of large scale exports is not clear. Miandetta Farms indicated:

> The opportunity has arisen since the foot and mouth disease outbreak in Taiwan and since that time Australian exports have risen significantly. There is an opportunity for those exports to continue to increase and, as I understand it, they are being supplied to the commodity market and competing with international commodity prices at this time. There is a low level of profitability in that export. (trans.,p. 20)

In seeking safeguard action against imports a number of producers have argued that the industry needs time to develop export capacity. However, exports will only be beneficial if they generate higher prices than the domestic market or they enable scale economies in production to be achieved. Participants have provided some indication that exports enable them to get higher prices for cuts with lower domestic value and from parts of the pig that have limited markets in Australia. Bunge Meat Industries observed:

> We do a lot of offal into Hong Kong. We're doing a considerable amount of product into Korea right at this stage. What we're attempting to do is to balance the pig up as to be able to — where countries have a requirement for a particular primal we'll certainly try and balance the animal up. (trans., p. 85)

However, current low world prices mean that production for export is often only marginally profitable. In addition, some participants indicated that initial entry into export markets often had to be at discount prices. B.E Campbell (NSW) stated:

> ... while we are exporting as much product as possible we are competing against countries with a well established client base and reputation. To get a "foot in the door" we must be cheaper. The Australian pork industry realises we must be competitive on the world market but this is not done overnight and our margins cannot be continually eroded on our domestic market while at the same time we are discounting on the international one. (sub. 46, p. 3)

In the immediate future the ability of much of the local industry to move into export markets is restricted by a lack of export approved slaughtering capacity and the

location of available capacity. Several abattoirs associated with major food processors have relinquished their export licenses in the past decade, citing excessive costs of meeting required standards and limited returns on export markets.

While major producers such as Bunge Meat Industries and Darling Downs Bacon have the scale and resources to enter export markets, smaller farmers will have to rely on independent export abattoirs. The PCA is currently examining the establishment of an export company to provide technical and marketing assistance for enterprises exploring entry into the export market and to market Australian pork.

If the Australian pork industry becomes successfully integrated into the export market those local producers not directly involved will still benefit because prices of various cuts on the local market will tend towards export parity as those involved in exporting shift supply between the domestic and export markets in response to price differences. Miandetta Farms observed the remedy for the relatively low price received for pig loins used for bacon in Australia:

> But the export opportunities as they arise will see a demand for Australian pig loins in the Japanese market, which is a premium product there, and that will change the mix values and therefore should put us in a more competitive position in time with, say, the Canadians or the United States in terms of pig leg values. (trans.,pp. 23–4)

If such export markets are obtained in any volume, domestic prices for these cuts will rise thereby increasing local pig prices even with leg meat prices below previous premium levels. Such developments are important for establishing the sustained profitability of Australian pig farming in an international environment.

The PRDC plans to undertake a study to benchmark the value chain of pig farming in Australia against that in Western Canada. This study, which is to report in 1999, will provide more accurate information on the extent of international price differences for particular pigmeat cuts and hence potential revenue gains available for Australian producers on the export market.

7.4 Factors affecting profitability and competitiveness

The above discussion has highlighted a number of key factors influencing the profitability and competitiveness of the pig farming industry. In general their effects are not precisely quantifiable from available information. However, two studies currently being undertaken for the PRDC will provide more detailed data on productive efficiency, input prices and prices received for different cuts of pigmeat. The most important factors determining pig farming competitiveness and profitability are:

- productive efficiency of Australian pig farmers compared to their international competitors, particularly North America. Current indications from domestic cost data are that the best Australian pig farms are efficient producers but that there appears to be a significant part of the industry which is somewhat below best practice;
- Australian farmers receiving lower than world prices on the domestic market for many parts of the pig (including by-products). Hence even if it were cost competitive the industry would find difficulty competing with imports of leg meat. To remedy this situation, at least some producers will need to undertake significant exports. The resultant impacts on domestic supply should transfer export parity prices to producers selling only in the domestic market;
- higher feed prices than paid by North American competitors. Grain makes up about 35 per cent of the cost of production and single desk selling arrangements for the export of wheat and barley tend to lead to domestic prices that are higher than export parity. This is particularly so in times of grain shortages and this can place the domestic pig farming industry at a serious competitive disadvantage. Some differences in feed cost reflect the natural advantage that North American producers have in access to cheaper feeds such as corn;
- lack of available export processing facilities. With the exposure of the industry to world markets creating the need to export, the relinquishing of export accreditation by some abattoirs has left many producers with difficulty in obtaining access to export slaughtering and boning facilities. Several large export abattoirs are in the advanced planning stages and if profitable export opportunities exist these developments would be expected to proceed;
- exchange rates with the US and Canadian currencies. The devaluation of the Australian dollar against North American currencies since 1996 has improved the cost competitiveness of Australian pig farmers. However, the significant swings observed in exchange rates suggest that farmers should not rely on current currency parities for their profitability; and
- disjointed relationships with downstream components of the pork supply chain. The absence of long term alliances between the farming, processing and retail sectors has generated inefficiencies and inhibited product development and quality. The entry of imports into the local market has exposed these deficiencies. Many producers in these industries have indicated moves towards developing more permanent business alliances aimed at generating improvements in efficiency and product quality. This may lead to significant rationalisation in the farming and slaughtering sectors.

8 Competitiveness and profitability: pigmeat processing

This chapter examines available information on the competitiveness and profitability of the Australian pig processing sector. Because the processing sector — slaughtering, boning and smallgoods manufacture — has diverse technology between countries, exhibits important scale economies in some areas and often undertakes quite different tasks or produces different products, it is not particularly amenable to useful international comparisons of costs and productivity. In such cases, benchmarking comparisons will be more useful as indicators of areas where performance might be improved rather than representing precise measures of cost and efficiency differentials.

Both the abattoir and smallgoods sectors are characterised by a large number of small firms and several large producers, none of which are in a dominant market position. Barriers to entry and expansion are low in both industries, apart from environmental and planning constraints on the establishment of abattoirs.

8.1 Abattoirs

In 1996–97, there were around 130 abattoirs slaughtering close to 4.6 million pigs, compared to approximately 140 abattoirs killing 5.1 million pigs in 1992–93. Of the abattoirs in 1997–98, eight were pig specific, (including six of the top eight abattoirs killing pigs), and these undertook nearly 40 per cent of the national kill. In addition, Chapman's abattoir in South Australia, accounting for about six per cent of the industry, was predominantly used for pigs. No abattoir accounted for over 10 per cent of the national slaughter, while the top five abattoirs accounted for 38 per cent of the total kill, compared to 33 per cent in 1992–93. As well as boning activities attached to abattoirs, significant numbers of unboned carcasses are sent to specialist boning rooms, butchers, supermarkets or are exported.

The abattoir sector is a key link in the pigmeat production chain. Even if pig farmers are operating efficiently, poor performance in abattoirs can make final pork products less competitive on domestic and export markets in terms of both price and quality. ProAnd Associates (1998) reported slaughtering costs in recent years ranging from $12 to $16 per head for medium to large abattoirs up to $25 per head in small

abattoirs, hence, adding from 8 to 16 per cent to the cost of a $150 pig. Boning costs vary greatly depending on the process undertaken, with Hassall and Associates (1994) suggesting best practice Australian costs ranging from $4.40 per pig for a simple cut to $31.56 for fully boxed pork.

While the domestic market was protected from imports, any excessive costs in slaughtering and boning would have been shared by domestic consumers and pig producers. However, with the impact of imports and the expansion of the industry into export markets, prices for much of the industry's output are no longer directly influenced by domestic costs. Hence, excessive costs in the supply chain will tend to be largely reflected in lower returns to producers.

A number of studies have been undertaken examining the efficiency and competitiveness of Australian pig abattoirs. Cresap (1990) observed that the major disadvantages of Australian abattoirs were the relatively low scale of operations, poor capacity utilisation, aging plant and relatively labour intensive technology. New investment was being discouraged by poor profitability.

Davidson (1991) reported major differences in costs, productivity and charges between abattoirs. Relatively small scale, excess capacity and aging equipment all contributed to poor performance. Multi-species abattoirs were seen as a major area of high cost. Davidson observed that the pig slaughtering sector had not undergone the major structural change experienced by the pig farming industry since 1970. Recent and proposed new abattoir capacity suggest that more fundamental change may be now occurring in the slaughtering sector.

In 1993, the pig industry commissioned Hassall and Associates (1994) to undertake an international benchmarking study of pig abattoirs. They compared Australia's six largest pig abattoirs (covering nearly 40 per cent of the annual kill) with best practice plants in the United States (two) and the Netherlands (three). In addition, 18 medium-sized abattoirs were surveyed to assess differences in scale and performance compared to the six largest abattoirs.

The study was aimed at benchmarking the best practice Australian performance against international best practice. It developed model composite plants for the three countries incorporating the largest scale operations observed in each. The stylised results indicated that Australian killing costs per pig were around 40 per cent higher than in the United States with this gap accentuated on a per kg basis by the 15 per cent greater average carcass weight in the US plant.

The major reasons for this gap were the much higher labour costs in Australian abattoirs, reflecting their lower scale, smaller and older capital stock and lower hours worked. In addition, inspection costs represented around 15 per cent of costs

in Australian abattoirs, while the taxpayer pays for these services in the United States. In total, gas, electricity and water costs per pig killed were four times higher in Australia than in the United States. Recent efficiency improvements in Australian utilities (see PC 1998a) and reductions in cross subsidies from business to other users is likely to have narrowed this gap.

Slaughter costs per pig were very similar between the Australian and the Netherlands' composite plants. Higher Australian labour (40 per cent) and utility (double) costs were offset by much higher unspecified other production costs in the Netherlands. Again the 20 per cent larger carcass weight in the Netherlands generated a significantly lower cost per kg than achieved by Australian abattoirs. In addition, the many smaller abattoirs in Australia were not able to process by-products economically, hence, requiring higher payments for slaughtering than in large overseas operations.

Significant differences in the types of operations undertaken in boning rooms within and between countries made the results of cost comparisons inconclusive. Australian boning rooms tended to be more limited to low level transformation of carcasses. As with abattoirs, Australian boning plants suffered from operating at a much smaller scale than the United States and the Netherlands, but hours worked were much more comparable.

More recently, ProAnd Associates (1998) undertook a desk study reviewing the available information on the international competitiveness of the Australian pork processing sector. They observed that an earlier study for 1988 of eight major US processors had identified combined costs of slaughtering and boning in the range US$17 to US$31 per pig, well above the approximately US$13.50 attributed to the US composite best practice abattoir in the Hassall and Associates' benchmarking exercise. This suggests that the productivity comparisons with this composite plant may be somewhat misleading. The wide range of costs observed in large operations in the US study (Hayenga 1998) also indicated the difficulty of firm wide benchmarking of a process with as many potential variations in product and technology as the slaughtering and boning of pigs.

ProAnd Associates observed the low capacity utilisation (56 per cent) achieved by pig slaughtering facilities even on a single shift basis and the much smaller scale of Australian operations compared to those in Denmark, the Netherlands and the United States. The greater use of multi-shifts allowed economies in the use of capital. However, depreciation and repairs and maintenance made up only 12 per cent of the costs in Hassall and Associates' best practice Australian composite abattoir and 20 per cent in the more capital intensive US plants. These shares are smaller for the even more labour intensive boning operations.

The beef cattle industry has long complained about the impact on farm gate prices of inefficiencies in the abattoir sector. The Industry Commission (IC 1994) found that despite operating in export markets, Australia's red meat processing plants had significantly higher costs than those of most competitor countries. This situation was able to continue largely because of the relatively low price and disease free status of Australian livestock and the existence of allocated import quotas in a number of major overseas markets. Major causes of poor processing performance were poor labour productivity and low capacity utilisation (sometimes attributable to award inflexibilities). The Industry Commission reported the wide variability in performance between red meat abattoirs that has also been found by studies of pig slaughtering facilities.

A study of work arrangements in the red meat processing industry by the Productivity Commission (PC 1998b), has identified important productivity enhancing (both labour and capital) improvements flowing from recent changes in work arrangements in workplace agreements. While the problems generating high costs in beef cattle abattoirs, particularly the widespread industrial relations problems and use of the tally system, have been to some extent specific to beef, these findings are still suggestive of some performance improvements in the pigmeat processing industry in recent years. The changes in the industrial relations framework which helped generate improvements in the red meat sector, in particular the widespread use of enterprise agreements, also apply to pig abattoirs. In addition, over half of pig slaughterings occur in multi-species abattoirs which may have been influenced by the improvements reported for red meat processing. However, the Commission also observed that the improvements in work arrangements are not uniform and significant further improvement is likely to be available.

In this inquiry, the Commission received little comment about the overall costs or efficiency of pig slaughtering and boning operations or specific impediments to improving this performance. Many of the major slaughtering facilities are operated by vertically-integrated firms, with over 40 per cent of the pig kill in 1996–97 being made at abattoirs operated by firms that also had pig farms.

Sara McClintock observed the situation in one Canadian province:

> The relationship between the processors and the producers in Manitoba is different to what it is here. The processors are highly efficient. They will work for three shifts for instance so the killing line on the one regional abattoir ... may well work for three shifts. So the equipment is being very well used. (trans.,p. 95)

In the case of larger boning facilities, competition from boning facilities in butchers, supermarkets, smallgoods manufacturers and smaller family operated boning

establishments is likely to have generated relatively efficient operations. Bunge Meat Industries commented on independent boning rooms:

> ... this sector serves both manufacturers, retail and food service with a very small amount going to export. These rooms are essentially family operated and generally are very efficient. (sub.39, p. 52)

The geographically dispersed nature of the Australian pig farming industry and the lighter weight of Australian pigs means that the processing sector could not expect to attain all of the scale economies available to larger overseas plants. The Industry Commission (1994) identified similar problems for red meat processing. In these circumstances a larger number of smaller abattoirs is likely to develop. The trade off between scale economies and transport costs of both pigs and finished product will determine the distribution of abattoirs that emerges. Similarly, in the past, lower labour productivity associated with retaining older capital equipment may have been appropriate in the slow growing domestic slaughtering market which did not justify substantial new investment.

Hence, unit slaughtering costs in Australian abattoirs are always likely to be somewhat above those in best practice large scale overseas abattoirs. However, capital costs are not a large share of total slaughtering costs. Hassall and Associates (1994) reported depreciation and repairs and maintenance at around 12 per cent of total costs for its composite best practice Australian plant and 21 per cent for the composite US plant. Regarding abattoirs, Bunge Meat Industries observed:

> Whilst there are a number of pig specialists where efficiencies are reasonable, Australia will never get to the huge volumes and hence efficiencies, some USA, Canada and European plants operate. However, this is not seen as an impediment to our future. (sub. 39, p. 51)

Similarly Auspork stated (trans., p. 181) that while Australian abattoirs could not match the scale economies achieved by very large North American plants, its processing costs would be very competitive (excluding inspection costs). In addition, a number of processors have indicated that the slower speeds of Australian abattoirs compared to some of the very large United States operations, provides a much better quality and consistency of product.

ProAnd (1998) identified greater opportunities for economical by-product recovery as a major advantage of larger abattoirs. They observed that for the beef sector, values of offals produced in domestic abattoirs are substantially less than those achieved through the export market. Hassall and Associates (1994) provided indicative by-product returns of US$12 to US$16 per head, which was of a similar order to best practice slaughtering and boning costs. Auspork (sub. 51) indicated the

benefits from greater scale and specialisation in pigs by replacing the previous beef floor of its Daylesford abattoir with an export grade offal handling facility.

Rationalisation of existing higher cost abattoirs will tend to occur automatically if most of the currently planned new and more efficient pig specific abattoirs go ahead. In this regard, any attempts by government to slow the rationalisation process by keeping higher cost government or privately owned abattoirs open will only serve to limit the throughput of the new plants. Given the sensitivity of unit costs to volume in these more capital intensive plants, such policies will delay the benefits of scale economies and more efficient by-product recovery offered by new and larger plants. In turn, this would impede the pig farming sector's push for export markets and competitiveness with imports.

As well as issues of abattoir efficiency, the pig farming industry has also identified a shortage of export accredited slaughtering and boning facilities as currently being an impediment to its competitiveness and profitability. Over the last ten years there have been a number of export accredited abattoirs slaughtering pigs that have given up their accreditation due to the high costs involved, limited export opportunities and the lack of an industry export focus. These include the Darling Downs Bacon abattoir at Toowoomba and Chapman's abattoir at Nairne, while Lea Newing (sub. 59) observed that for various reasons all of Western Australia's private abattoirs had over time closed their export boning rooms.

Christine Sapwell argued that:

> Currently we would probably be almost at maximum capacity for potential exports. In other words, we are exporting as much as we can physically kill, and therefore that is a limiting factor, that we don't have that infrastructure there. (trans.,p. 122)

However, if exporting is sufficiently profitable, significant capacity exists in abattoirs and boning rooms with some form of export accreditation, that could be switched from killing for the domestic market. While this capacity is only available to a few pig producers (for example, Bunge's abattoir only kills for that company), the diversion of pigs to the export market — if prices are higher there — would benefit all pig growers by bringing higher prices to the domestic market also. While some exports are currently made to countries which accept pork from abattoirs which are not export accredited or from an export accredited boning room not attached to an abattoir, buyers in the major markets usually require accreditation.

Several significant expansions in export standard slaughtering capacity are now planned, although there remains uncertainty about the future of a number of these projects. Darling Downs Bacon (sub. 52) and Auspork (sub. 51) have indicated plans to develop new export accredited plants in Queensland and South Australia

respectively, while DanPork has had long held plans to establish significant export slaughtering capacity in Queensland. In addition, Hurstbridge Abattoirs (sub. 18) is part way through a major rebuilding and refit program which has taken its capacity to over 500 000 pigs per year and Bunge Meat Industries (sub. 39) has indicated plans to expand slaughtering and boning facilities for export.

Most firms involved in these developments have argued that temporary safeguards measures against frozen pork imports are needed to give time to expand export capacity and provide greater certainty of pig supply available for export. Bunge Meat Industries argued that:

> Furthermore, should the current profitability crisis continue in the pig production sector, then the expansion plans of Auspork, DanPork, Darling Downs Bacon, Hurstbridge and Westons may well be placed on hold or abandoned. This would be a tragedy given the window of opportunity that has emerged in Japan. (sub. 39, p. 47)

However, to the extent that imports have placed competitive pressure on the domestic pig farming industry and the industry successfully adjusts to these pressures, pigmeat imports will have in fact helped increase the long-term viability of new slaughtering developments. The major determinant of competitiveness of the output from export plants will be the competitiveness in both cost and quality of pigs produced by the farming sector.

A number of participants have commented on the costs of inspection for export works. Auspork observed the cost disadvantages of abattoirs due to different policies between countries for charging for abattoir inspection:

> Despite the fact that our abattoir is accredited under project 2 which allows for company inspectors we still have costs of approximately 1.75 cents per kilogram that the North Americans do not have. This is $375,000 per year for our operation. (sub. 51, p. 19)

The Pork Council of Australia submitted:

> Under current conditions, Australian exporters have to pay a 100% cost recovery charge to Government for inspection fees. This is in stark contrast the US, where there are no fees, and Canada, where there is only a partial cost recovery system in place (recently implemented by Agriculture and Agri-Food Canada).
>
> Council considers that as export inspection is a health and safety issue, and there are positive externalities associated with it, there is case for some contribution to be made by government. This would help in alleviating, to a degree, the overall cost structure faced by processors. (sub. 64, p. 6)

Bunge Meat Industries (sub. 39) concurred, while Primary Industries and Resources South Australia (sub. 58) indicated that Denmark and the Netherlands provide government veterinary meat inspection services without charge.

Charging users for meat inspection services is a government policy for all meat products, not just pigs, and reflects the government position that the primary beneficiaries or users of such services should bear the costs. Any change would need to be made for all of the industries involved.

8.2 Bacon, ham and smallgoods manufacture

In 1996–97 there were around 140 bacon, ham and smallgoods manufacturers with a turnover of $1240 million. The four largest firms produced 40 per cent of the industry's turnover while the next four held a 25 per cent share. The majority of producers are small enterprises with 116 enterprises accounting for 16 per cent of industry turnover. Darling Downs Bacon (sub. 52) indicated that it was the leader in the branded market with a share of 17.5 per cent.

This is a highly competitive industry structure. ProAnd Associates observed:

> Smallgoods represents a significant proportion of the Australian meat processing industry, characterised by a high level of domestic consumption, low levels of exports and low volume sales of a relatively large number of product items. It is estimated that there are approximately 130–150 registered establishments for processing smallgoods, in addition to numerous butcher shops that make up sausages, saveloys and similar products on-site. (ProAnd 1998, Vol. 3, p. 1)

The smallgoods industry makes products that are totally pigmeat as well as blended products. For the six major firms in Hassall and Associates' (1995) study of the smallgoods industry, pigmeat represented 80 per cent of meat input, while the 12 medium sized firms surveyed used 63 per cent pork. For blended products, Hassell and Associates (1994) reported industry estimates of 60 per cent pigmeat input.

The Queensland Pork Producers' Organisation (sub. 35) indicated that the further processing sector takes close to 70 per cent of the pig industry's output. Hence, its performance is of importance to the sales and profitability of pig growers. Several participants have observed moves towards more value adding and a greater product range as means of increasing consumer demand for pork. Conversely the adverse impact of food poisoning episodes in recent years has demonstrated the effect of poor performance by the smallgoods industry on pigmeat sales.

There is little information available about the efficiency and competitiveness of Australian processed pork products manufacture. Few processed pork products have been imported and hence competition has been with Australian substitute products rather than imports. The recent and possible future changes in import protocols for pigmeat suggest that there could be greater competition with imports in the domestic market for bacon, ham and smallgoods than in the past. However, initial reactions to

the quarantine changes in November 1997 allowing the importing of cooked pigmeat from Canada, have been minimal. Discussions with processors and importers have suggested that the relatively short shelf life of processed products will militate against large scale importing.

The efficiency and effectiveness of the final processing sector will also be important in the highly competitive export market. Recent growth in pork exports have been of unprocessed frozen or chilled product. Miandetta Farms (trans., p. 25) has argued that in the future exports will need to be in the higher valued added products rather than simple frozen and chilled markets where profits may rely on the very low domestic market prices for pigs observed in mid-1998. This might take the form of more value adding to frozen or chilled product or branded or generic smallgoods.

The initial impact of the 1998 declines in pig prices will have improved the cost competitiveness of smallgoods production particularly for those firms and products using considerable amounts of leg meat. In addition, there are indications that the now cheaper leg meat has substituted for other cuts, resulting in a higher quality product.

Hassell and Associates (1995) is the only recent comprehensive analysis of the smallgoods sector. The very wide range of product mixes and production techniques in smallgoods manufacture makes benchmarking of this industry highly problematic. This study compared the performance of six major and twelve medium-sized Australian smallgoods plants with six best practice plants in Germany, the United Kingdom and the United States. However, confidentiality requirements and lack of information precluded publishing cost data for the European plants. The overseas plants were selected because they were producing similar product ranges using similar processes but at lower unit costs than the Australian firms.

The study results showed processing costs (excluding raw materials) per kilogram were 66 per cent higher in the Australian plants than in the United States. This was almost entirely explained by higher direct and indirect labour costs, despite weekly direct labour payments per employee significantly below those in the United States. Some of the difference may have reflected a different product mix but the much larger scale of operation of the United States plants provided significant economies. Average employment in the United States benchmark plants was more than seven times greater than in the Australian plants. Available evidence suggested that costs per kilogram were broadly comparable between the German and Australian plants, with higher productivity in the much larger German plant being offset by lower wage rates in Australia.

8.3 Supply chain relationships

Many participants observed an emerging change in the nature of relationships between the various levels in the supply chain of pigmeat products. Some forms of alliances have already developed while others are being actively considered between some or all of pig farmers, abattoirs, smallgoods manufacturers and major retailers. This is in line with developments observed overseas particularly in the United States. The greater use of imported leg meat and the associated falls in local pig prices, after initially disrupting contractual relationships, now appears to have focused the industry's attention on the longer term need for closer relationships to improve efficiency. Ridley Corporation observed:

> ... there are a substantial number of smaller, independent pig producers who are very efficient. The competitiveness of the Australian pig industry is, therefore, enhanced if such producers can be assisted to form horizontal relationships with like producers and obtain greater economies of scale and quality through multi-site production. These relationships, together with the formation of contract production, has been instrumental in the increase in productivity and output of herds in the United States. (sub.57, p. 14)

Traditionally, relationships between different levels in the pork industry have been transitory in nature and focused mainly on the quantity of pigs to be purchased. Contracts have been short term and usually have not specified price, other than to establish discounts for excessive weight or fat content.

In periods of relative supply shortage such as 1996 processors paid high prices and were often unsure of the availability of pigs, while in times of plentiful supply (such as 1998) pig farmers faced low prices and difficulty in selling their pigs. At least two processors in South Australia and Western Australia provided minimum prices in annual contracts but these have now been withdrawn due to the low and uncertain prices received in 1998. Windridge Pig Farm observed:

> Some forward contracts have been available in the past and some are available currently. The term of these varies between 1 month and 6 months. As the market destabilised in the latter months of 1997, Windridge found that as its contracts expired buyers refused to even discuss prices for new contracts. Forward contracts were not available on any terms. (sub. 48, p. 2)

In the past, the main means of developing closer relationships between different levels of the supply chain have been various degrees of vertical integration (for example, Bunge Meat Industries, Chapman, Hurstbridge Abattoirs), cooperatives like Darling Downs Bacon or pig farmer owned companies such as Auspork. In some cases these relationships encompassed smallgoods producers as well as farming and abattoirs, but notably did not include major retailers. While such vertically-integrated entities were responsible for a significant share of pig production, there were many pig farmers not included in any form of supply chain

alliance. The South Australian Farmers Federation envisaged more inclusive arrangements developing in the future:

> The South Australian pork industry will be focused on alliances between all groups from gate to plate. Integration within each section of the industry, facilitating improvements in production, processing, manufacturing and marketing will be the key to South Australia's success. (sub.53, p. 2)

Macarthur Consulting, in its Business Plan for the pork industry prepared for the National Pork Industry Development Group, argued that developments required to significantly improve the industry's performance include the need to:

> Develop vertical or horizontal alliances and promote cooperation between sectors to create a seamless value chain from conception to consumption in both domestic and export markets. (Macarthur Consulting 1998, p. 20)

Closer relationships between farmers and between the different levels of the industry offer a number of benefits to producers and consumers. These include:

- savings in farmers' input costs;
- greater certainty of markets for farmers and of supply for abattoirs, processors and retailers;
- higher and more consistent quality of product and better feedback to producers on product specification and quality;
- better use of the price mechanism to differentiate between different quality of product;
- savings in transaction costs;
- sharing of the risk of pig price fluctuations; and
- development of new products.

Various sorts of relationships are likely to develop as producers test alternative arrangements to improve efficiency and product quality. However, Auspork highlighted that creating alliances, although potentially very beneficial, did not guarantee success.

> We're of the view that not all of those alliances, all those people, will survive. Obviously we intend that we will be one. But that's the only way we believe that people can survive, is to bond together and create greater networks and greater, I guess, value between themselves by strategic alliances. (trans.,p. 175)

There may not be room for all existing producers in the new arrangements. Rationalisation is possible at the farming, slaughtering and processing levels as alliances narrow the supply chains from farm to retailer. In particular, the variations in efficiency and quality currently observed in the industry will be significantly

narrowed. Farmers surviving in this environment will need to be low cost, innovative and producing a product of high and consistent quality.

The Australian Government's three year assistance package to the pigmeat industry provides funds to support projects focused on improving competitiveness, developing new markets and expanding existing export markets. Developing vertically integrated supply chains can be part of such initiatives. The farming sector already has a number of State and Federal bodies capable of establishing frameworks for cooperation between pig producers and other parts of the supply chain. However, while developing alliances is aimed at improving vertical relationships within the industry, there is likely to be strong competition between alliances.

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A List of participants

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Table A.2 List of visits

Australian Capital Territory

Australian Bureau of Agricultural and Resource Economics
Benedek Consultancy Pty Ltd
Department of Foreign Affairs and Trade
Department of Primary Industries and Energy
Pig Research and Development Corporation
Pork Council of Australia

New South Wales

Australian Pork Corporation
B.E. Campbell (NSW) Pty Ltd
Bunge Meat Industries Ltd
DanPork Australia
Meapro
MQF Pty Ltd
NSW Cabinet Office
NSW Farmers' Association
Primo Smallgoods
Ridley Agriproducts
Woolworths Supermarkets

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Table A.2 (continued)

Queensland

Darling Downs Bacon Co-operative Association Ltd
Department of Primary Industries Queensland
Doug Hall Pty Ltd
Ingoldsby Piggery Pty Ltd
Mazzanti, M
Miandetta Farms Pty Ltd
Queensland Pork Producers' Organisation

South Australia

George Chapman Pty Ltd
Primary Industries and Resources SA
South Australian Farmers' Federation

Victoria

Auspork

Table A.3 **Public hearing participants**

Auspork
Bunge Meat Industries Ltd
Clarke, V
Department of Primary Industries Queensland
Freehill Hollingdale and Page (on behalf of Canadian Government)
Freehill Hollingdale and Page (on behalf of Canadian Pork Council and Canadian Meat Council)
McClintock, S
Miandetta Farms Pty Ltd
NSW Farmers' Association
O'Dea, J
Pork Council of Australia
Queensland Pork Producers' Organisation
Sapwell, C

B General procedures on safeguards

This appendix consists of:

- the *Commonwealth of Australia Gazette*, 'Establishment Of General Procedures For Inquiries By The Productivity Commission Into Whether Safeguard Action Is Warranted Under The Agreement Establishing The World Trade Organization', No. S 297, Thursday, 25 June 1998;
- GATT 1994 Article XIX; and
- the World Trade Organization Agreement on Safeguards.

Commonwealth of Australia **Gazette**

No. S 297, Thursday, 25 June 1998
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SPECIAL

ESTABLISHMENT OF GENERAL PROCEDURES FOR INQUIRIES BY THE PRODUCTIVITY COMMISSION INTO WHETHER SAFEGUARD ACTION IS WARRANTED UNDER THE AGREEMENT ESTABLISHING THE WORLD TRADE ORGANIZATION

1. In order to comply with the requirements of the Agreement Establishing the World Trade Organization (WTO Agreement), and in particular the Agreement on Safeguards (Safeguards Agreement) and Article XIX of the General Agreements on Tariffs and Trade 1994 (GATT 1994), this notice establishes the general procedures for inquiries into safeguard action by the Productivity Commission (Commission) in respect of a reference under Parts 2 and 3 of the *Productivity Commission Act 1998.*

2. A reference under Parts 2 and 3 of the *Productivity Commission Act 1998* in respect of safeguard action will designate the product being imported and request an inquiry and report by the Commission on:

(a) whether the conditions are such that safeguard measures would be justified under the WTO Agreement;

(b) if so, what measures would be necessary to prevent or remedy serious injury and to facilitate adjustment; and

(c) whether, having regard to the Government's requirements for assessing the impact of regulation which affects business those measures should be implemented.

3. A **"safeguard measure"** means a measure provided for in Article XIX of GATT 1994, the rules for which are established by the Safeguards Agreement. A safeguards measure would be in the form of a quota, a tariff quota, or an increased level of tariff.

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Conditions

4. The Commission is to report on whether the product under reference is being imported into Australia 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 that produces like or directly competitive products.

5. Safeguard measures have to be applied to a product being imported irrespective of its source, except:

(a) product determined to be of New Zealand origin pursuant to the Australia New Zealand Closer Economic Relations Trade Agreement, which shall be excluded from the inquiry; and

(b) product originating in a developing country Member of the WTO shall be exempted from such measures as long as its share of imports of the product concerned does not exceed 3 %, provided that developing country Members of the WTO with less than 3 % import share collectively account for not more than 9 % of total imports of the product.

Inquiry

6. Reasonable public notice must be given to all interested parties in accordance with section 14 of the *Productivity Commission Act 1998*. The inquiry must involve public hearings or other appropriate means in which importers, exporters and other interested parties can present evidence and their views, including the opportunity to respond to the presentations of other parties and to submit their views, *inter alia*, as to whether or not the application of a safeguard measure would be in the public interest.

7. In accordance with section 12 of the *Productivity Commission Act 1998* a report shall be published promptly setting forth the Commission's findings and reasoned conclusions reached on all pertinent issues of fact and law. The report will include a detailed analysis of the case under inquiry as well as a demonstration of the relevance of the factors examined. All factors specified in these procedures must be considered.

8. Any information which is by nature confidential or which is provided on a confidential basis shall, upon cause being shown, be treated as such by the Commission. Such information shall not be disclosed without permission of the party submitting it. Parties providing confidential information may be requested to furnish non-confidential

summaries thereof or, if such parties indicate that such information cannot be summarized,

the reasons why a summary cannot be provided. However, if the Commission find that a request for confidentiality is not warranted and if the party concerned is either unwilling to make the information public or to authorize its disclosure in generalized or summary form, it may disregard such information unless it can be demonstrated to its satisfaction from appropriate sources that the information is correct.

Determination of Serious Injury or Threat Thereof

9. "**Serious injury**" means a significant overall impairment in the position of a domestic industry.

10. "**Threat of serious injury**" means serious injury that is clearly imminent, in accordance with the provisions of paragraphs 13 and 14. A determination of the existence of a threat of serious injury shall be based on facts and not merely on allegation, conjecture or remote possibility.

11. In determining injury or threat thereof, a "**domestic industry**" means the producers as a whole of the like or directly competitive products operating in Australia, or those whose collective output of the like or directly competitive products constitutes a major proportion of the total domestic production of those products.

12. "**Like product**" means a product which is identical, i.e. alike in all respects to the product under consideration, or in the absence of such a product, another product which, although not alike in all respects, has characteristics closely resembling those of the product under consideration.

13. In the inquiry to determine whether increased imports have caused or are threatening to cause serious injury to a domestic industry, the Commission shall evaluate all relevant factors of an objective and quantifiable nature having a bearing on the situation of that industry, in particular, the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilization, profits and losses, and employment.

14. The determination referred to in paragraph 13 shall not be made unless this inquiry demonstrates, on the basis of objective evidence, the existence of the causal link between increased imports of the product concerned and serious injury or threat thereof. When factors other than increased imports are causing injury to the domestic industry at the same time, such injury shall not be attributed to increased imports.

Application of Safeguard Measures

15. A safeguard measure can only be applied to the extent necessary to prevent or remedy serious injury and to facilitate adjustment. If a quantitative restriction is used, such a measure shall not reduce the quantity of imports below the level of a recent period which shall be the average of imports in the last three representative years for which statistics are available, unless clear justification is given that a different level is necessary to prevent or remedy serious injury.

Provisional Safeguard Measures

16. A reference can also be made to the Commission for an accelerated report to determine whether critical circumstances exist where delay in applying measures would cause damage which it would be difficult to repair. The Commission will report to the Minister on whether there is clear evidence that increased imports have caused or are threatening to cause serious injury. If the Commission finds that such circumstances exist, then it will also recommend what provisional measures would be appropriate for up to 200 days. Such measures should take the form of tariff increases unless that would not be sufficient to prevent serious injury. The provisional measures would be revoked when the Government reached a decision on the imposition of safeguard measures following the receipt of the report by the Commission.

Duration and Review of Safeguard Measures

17. The Commission shall also make recommendations about the duration of the measures up to a four year period. The period is to include any period where provisional measures have been in place.

18. Where safeguard measures are imposed, the Minister may refer to the Commission for inquiry and report the question of the extension of the period for safeguard measures beyond four years and up to eight years.

19. The inquiry by the Commission to advise whether the safeguard measure continues to be necessary to prevent or remedy serious injury and whether there is evidence that the industry is adjusting shall be in conformity with the procedures set out above. A measure so extended is not to be more restrictive than it was at the end of the initial period, and should continue to be liberalized.

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GATT 1994 Article XIX

Emergency Action on Imports of Particular Products

1. (a) If, as a result of unforeseen developments and of the effect of the obligations incurred by a contracting party under this Agreement, including tariff concessions, any product is being imported into the territory of that contracting party in such increased quantities and under such conditions as to cause or threaten serious injury to domestic producers in that territory of like or directly competitive products, the contracting party shall be free, in respect of such product, and to the extent and for such time as may be necessary to prevent or remedy such injury, to suspend the obligation in whole or in part or to withdraw or modify the concession.

(b) If any product, which is the subject of a concession with respect to a preference, is being imported into the territory of a contracting party in the circumstances set forth in sub-paragraph (a) of this paragraph, so as to cause or threaten serious injury to domestic producers of like or directly competitive products in the territory of a contracting party which receives or received such preference, the importing contracting party shall be free, if that other contracting party so requests, to suspend the relevant obligation in whole or in part or to withdraw or modify the concession in respect of the product, to the extent and for such time as may be necessary to prevent or remedy such injury.

2. Before any contracting party shall take action pursuant to the provisions of paragraph 1 of this Article, it shall give notice in writing to the CONTRACTING PARTIES as far in advance as may be practicable and shall afford the CONTRACTING PARTIES and those contracting parties having a substantial interest as exporters of the product concerned an opportunity to consult with it in respect of the proposed action. When such notice is given in relation to a concession with respect to a preference, the notice shall name the contracting party which has requested the action. In critical circumstances, where delay would cause damage which it would be difficult to repair, action under paragraph 1 of this Article may be taken provisionally without prior consultation, on the condition that consultation shall be effected immediately after taking such action.

3. (a) If agreement among the interested contracting parties with respect to the action is not reached, the contracting party which proposes to take or continue the action shall, nevertheless, be free to do so, and if such action is taken or continued, the affected contracting parties shall then be free, not later than ninety days after such action is taken, to suspend, upon the expiration of thirty days from the day on which written notice of such suspension is received by the CONTRACTING PARTIES, the application to the trade of the contracting party taking such action, or, in the case envisaged in paragraph 1 (b) of this Article, to the trade of the contracting party requesting such action, of such substantially equivalent concessions or other obligations under this Agreement the suspension of which the CONTRACTING PARTIES do not disapprove.

(b) Notwithstanding the provisions of sub-paragraph (a) of this paragraph, where action is taken under paragraph 2 of this Article without prior consultation and causes or threatens serious injury in the territory of a contracting party to the domestic producers of products affected by the action, that contracting party shall, where delay would cause damage difficult to repair, be free to suspend, upon the taking of the action and throughout the period of consultation, such concessions or other obligations as may be necessary to prevent or remedy the injury.

Agreement on Safeguards

AGREEMENT ON SAFEGUARDS

Members,

Having in mind the overall objective of the Members to improve and strengthen the international trading system based on GATT 1994;

Recognizing the need to clarify and reinforce the disciplines of GATT 1994, and specifically those of its Article XIX (Emergency Action on Imports of Particular Products), to re-establish multilateral control over safeguards and eliminate measures that escape such control;

Recognizing the importance of structural adjustment and the need to enhance rather than limit competition in international markets; and

Recognizing further that, for these purposes, a comprehensive agreement, applicable to all Members and based on the basic principles of GATT 1994, is called for;

Hereby *agree* as follows:

Article 1

General Provision

This Agreement establishes rules for the application of safeguard measures which shall be understood to mean those measures provided for in Article XIX of GATT 1994.

Article 2

Conditions

1. A Member[1] may apply a safeguard measure to a product only if that Member has determined, pursuant to the provisions set out below, that such product is being imported into its territory 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 that produces like or directly competitive products.

2. Safeguard measures shall be applied to a product being imported irrespective of its source.

Article 3

Investigation

1. A Member may apply a safeguard measure only following an investigation by the competent authorities of that Member pursuant to procedures previously established and made public in consonance with Article X of GATT 1994. This investigation shall include reasonable public notice to all interested parties and public hearings or other appropriate means in which importers, exporters and other interested parties could present evidence and their views, including the opportunity to respond to the presentations of other parties and to submit their views, *inter alia*, as to whether or not the application of a safeguard measure would be in the public interest. The competent authorities shall publish a report setting forth their findings and reasoned conclusions reached on all pertinent issues of fact and law.

2. Any information which is by nature confidential or which is provided on a confidential basis shall, upon cause being shown, be treated as such by the competent authorities. Such information shall not be disclosed without permission of the party submitting it. Parties providing confidential information may be requested to furnish non-confidential summaries thereof or, if such parties indicate that such information cannot be summarized, the reasons why a summary cannot be

1 A customs union may apply a safeguard measure as a single unit or on behalf of a member State. When a customs union applies a safeguard measure as a single unit, all the requirements for the determination of serious injury or threat thereof under this Agreement shall be based on the conditions existing in the customs union as a whole. When a safeguard measure is applied on behalf of a member State, all the requirements for the determination of serious injury or threat thereof shall be based on the conditions existing in that member State and the measure shall be limited to that member State. Nothing in this Agreement prejudges the interpretation of the relationship between ArticleXIX and paragraph 8 of Article XXIV of GATT 1994.

provided. However, if the competent authorities find that a request for confidentiality is not warranted and if the party concerned is either unwilling to make the information public or to authorize its disclosure in generalized or summary form, the authorities may disregard such information unless it can be demonstrated to their satisfaction from appropriate sources that the information is correct.

Article 4

Determination of Serious Injury or Threat Thereof

1. For the purposes of this Agreement:

   (a) "serious injury" shall be understood to mean a significant overall impairment in the position of a domestic industry;

   (b) "threat of serious injury" shall be understood to mean serious injury that is clearly imminent, in accordance with the provisions of paragraph 2. A determination of the existence of a threat of serious injury shall be based on facts and not merely on allegation, conjecture or remote possibility; and

   (c) in determining injury or threat thereof, a "domestic industry" shall be understood to mean the producers as a whole of the like or directly competitive products operating within the territory of a Member, or those whose collective output of the like or directly competitive products constitutes a major proportion of the total domestic production of those products.

2. (a) In the investigation to determine whether increased imports have caused or are threatening to cause serious injury to a domestic industry under the terms of this Agreement, the competent authorities shall evaluate all relevant factors of an objective and quantifiable nature having a bearing on the situation of that industry, in particular, the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilization, profits and losses, and employment.

(b) The determination referred to in subparagraph (a) shall not be made unless this investigation demonstrates, on the basis of objective evidence, the existence of the causal link between increased imports of the product concerned and serious injury or threat thereof. When factors other than increased imports are causing injury to the domestic industry at the same time, such injury shall not be attributed to increased imports.

(c) The competent authorities shall publish promptly, in accordance with the provisions of Article 3, a detailed analysis of the case under investigation as well as a demonstration of the relevance of the factors examined.

Article 5

Application of Safeguard Measures

1. A Member shall apply safeguard measures only to the extent necessary to prevent or remedy serious injury and to facilitate adjustment. If a quantitative restriction is used, such a measure shall not reduce the quantity of imports below the level of a recent period which shall be the average of imports in the last three representative years for which statistics are available, unless clear justification is given that a different level is necessary to prevent or remedy serious injury. Members should choose measures most suitable for the achievement of these objectives.

2. (a) In cases in which a quota is allocated among supplying countries, the Member applying the restrictions may seek agreement with respect to the allocation of shares in the quota with all other Members having a substantial interest in supplying the product concerned. In cases in which this method is not reasonably practicable, the Member concerned shall allot to Members having a substantial interest in supplying the product shares based upon the proportions, supplied by such Members during a previous representative period, of the total quantity or value of imports of the product, due account being taken of any special factors which may have affected or may be affecting the trade in the product.

(b) A Member may depart from the provisions in subparagraph (a) provided that consultations under paragraph 3 of Article 12 are conducted under the auspices of the Committee on Safeguards provided for in paragraph 1 of Article 13 and that clear demonstration is provided to the Committee that (*i*) imports from certain Members have increased in disproportionate percentage in relation to the total increase of imports of the product concerned in the representative period, (*ii*) the reasons for the departure from the provisions in subparagraph (a) are justified, and (*iii*) the conditions of such departure are equitable to all suppliers of the product concerned. The duration of any such measure shall not be extended beyond the initial period under paragraph 1 of Article 7. The departure referred to above shall not be permitted in the case of threat of serious injury.

Article 6

Provisional Safeguard Measures

In critical circumstances where delay would cause damage which it would be difficult to repair, a Member may take a provisional safeguard measure pursuant to a preliminary determination that there is clear evidence that increased imports have caused or are threatening to cause serious injury. The duration of the provisional measure shall not exceed 200 days, during which period the pertinent requirements of Articles 2 through 7 and 12 shall be met. Such measures should take the form of tariff increases to be promptly refunded if the subsequent investigation referred to in paragraph 2 of Article 4 does not determine that increased imports have caused or threatened to cause serious injury to a domestic industry. The duration of any such provisional measure shall be counted as a part of the initial period and any extension referred to in paragraphs 1, 2 and 3 of Article 7.

Article 7

Duration and Review of Safeguard Measures

1. A Member shall apply safeguard measures only for such period of time as may be necessary to prevent or remedy serious injury and to facilitate adjustment. The period shall not exceed four years, unless it is extended under paragraph 2.

2. The period mentioned in paragraph 1 may be extended provided that the competent authorities of the importing Member have determined, in conformity with the procedures set out in Articles 2, 3, 4 and 5, that the safeguard measure continues to be necessary to prevent or remedy serious injury and that there is evidence that the industry is adjusting, and provided that the pertinent provisions of Articles 8 and 12 are observed.

3. The total period of application of a safeguard measure including the period of application of any provisional measure, the period of initial application and any extension thereof, shall not exceed eight years.

4. In order to facilitate adjustment in a situation where the expected duration of a safeguard measure as notified under the provisions of paragraph 1 of Article 12 is over one year, the Member applying the measure shall progressively liberalize it at regular intervals during the period of application. If the duration of the measure exceeds three years, the Member applying such a measure shall review the situation not later than the mid-term of the measure and, if appropriate, withdraw it or

increase the pace of liberalization. A measure extended under paragraph 2 shall not be more restrictive than it was at the end of the initial period, and should continue to be liberalized.

5. No safeguard measure shall be applied again to the import of a product which has been subject to such a measure, taken after the date of entry into force of the WTO Agreement, for a period of time equal to that during which such measure had been previously applied, provided that the period of non-application is at least two years.

6. Notwithstanding the provisions of paragraph 5, a safeguard measure with a duration of 180 days or less may be applied again to the import of a product if:

(a) at least one year has elapsed since the date of introduction of a safeguard measure on the import of that product; and

(b) such a safeguard measure has not been applied on the same product more than twice in the five-year period immediately preceding the date of introduction of the measure.

Article 8

Level of Concessions and Other Obligations

1. A Member proposing to apply a safeguard measure or seeking an extension of a safeguard measure shall endeavour to maintain a substantially equivalent level of concessions and other obligations to that existing under GATT 1994 between it and the exporting Members which would be affected by such a measure, in accordance with the provisions of paragraph 3 of Article 12. To achieve this objective, the Members concerned may agree on any adequate means of trade compensation for the adverse effects of the measure on their trade.

2. If no agreement is reached within 30 days in the consultations under paragraph 3 of Article 12, then the affected exporting Members shall be free, not later than 90 days after the measure is applied, to suspend, upon the expiration of 30 days from the day on which written notice of such suspension is received by the Council for Trade in Goods, the application of substantially equivalent concessions or other obligations under GATT 1994, to the trade of the Member applying the safeguard measure, the suspension of which the Council for Trade in Goods does not disapprove.

3. The right of suspension referred to in paragraph 2 shall not be exercised for the first three years that a safeguard measure is in effect, provided that the safeguard measure has been taken as a result of an absolute increase in imports and that such a measure conforms to the provisions of this Agreement.

Article 9

Developing Country Members

1. Safeguard measures shall not be applied against a product originating in a developing country Member as long as its share of imports of the product concerned in the importing Member does not exceed 3 per cent, provided that developing country Members with less than 3 per cent import share collectively account for not more than 9 per cent of total imports of the product concerned.[2]

2. A developing country Member shall have the right to extend the period of application of a safeguard measure for a period of up to two years beyond the maximum period provided for in paragraph 3 of Article 7. Notwithstanding the provisions of paragraph 5 of Article 7, a developing country Member shall have the right to apply a safeguard measure again to the import of a product which has been subject to such a measure, taken after the date of entry into force of the WTO Agreement, after a period of time equal to half that during which such a measure has been previously applied, provided that the period of non-application is at least two years.

Article 10

Pre-existing Article XIX Measures

Members shall terminate all safeguard measures taken pursuant to Article XIX of GATT 1947 that were in existence on the date of entry into force of the WTO Agreement not later than eight years after the date on which they were first applied or five years after the date of entry into force of the WTO Agreement, whichever comes later.

2 A Member shall immediately notify an action taken under paragraph 1 of Article 9 to the Committee on Safeguards.

Article 11

Prohibition and Elimination of Certain Measures

1. (a) A Member shall not take or seek any emergency action on imports of particular products as set forth in Article XIX of GATT 1994 unless such action conforms with the provisions of that Article applied in accordance with this Agreement.

(b) Furthermore, a Member shall not seek, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side.[3,4] These include actions taken by a single Member as well as actions under agreements, arrangements and understandings entered into by two or more Members. Any such measure in effect on the date of entry into force of the WTO Agreement shall be brought into conformity with this Agreement or phased out in accordance with paragraph 2.

(c) This Agreement does not apply to measures sought, taken or maintained by a Member pursuant to provisions of GATT 1994 other than Article XIX, and Multilateral Trade Agreements in Annex 1A other than this Agreement, or pursuant to protocols and agreements or arrangements concluded within the framework of GATT 1994.

2. The phasing out of measures referred to in paragraph 1(b) shall be carried out according to timetables to be presented to the Committee on Safeguards by the Members concerned not later than 180 days after the date of entry into force of the WTO Agreement. These timetables shall provide for all measures referred to in paragraph 1 to be phased out or brought into conformity with this Agreement within a period not exceeding four years after the date of entry into force of the WTO Agreement, subject to not more than one specific measure per importing Member[5], the duration of which shall not extend beyond 31 December 1999. Any such exception must be mutually agreed between the Members directly concerned and notified to the Committee on Safeguards for its review and acceptance within 90 days of the entry into force of the WTO Agreement. The Annex to this

3 An import quota applied as a safeguard measure in conformity with the relevant provisions of GATT 1994 and this Agreement may, by mutual agreement, be administered by the exporting Member.

4 Examples of similar measures include export moderation, export-price or import-price monitoring systems, export or import surveillance, compulsory import cartels and discretionary export or import licensing schemes, any of which afford protection.

5 The only such exception to which the European Communities is entitled is indicated in the Annex to this Agreement.

Agreement indicates a measure which has been agreed as falling under this exception.

3. Members shall not encourage or support the adoption or maintenance by public and private enterprises of non-governmental measures equivalent to those referred to in paragraph 1.

Article 12

Notification and Consultation

1. A Member shall immediately notify the Committee on Safeguards upon:

   (a) initiating an investigatory process relating to serious injury or threat thereof and the reasons for it;

   (b) making a finding of serious injury or threat thereof caused by increased imports; and

   (c) taking a decision to apply or extend a safeguard measure.

2. In making the notifications referred to in paragraphs 1(b) and 1(c), the Member proposing to apply or extend a safeguard measure shall provide the Committee on Safeguards with all pertinent information, which shall include evidence of serious injury or threat thereof caused by increased imports, precise description of the product involved and the proposed measure, proposed date of introduction, expected duration and timetable for progressive liberalization. In the case of an extension of a measure, evidence that the industry concerned is adjusting shall also be provided. The Council for Trade in Goods or the Committee on Safeguards may request such additional information as they may consider necessary from the Member proposing to apply or extend the measure.

3. A Member proposing to apply or extend a safeguard measure shall provide adequate opportunity for prior consultations with those Members having a substantial interest as exporters of the product concerned, with a view to, *inter alia*, reviewing the information provided under paragraph 2, exchanging views on the measure and reaching an understanding on ways to achieve the objective set out in paragraph 1 of Article 8.

4. A Member shall make a notification to the Committee on Safeguards before taking a provisional safeguard measure referred to in Article 6. Consultations shall be initiated immediately after the measure is taken.

5. The results of the consultations referred to in this Article, as well as the results of mid-term reviews referred to in paragraph 4 of Article 7, any form of compensation referred to in paragraph 1 of Article 8, and proposed suspensions of concessions and other obligations referred to in paragraph 2 of Article 8, shall be notified immediately to the Council for Trade in Goods by the Members concerned.

6. Members shall notify promptly the Committee on Safeguards of their laws, regulations and administrative procedures relating to safeguard measures as well as any modifications made to them.

7. Members maintaining measures described in Article 10 and paragraph 1 of Article 11 which exist on the date of entry into force of the WTO Agreement shall notify such measures to the Committee on Safeguards not later than 60 days after the date of entry into force of the WTO Agreement.

8. Any Member may notify the Committee on Safeguards of all laws, regulations, administrative procedures and any measures or actions dealt with in this Agreement that have not been notified by other Members that are required by this Agreement to make such notifications.

9. Any Member may notify the Committee on Safeguards of any non-governmental measures referred to in paragraph 3 of Article 11.

10. All notifications to the Council for Trade in Goods referred to in this Agreement shall normally be made through the Committee on Safeguards.

11. The provisions on notification in this Agreement shall not require any Member to disclose confidential information the disclosure of which would impede law enforcement or otherwise be contrary to the public interest or would prejudice the legitimate commercial interests of particular enterprises, public or private.

Article 13

Surveillance

1. A Committee on Safeguards is hereby established, under the authority of the Council for Trade in Goods, which shall be open to the participation of any Member indicating its wish to serve on it. The Committee will have the following functions:

(a) to monitor, and report annually to the Council for Trade in Goods on, the general implementation of this Agreement and make recommendations towards its improvement;

(b) to find, upon request of an affected Member, whether or not the procedural requirements of this Agreement have been complied with in connection with a safeguard measure, and report its findings to the Council for Trade in Goods;

(c) to assist Members, if they so request, in their consultations under the provisions of this Agreement;

(d) to examine measures covered by Article 10 and paragraph 1 of Article 11, monitor the phase-out of such measures and report as appropriate to the Council for Trade in Goods;

(e) to review, at the request of the Member taking a safeguard measure, whether proposals to suspend concessions or other obligations are "substantially equivalent", and report as appropriate to the Council for Trade in Goods;

(f) to receive and review all notifications provided for in this Agreement and report as appropriate to the Council for Trade in Goods; and

(g) to perform any other function connected with this Agreement that the Council for Trade in Goods may determine.

2. To assist the Committee in carrying out its surveillance function, the Secretariat shall prepare annually a factual report on the operation of this Agreement based on notifications and other reliable information available to it.

Article 14

Dispute Settlement

The provisions of Articles XXII and XXIII of GATT 1994 as elaborated and applied by the Dispute Settlement Understanding shall apply to consultations and the settlement of disputes arising under this Agreement.

Annex

Exception referred to in paragraph 2 of article 11

Members concerned	Product	Termination
EC/Japan	Passenger cars, off road vehicles, light commercial vehicles, light trucks (up to 5 tonnes), and the same vehicles in wholly knocked-down form (CKD sets).	31 December 1999

C Goods under reference

Goods under reference fall within tariff sub-heading 0203.29 of the Australian Customs Tariff (see following extract). All goods under tariff heading 0203 enter free of duty.

0203 — MEAT OF SWINE, FRESH, CHILLED OR FROZEN.

– Fresh or chilled:

0203.11 – – Carcasses and half-carcasses

0203.12 – – Hams, shoulders and cuts thereof, with bone in

0203.19 – – Other

– Frozen:

0203.21 – – Carcasses and half-carcasses

0203.22 – – Hams, shoulders and cuts thereof, with bone in

0203.29 – – Other

This heading covers fresh, chilled or frozen meat of pigs and other swine, whether domestic or wild (e.g., wild boars). The heading includes streaky pork and similar meats interlarded with a high proportion of fat, and fat with an adhering layer of meat.

D Australian pig and pigmeat industries

The pig and pigmeat industry consists of three sectors; pig farming; pigmeat processing in abattoirs and boning rooms; and secondary processing into ham, bacon and smallgoods. Some producers undertake activities in more than one sector. The industry produces fresh pork and various processed pork products.

D.1 The pigmeat processing chain

Pig farming

In Australia, pigs are housed in large sheds where temperature and feed can be controlled. Shed design and production methods vary as new technology and improved animal husbandry are introduced into the industry. Stockfeed is the major component of costs.

Heavier pigs (baconers) are suited to processing into bacon, ham and smallgoods. Other pigs (porkers) are grown specifically for the fresh pork market.

Most pig producers sell a slaughtered product to processors. This means ownership changes hands 'over the hooks', payment being related to the hot standard weight of the dressed carcass. Miandetta Farms explained:

> It is important to note that the majority of pig farmers produce and sell pork. Nearly all pigs are sold at the end of the slaughter chain and remain the property of the pig farmer until the animal crosses the scales. It is eviscerated, trimmed, de-haired and ready for chilling at this point. (sub.24, p. 1)

Apart from those pigs which are incorporated in a vertically integrated enterprise most are sold under customary relationships but without guarantees from purchasers on quantity or price. The pig producers sell a carcass that must be within a tightly specified weight range and fat level or heavy price discounts are incurred. As pigs grow quickly (around 39 weeks production cycle) the pig producer has a small window in which to sell.

Pig farming is a relatively small sector of agriculture in Australia. In 1996–97, value added in pig farming accounted for just 2 per cent of farm gross product and one

twentieth of one per cent of Australian GDP (ABARE 1997). Pig sales and turnover have risen over the last ten years while the value of livestock and value added have fluctuated according to climatic conditions and their effects on input and output prices (see table D.1).

Table D.1 **Key statistics: pig farming**

	Pig sales	*Turnover*[a]	*Value added*
	$m	$m	$m
1988–89	295.3	366.0	156.1
1989–90	448.3	536.5	199.6
1990–91	521.7	613.6	202.1
1991–92	549.8	643.8	181.5
1992–93	455.8	520.9	144.7
1993–94	571.5	680.6	206.4
1994–95	558.3	666.6	172.6
1995–96	583.6	673.8	168.0
1996–97	628.2	706.8	271.9

a Total revenue for pig farms from the sale of crops, livestock and livestock products, rent and leasing revenue and miscellaneous other farm and non-farm activities.

Source: ABS (Cat. No. 7507.0).

Abattoirs and boning rooms (primary processors)

Although abattoirs that slaughter pigs vary considerably in size and scope of operation, the processes undertaken are similar in all. They include stunning the pig, sticking, bleeding, de-hairing and evisceration (gutting and cleaning). The end products of these processes are whole carcasses, half-carcasses, edible offal and other by-products.

In the boning room, the carcass is broken up into primal cuts such as shoulders, middles and legs. Generally, these processes are labour intensive with the carcasses broken up by electric saw, and boning and slicing by knife. There is a range of treatments of each primal cut depending on the end-use of the product — which either is sold in the fresh pork market, through the food service industry and retail outlets (supermarkets, butchers, restaurants, etc.), or used in the manufacture of bacon, hams and smallgoods.

The share of pigmeat entering the fresh pork market is around 40 per cent, the remainder being used in secondary processing.

The production of pigmeat represents only a small part of total meat production but the precise proportion is difficult to determine. Meat processing industry statistics available from the ABS include all slaughtering and meat production and, therefore,

official disaggregated structural data regarding firms producing and processing pigmeat are not available.

The Australian Pork Corporation's (APC) annual *PigStats* publication has provided data on the 20 largest pig abattoirs since 1992–93. These data have been combined with information supplied to the Commission by the processing companies.

The meat processing industry is one of Australia's largest rural-based industries. In 1996–97, gross product was over $1 billion and turnover was almost $6 billion (see table D.2).

In 1996–97, the pig farming sector recorded livestock sales of $630 million out of total livestock sales of $6 billion (11 per cent). An ABS input/output analysis from 1993–94 shows that pigs accounted for around 12 per cent of livestock purchases by the meat processing sector, including sales within vertically integrated enterprises. In 1997–98, just over 12 per cent of meat produced by the sector was pigmeat. These shares have not changed substantially in the 1990s.

This suggests that pigmeat production accounts for around 11 to 12 per cent of total meat processing turnover. Using this percentage for value added and employment implies the pigmeat processing industry contributed roughly $130 million to Australia's GDP and supported around 3000 jobs in 1996–97.

Table D.2 **Key statistics: meat processing**

	Turnover[a]	*Gross product*[b]	*Employment*	*Establishments*
	$m	$m	No.	No.
1984–85	3 586.3	na	29 622	420
1985–86	na	na	na	na
1986–87	4 260.9	na	29 802	379
1987–88	5 164.0	na	30 671	392
1988–89	5 403.9	na	29 500	385
1989–90	5 882.0	na	31 683	408
1990–91	5 474.4	na	27 238	353
1991–92	5 358.7	na	27 086	340
1992–93	6 224.2	1 377.0	30 168	390
1993–94	6 321.8	na	29 533	347
1994–95	6 177.5	na	29 014	345
1995–96	6 091.3	1 200.9	28 351	336
1996–97p	5 733.9	1 314.2	28 874	345

a Total revenue from all activities. **b** Gross value added. **na** Not available. **p** Preliminary data.

Source: ABS (Cat No. 8221.0 and unpublished data).

Secondary processing (ham, bacon and smallgoods manufacturers)

Secondary processing involves the further processing of the cuts of pigmeat into bacon, ham and smallgoods through curing, cooking and smoking. Although these manufacturers use all meats, the majority of meat used is pigmeat. The pigmeat used in secondary processing can be from local boning rooms or imported.

The vast majority of smallgoods producers use at least some pigmeat. As for the meat processing industry, there are no official disaggregated data for the secondary meat processing industry.

There were 147 bacon, ham and smallgoods manufacturing establishments in 1996–97. This figure has fluctuated over the last decade from a high of 169 to a low of 118 (see table D.3). Although many of these manufacturers are small family-owned establishments, large companies such as Don Smallgoods (part of Bunge Meat Industries), Darling Downs Bacon, Watsonia and the operations of the large supermarket chains dominate total sales.

Table D.3 **Key statistics: bacon, ham and smallgoods manufacturing**

	Turnover[a]	*Gross product*[b]	*Employment*	*Establishments*
	$m	$m	No.	No.
1984–85	775.5	na	7 026	120
1985–86	na	na	na	na
1986–87	869.2	na	6 973	125
1987–88	918.9	na	6 956	135
1988–89	1 009.5	na	6 800	118
1989–90	1 008.2	na	6 398	134
1990–91	1 214.6	na	7 149	132
1991–92	1 205.8	na	6 594	129
1992–93	1 251.7	280.2	7 082	146
1993–94	1 302.1	na	7 118	152
1994–95	1 195.0	na	6 454	159
1995–96	1 211.3	331.2	6 690	169
1996–97p	1 240.4	321.4	6 484	147

a Total revenue from all activities. **b** Gross value added. **na** Not available. **p** Preliminary data.

Source: ABS (Cat No. 8221.0 and unpublished data).

D.2 Industry and production trends

D.2.1 Pig production

Until the early 1970s, pig production was associated with dairy farming. The number of pig herds declined by 10 000 between 1960 and 1970. However, the introduction of restrictive delivery quotas for wheat in 1969 prompted wheat farmers to enter pig production as a means of using surplus wheat. This resulted in the build up of pigs and consequent rapid expansion of pigmeat production in 1972–73. With the removal of quotas, there was a sharp drop in production until 1976. The industry consolidated and 15 000 producers left the industry over this period.

This began the long transition from a dairy based sideline to a grain based, intensive farming industry. Between 1970–71 and 1997–98, the number of pig herds declined by 92 per cent, from around 40 000 to just over 3100 (an average of 1300 herds a year), while pigmeat production rose by over 94 per cent (see table D.4). The average herd size, which was less than 10 breeding sows during the 1960s, has increased to almost 100 sows in 1998.

While the number of sows has decreased from its peak in 1972–73, an increase in pigmeat production was possible because of an increasing number of slaughtered pigs per sow and an increasing yield of meat from each carcass. Both resulted from improved genetic stock and animal husbandry. However, meat yield (71 kg/pig) is still lower than in many of the major producing nations such as Canada (81 kg/pig), the United States (85 kg/pig), China (76 kg/pig), Denmark (77 kg/pig) and Poland (75 kg/pig).

Periods of hardship, such as the 1994–95 drought, saw particularly high numbers of small producers leave the industry. Between December 1994 and June 1995, almost 1000 of these small operations ceased to exist (see table D.5).

Despite ongoing structural change in the industry, there still remains a large number of small non-specialist producers (producers with less than 100 sows are generally considered to be non-specialist). The 81 per cent of pig producers that have fewer than 100 sows have just 21 per cent of Australia's breeding stock. In contrast, over 40 per cent of breeding sows are owned by the 1 per cent of producers with over 1000 sows (see table D.5).

Table D.4 **Producers, herd size, slaughter and pigmeat production**

	Producers[a]	*Breeding sows*[a]	*Slaughter*[b]	*Pigmeat production*[b]
	No.	’000	’000	’000 t
1960–61	49 537	211	na	na
1970–71	39 498	338	na	182
1971–72	37 797	367	na	194
1972–73	39 252	460	4 743	236
1973–74	35 432	414	4 170	211
1974–75	na	323	3 454	175
1975–76	24 994	311	3 295	174
1976–77	23 830	308	3 478	185
1977–78	21 962	311	3 693	199
1978–79	20 073	301	3 589	199
1979–80	19 243	312	3 878	218
1980–81	19 279	352	4 216	233
1981–82	17 281	343	4 058	228
1982–83	14 290	329	4 162	239
1983–84	13 548	341	4 401	253
1984–85	12 705	335	4 490	260
1985–86	11 159	333	4 550	271
1986–87	10 661	337	4 736	283
1987–88	8 524	341	4 923	297
1988–89	8 239	349	5 007	308
1989–90	7 593	339	4 942	317
1990–91	6 847	331	4 865	312
1991–92	6 231	307	5 132	336
1992–93	5 828	305	5 032	328
1993–94	4 754	308	5 190	344
1994–95	(December) 4 683	(December) 320	5 120	351
	(June) 3 615	(June) 290		
1995–96	3 522	290	(5 061) 4 824	(350) 334
1996–97	3 337	299	(4 846) 4 654	(339) 326
1997–98p	3 148	307	(5 018) 4 855	(354) 343

a Number of producers and sows at December for 1960–61 to 1994–95, at June from 1994–95 onwards. **b** For 1995–96 to 1997–98, ABARE revised figures are included in parentheses to correct for apparent under-reporting to the ABS in those years. **na** Not available. **p** Preliminary figures.

Source: ABS (Cat. No. 7215.0 and unpublished data) and ABARE (1998).

Around 3100 pig herds remained in 1997–98. These were distributed throughout Australia but were concentrated in the major grain growing areas (see section D.10, figure D.6). New South Wales had the largest number of breeding sows, followed by Queensland and Victoria. Queensland had the highest number of large producers (over 400 sows) including 10 with over 1000 sows. However, Victoria had the highest average herd size (see table D.6).

Australia's average herd size is very high by world standards. In 1994, the average herd size in Canada was 36 breeding sows, 43 in Denmark and 31 in the United States.

Table D.5 **Pig production, by herd size**

	Number of sows per producer						***Total***
	0–49	*50–99*	*100–199*	*200–399*	*400–999*	*1000+*	
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**
December 1993							
Producers	3 344	747	431	148	54	30	**4 754**
Sows	47 108	49 054	53 933	38 468	29 965	89 722	**308 250**
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**
June 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**
June 1996							
Producers	2 348	587	354	136	63	34	**3 522**
Sows	33 927	40 026	46 272	35 501	34 221	100 082	**290 029**
June 1997							
Producers	2 208	541	345	147	61	35	**3 337**
Sows	31 147	36 715	45 116	39 413	34 392	112 032	**298 815**
June 1998							
Producers	2 065	504	336	137	69	37	**3 148**
Sows	27 682	34 474	44 453	37 066	39 365	124 447	**307 487**

Source: APC (various).

Table D.6 **State distribution of pig herds, June 1998**

	Herds	*Breeding sows*	*Average herd size*
NSW	1 000	93 983	94
Qld	583	65 913	110
Vic	406	60 570	149
SA	644	47 652	74
WA	427	34 690	81
Tas	84	4 332	52
Other	4	347	87
Australia	**3 148**	**307 487**	**98**

Source: APC (1998).

D.2.2 Pigmeat processing

The considerable structural change in the pigmeat processing sector over the last decade reflected trends in the wider meat processing industry. The processing of pigmeat, like other sectors of the meat processing industries, developed from a base of local processors spread throughout pig farming regions. In earlier periods, the technical limitations in storing and transporting meat products meant that processors were restricted to areas within easy reach of production and storage facilities. Over time, improved transport and storage facilities have meant this constraint has eased making rationalisation possible (see section D.10, figure D.7).

Between 1992–93 and 1996–97, the number of abattoirs killing pigs fell by 7 per cent to around 130 in 1996–97. Export accredited abattoirs that processed pigs fell from 16 to 6, largely due to many abattoirs giving up their export accreditation. However, farmed pigmeat exports have more than tripled over the last two years, becoming concentrated in the largest operations. Among the top twenty pig abattoirs, the biggest establishments have become export oriented and concentrated on pigs. Pigs were the minor species slaughtered at most multi-species abattoirs. Table D.7 shows the largest 20 abattoirs (by throughput) in 1996–97. (APC 1998)

Industry concentration has increased over the five years to 1996–97. The top five abattoirs increased their share of the national pig slaughter from 32 per cent to 38 per cent, while the top twenty increased their share from 75 per cent to 80 per cent. However, there were over 100 smaller establishments still operating in the pigmeat processing sector.

Six abattoirs had an AUS-MEAT export accreditation in 1997–98. However, some abattoirs have indicated they export without such accreditation.[1]

The pigmeat processing sector is more concentrated than the meat processing industry as a whole. In 1996–97, the meat processing industry's top 4 companies, which controlled 20 abattoirs, accounted for 25 per cent of kills while the top 20 companies accounted for 56 per cent. (AUS-MEAT 1997)

The level of concentration in the Australian meat processing sector is not high by international standards. In 1996, the 5 largest companies accounted for 71 per cent of kills in the United States, 64 per cent in Argentina and 60 per cent in New Zealand.

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1 The Authority for Uniform Specification of Meat and Livestock (AUS-MEAT) has established standards for abattoirs, boning rooms and storage facilities. Before 1996, export plants had to be accredited by AUS-MEAT to produce meat for export. However, it is now possible to export without such accreditation.

Table D.7 **Top 20 pig abattoirs by throughput, 1996–97**

Abattoir[a]	*State*	*Yearly kill*	*Weekly kill*	*Share of total kill*	*Pig specific*	*Export*
		No	No	%		
Bunge	NSW	453 635	8 724	9.8	Yes	Yes
Hurstbridge	Vic	434 813	8 362	9.4	Yes	Yes
Watsons	WA	317 904	6 114	6.8	Yes	Yes
Q Meat Brisbane	Qld	282 434	5 431	6.1	No	Yes
Chapmans	SA	282 257	5 428	6.1	No	No
Auspork	Vic	256 727	4 937	5.5	Yes	Yes
Darling Downs Bacon	Qld	219 238	4 216	4.7	Yes	No
Castle Bacon	Vic	184 800	3 554	4.0	Yes	No
Burrangong	NSW	162 146	3 118	3.5	No	No
Clover Meats	WA	150 535	2 895	3.2	No	No
Scone	NSW	146 536	2 818	3.2	No	Pending
Perfect Pork	Vic	143 083	2 752	3.1	na	na
Swickers	Qld	112 753	2 168	2.4	No	No
Ralph	Vic	110 700	2 129	2.4	No	No
Tamworth (Cargill)	NSW	94 391	1 815	2.0	No	No
Cassino RSM	NSW	90 141	1 733	1.9	Yes	Yes
Angaston	SA	81 508	1 567	1.8	na	na
MQF	Qld	70 401	1 354	1.5	Yes	No
Q Meat Toowoomba	Qld	60 742	1 168	1.3	No	No
Blue Ribbon	Tas	46 391	892	1.0	No	No
Top 20		3 701 135	71 176	79.6	8	6
Total industry		**4 649 800**	**89 419**	**100.0**	**9**	**6**

a Some abattoirs have changed ownership or closed since 1996-97.

Source: APC (1998), AUS-MEAT (various) and personal communications.

Vertical integration and linkages

There is extensive vertical integration in the pigmeat industry. In some cases links extend from pig farming through to the processing of pigmeat into bacon, ham and smallgoods. Abattoirs responsible for 50 per cent of the national pig kill in 1996–97 had associated pig farming operations (see table D.8). For example, Bunge Meat Industries accounted for around 17 per cent of the national herd in addition to operating the largest dedicated pig abattoir, by throughput, in Australia. The extent of operations in the company included "stockfeed milling, slaughtering, boning, distribution, wholesaling and manufacturing" (trans., p. 64).

While not directly involved in pig farming, some other companies maintain close relationships with their suppliers via contracts. Firms, such as Swickers in Queensland, contract out the growing of their herd to pig farmers in the surrounding district.

Table D.8 **Vertical integration of large pigmeat processors**

Abattoir[a]	*State*	*Pig farming operations*	*Abattoir operations*	*Boning room operations*	*Associated smallgoods operations*
Bunge	NSW	Yes	Yes	Yes	Yes
Hurstbridge	Vic	Yes	Yes	Yes	
Watsons	WA	Yes	Yes	Yes	Yes
Q Meat Brisbane	Qld		Yes	Yes	
Chapmans	SA	Yes	Yes	Yes	Yes
Auspork	Vic	Yes	Yes	Yes	
Darling Downs Bacon	Qld	Yes (co-op)	Yes	Yes	Yes
Castlemaine Bacon	Vic	Yes	Yes	Yes	Yes
Burrangong	NSW		Yes		
Clover Meats	WA	Yes	Yes	Yes	Yes
Scone	NSW		Yes	Yes	
Perfect Pork	Vic	na	Yes	na	na
Swickers	Qld		Yes	Yes	Yes
Ralph	Vic		Yes	Yes	
Tamworth (Cargill)	NSW		Yes	Yes	
Cassino RSM	NSW		Yes		
Angaston	SA	na	Yes	na	na
MQF	Qld		Yes	Yes	Yes
Q Meat Toowoomba	Qld		Yes		
Blue Ribbon	Tas	na	Yes	na	na

a Some abattoirs have changed ownership or closed since 1996-97.

Source: APC (1998), AUS-MEAT (various) and personal communications.

Larger abattoirs operate their own boning rooms, while a number of independent boning rooms process carcasses to supply bacon, ham and smallgoods manufacturers. Woolworths purchases carcasses through its subsidiary, Chisholm Manufacturing, for processing in their own boning rooms and processing operations. Eight of the top 20 abattoirs have associated smallgoods operations.

Ownership

Significant foreign investment in the industry exists, most notably in the largest pigmeat processor, Bunge Meat Industries (Bunge group, Brazil), and also in MQF Pty Ltd (Nippon Meat Packers, Japan), DanPork (Denmark, Taiwan and Indonesia) and Chapmans and Watsonia (Associated British Foods, United Kingdom).

Generally, foreign investment can introduce new techniques and inject capital into the domestic industry, a fact recognised by the Meat Research Corporation:

> In some instances, plants moving into the hands of foreign ownership have been thoroughly upgraded, with new operating principles — such as single species kill, double shifts, hot boning, etc. — also introduced. (MRC 1997, p. 7)

Foreign investment can also help local producers gain access to foreign markets. Foreign investors' downstream operations in other countries can become customers of their Australian operations, and the effectiveness of overseas marketing is improved through knowledge of foreign consumers' tastes and preferences.

The meat processing sector

Many of the trends emerging in the pigmeat processing sector are already well advanced in the wider industry.

The meat processing sector has undergone significant rationalisation. ABS data indicate that there were 345 meat processing establishments in Australia in 1995–96 — down almost 12 per cent since 1992–93 and 20 per cent from 1984–85 (see section D.1, table D.2).

The meat processing sector as a whole is more export oriented and more integrated into world markets than the pigmeat processing sector. For example, in 1996, 60 per cent of beef production was exported while only 4 per cent of pigmeat production was exported.

In the export sector, a trend to larger, single species plants has resulted in much consolidation. Of the 51 plants controlled by the largest 25 processing companies in 1996, 40 were export accredited and thirty of the 51 plants were single species. A major study of export establishments by the Meat Research Corporation in 1997 showed rationalisation of export establishments had been occurring since the mid-1970s. The number of export establishments decreased by over 40 per cent and the number of operating companies halved between 1976 and 1996. (MRC 1997)

The trend to increased vertical integration and foreign ownership has also been observed in the wider meat processing industry as it has become integrated into world markets. In effect, major overseas customers and trading companies, are vertically integrating their food processing and wholesaling/retailing operations across national borders.

D.3 Consumption

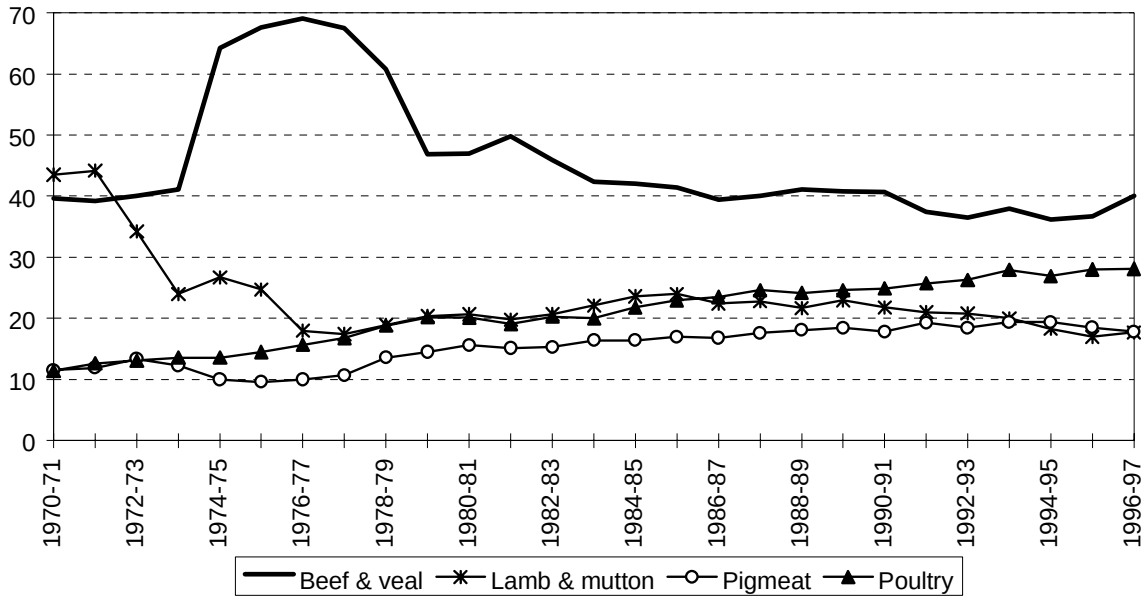
The major trend in domestic meat consumption over the last 20 years, has been a shift away from red meat towards poultry and pork.[2] Per capita consumption of beef

[2] The large shifts in apparent consumption in beef and lamb during the early 1970s were caused by the collapse of beef demand in Australia's export markets. The sudden surplus of beef on

and veal has decreased by 40 per cent since its peak in 1977. Over the same period, per capita consumption of lamb and mutton has decreased by 10 per cent. In contrast, per capita consumption of poultry and pigmeat has increased by around 80 per cent and 40 per cent respectively (see figure D.1).

Figure D.1 **Per capita consumption of meat**[a]

Kg per person per year



a The decline in pigmeat consumption after 1994–95 should be treated with caution. In the calculation of apparent consumption data, the ABS has used production data for 1995–96 to 1996–97 which could underestimate production and therefore consumption (see note to table D.5).

Source: ABS (Cat. No. 4306.0).

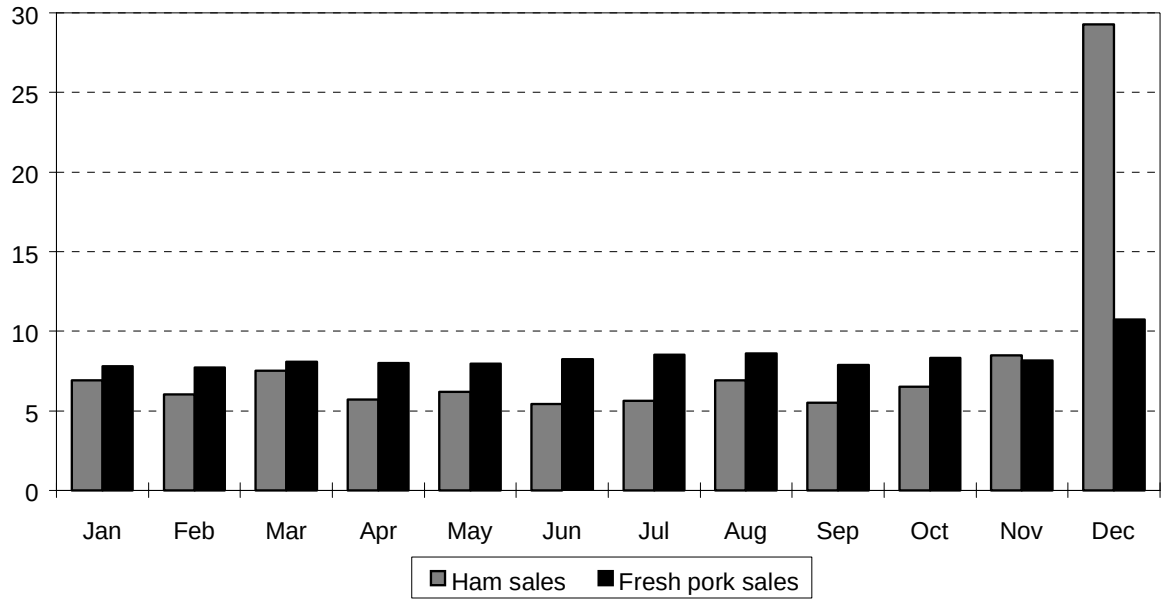
Demand for some types of pigmeat in Australia is seasonal. Retail sales of ham at Christmas (November and December) account for almost 40 per cent of annual ham sales, while fresh pork sales at Christmas are slightly higher than normal (see figure D.2). Bacon sales are not seasonal.

Like all industries, pork producers have had to adjust to changing consumer tastes. Purchases of pork by butchers has declined relative to purchases by supermarkets and food service providers (such as restaurants, fast food outlets and caterers). The APC (1997) expects this trend will continue as consumers eat more meals outside the home and shift from specialist butchers to the convenience of all-week shopping and pre-prepared meals offered by supermarkets.

domestic markets and resultant low prices caused the large rise in beef consumption and cut in lamb consumption.

Australian per capita consumption of meat is amongst the highest in the world. However, per capita pigmeat consumption is low when compared with much of Europe, the United States, Canada and many Asian countries (see appendix E).

Figure D.2 **Ham and fresh pork monthly retail sales split** [a]
Percentage of annual sales



[a] Data for ham sales are averaged over 1991 to 1995, fresh pork sales are averaged over 1994 to 1996.
Source: Bunge Meat Industries (sub. 39, p. 22) and APC (various).

D.4 Exports

Exports have increased over the last two years, from 7000 tonnes in 1995–96 to over 14 000 tonnes in 1997–98. In the past, a large proportion of exports were wild pigmeat to Europe but, more recently, exports of farm produced pork, ham and bacon have increased (see table D.9).

The demise of Taiwan as an international pork exporter, due to an outbreak there of foot and mouth disease, has seen significant export opportunities created in Asian markets such as Japan, Korea, Hong Kong, Singapore, the Philippines and China.

Australia exported pigmeat to over 40 countries in 1997–98. The European Union and New Zealand have traditionally been the major markets for pigmeat exports from Australia. More recently, exports to Asia have grown, accounting for over 43 per cent of total exports in 1996–97. Major markets in Asia include Japan, Hong Kong and the Philippines.

However, exports to the European Union consist mainly of higher value wild pigmeat (25 per cent of Australian pigmeat exports, by value but only 16 per cent by volume). Exports to Japan were also of higher value cuts of pigmeat (42 per cent by value but only 32 per cent by volume), while exports to the rest of Asia and Russia have tended to be lower value pigmeat products (see table D.10).

Table D.9 **Exports of pigmeat**

	Wild pigmeat[a]	*Farm pigmeat*	*Ham and bacon*	*Other*[b]	*Total Volume*	*Value*
	'000 t	'000 t	'000 t	'000 t	'000 t	$m
1989–90		6.37[c]	0.04	1.07	7.48	29.4
1990–91	2.03	3.41	0.02	1.26	6.72	23.0
1991–92	1.60	3.44	0.05	1.10	6.19	22.6
1992–93	2.82	4.15	0.13	1.81	8.91	34.4
1993–94	2.52	3.33	0.21	1.28	7.34	28.3
1994–95	2.48	2.98	0.16	1.48	7.10	27.0
1995–96	2.67	2.98	0.36	1.03	7.04	32.9
1996–97	2.52	4.15	0.32	1.62	8.61	36.9
1997–98p	2.30	9.91	0.15	2.04	14.4	55.4

a ABARE and NSW Farmers' Association estimates. **b** Preserved pigmeat exports and pigmeat offal. **c** Breakdown between wild and farmed pigmeat not available. **p** Preliminary data.

Source: ABS (unpublished data).

Table D.10 **Exports, by destination**

Volume (tonnes on board ship)

	European Union	Russia	New Zealand	Japan	Rest of Asia	Rest of world[a]
1990–91	2 088	0	1 416	803	1 476	935
1991–92	1 677	0	953	1 074	1 529	959
1992–93	3 025	28	1 368	997	1 672	1 823
1993–94	2 631	241	1 605	375	1 251	1 240
1994–95	2 417	63	1 767	294	2 550	795
1995–96	2 658	979	847	215	2 173	170
1996–97	2 519	1 015	1 164	784	2 932	201
1997–98	2 303	2 219	1 734	4 676	3 276	241
	Value ($m)					
1990–91	8.3	0.0	5.3	5.6	4.2	3.5
1991–92	6.9	0.0	3.0	7.6	4.4	3.2
1992–93	16.0	0.1	3.9	8.4	4.2	5.1
1993–94	13.3	0.3	5.7	2.5	3.5	2.9
1994–95	13.1	0.2	5.4	2.2	6.0	1.5
1995–96	21.7	2.1	2.7	1.2	4.9	0.3
1996–97	18.9	1.9	4.7	4.0	6.9	0.5
1997–98	14.2	4.7	5.8	23.3	6.8	0.6

a Includes the Middle East.

Source: ABS (unpublished data).

D.5 Imports

Before July 1990, quarantine regulations prohibited the import of pigs and fresh or processed pigmeat except for canned hams and some imports from New Zealand. Since then, imports of frozen, uncooked pigmeat from Canada have been allowed provided they are processed upon arrival in Australia. Since late 1997, uncooked pigmeat imports from Denmark have been allowed but no uncooked imports from Denmark have arrived to date.

Imports more than doubled to 10 000 tonnes in 1996–97. This corresponded with a world increase in supply of pigmeat relative to demand. In 1997–98, imports remained at similar levels (see table D.11). Canada supplies around 80 per cent of Australian imports.

Table D.11 **Imports of pigmeat**

	Fresh or chilled	*Frozen*			*Other*[a]	***Total***	
Tariff code	*0203.11*	*0203.21*	*0203.22*	*0203.29*	*Various*		
Description	*Carcasses and half carcasses*	*Carcasses and half carcasses*	*Hams, shoulders and cuts thereof, bone in*	*Other*	*Various*	***volume***	***value***
	’000 t	’000 t	’000 t	’000 t	’000 t	**’000 t**	**$m**
1989–90	-	-	-	-	0.73	**0.73**	**2.9**
1990–91	-	-	0.20	0.81	1.71	**2.72**	**12.8**
1991–92	0.01	0.07	0.34	3.61	1.07	**5.10**	**19.9**
1992–93	0.02	0.09	0.06	1.42	1.03	**2.62**	**11.4**
1993–94	0.02	-	-	2.12	0.83	**2.97**	**13.0**
1994–95	0.01	-	-	3.47	0.82	**4.30**	**16.4**
1995–96	0.03	-	-	3.13	1.01	**4.17**	**15.6**
1996–97	0.05	-	-	8.55	1.39	**9.99**	**41.2**
1997–98	0.10	-	-	7.99	2.09	**10.18**	**39.9**

a Processed pigmeat imports (preserved, salted, dried, smoked, canned, etc.).

Source: ABS (unpublished data).

While the volume of imports fluctuates substantially from month to month, there is a general increase in the latter half of the year. Imports peaked in 1996 and 1997 during the months of September, October and November. This is due to processors importing pork legs for the Christmas peak in ham consumption.

After lower levels of pigmeat imports during the first half of 1998, levels rose in June before falling to low levels in August and September (see table D.12).

Table D.12 **Monthly imports of pigmeat by volume and value**

	1996		*1997*		*1998*	
	tonnes	$'000	tonnes	$'000	tonnes	$'000
January	269	985	458	1 848	531	2 075
February	224	803	1 020	4 397	618	2 363
March	250	913	971	4 454	649	2 478
April	320	1 131	1 068	4 099	584	2 156
May	479	1 727	682	2 712	687	2 461
June	370	1 363	776	2 924	1 034	3 813
July	682	2 658	957	3 669	932	3 313
August	593	2 429	876	3 507	305	1 190
September	992	4 159	1 032	4 117	575	2 123
October	1 218	5 583	1 420	5 896		
November	1 052	4 186	1 075	4 465		
December	472	1 732	703	2 852		

Source: ABS (unpublished data).

Canadian imports arriving under tariff sub-heading 0203.29 are boned and, therefore, the tonnage cannot readily be compared to Australian pigmeat production which is calculated on a carcass weight equivalent basis (head-on, not boned). To convert to a comparable basis, boned imports are converted to their carcass weight equivalent. Industry estimates suggest that between 80 and 100 per cent of imports under tariff sub-heading 0203.29 are boned pork legs. Processors have indicated that there is approximately a 59 per cent meat yield by weight from a boned leg (although yield is lower for the carcass as a whole) giving a conversion factor of 1.69 (1 tonne of Canadian boned leg import equates with 1.69 tonnes on a carcass weight equivalent basis).

Australian production can be further adjusted to remove Australian pigmeat destined for the fresh market which does not directly compete with frozen imports (around 40 per cent).

A comparison with Australian pork leg production for manufacturing requires the removal of processed pigmeat from shoulders and middles (around 66 per cent).

While imports were 4 per cent of Australian production on carcass equivalent basis during 1997–98, their share of the processed leg market was substantially higher at over 19 per cent. This had increased from 8 per cent in 1994–95 (see table D.13).

Table D.13 **Share of production of imports under tariff sub-heading 0203.29**

		1994–95	*1995–96*	*1996–97*	*1997–98*
Australian pigmeat production[a]	(t)	351 298	333 967	325 914	343 131
- Fresh meat production[b]	(t)	140519	133587	130366	137252
Pigmeat production for processing	(t)	210779	200380	195548	205879
- Middles and shoulders[c]	(t)	139114	132251	129062	135880
Leg production for manufacturing	**(t)**	**71665**	**68129**	**66486**	**69999**
Assumption 1: imports 100% legs					
Leg imports under 0203.29 (100% legs)	(t)	3 470	3 130	8 546	7 985
cwe import volume[d]	**(t)**	**5 881**	**5 305**	**14 484**	**13 534**
Share of Australian production	%	1.7	1.6	4.4	3.9
Share of Australian leg production for manufacturing	%	8.2	7.8	21.7	19.3
Assumption 2: imports 80% legs					
Leg imports under 0203.29 (80% legs)	(t)	2 776	2 504	6 838	6 388
cwe import volume[d]	**(t)**	**4 705**	**4 244**	**11 590**	**10 827**
Share of Australian leg production for manufacturing	%	6.6	6.2	17.4	15.5

a ABS pigmeat production data are used. **b** Assumed to be 40 per cent of production. **c** Assumed to be 66 per cent of carcass. **d** Carcass weight equivalent volume of imported legs is 1.69 times landed volume.

Source: ABS (Cat. No. 7215.0 and unpublished data) and Commission estimates.

D.6 Prices

Historically, pig prices followed a seasonal pattern, falling through the first half of the year, then rising to peak in November and December as processors increase demand in anticipation of the Christmas consumption of hams (see section D.3). In 1997, prices began their usual upward trend in June. However, from the end of September prices declined for the rest of the year. This pattern was very different to previous years (see figure D.3).

During 1998, pig prices have been at their lowest level since 1990. Baconer contract prices (under which the majority of pigs are sold) reached as low as 154c/kg in the second week of June. Since June, baconer contract prices have recovered to around 190c/kg in September and October (see table D.14).

However, the average price can mask significant variation in prices received by individual producers. For example, in June 1998 prices received by producers in the PCA survey averaged 164c/kg but ranged from below 160c/kg to above 250c/kg (sub. 55, appendix 4, p. 5). Industry sources have also indicated that female pigs receive a premium to male pigs because of boar taint in the latter.

Pork retail prices are less volatile than pig prices as retailers absorb short-term fluctuations in wholesale pork prices. However, retail prices do trend with long-term pig prices. During the March and June quarters of 1998, retail prices began to decline for both pork loins and legs. Beef retail prices remained stable during these quarters (see figure D.4).

Table D.14 **Pig contract and saleyard prices**

Hot standard carcass weight

	Baconer contract price	*Porker contract price*	*ABARE saleyard pig price*		*Baconer contract price*	*Porker contract price*	*ABARE saleyard pig price*
	cents/kg	cents/kg	cents/kg		cents/kg	cents/kg	cents/kg
1989				**1994**			
January	221	231	225	January	205	232	204
February	216	226	220	February	194	221	192
March	210	220	214	March	192	211	194
April	208	218	212	April	190	211	191
May	206	219	211	May	188	213	185
June	208	223	216	June	182	211	182
July	212	226	226	July	187	213	200
August	223	242	230	August	195	217	202
September	224	248	227	September	202	222	210
October	219	242	224	October	207	230	216
November	214	234	230	November	217	233	225
December	220	234	229	December	217	236	226
1990				**1995**			
January	201	227	208	January	209	227	212
February	191	214	200	February	207	221	212
March	182	204	187	March	195	214	197
April	170	198	173	April	188	209	186
May	167	191	173	May	182	207	195
June	174	195	188	June	182	207	193
July	192	206	201	July	193	215	194
August	203	219	210	August	204	227	219
September	207	221	212	September	213	235	226
October	211	226	216	October	223	246	234
November	221	237	228	November	231	254	240
December	216	236	220	December	233	247	243

(Continued on next page)

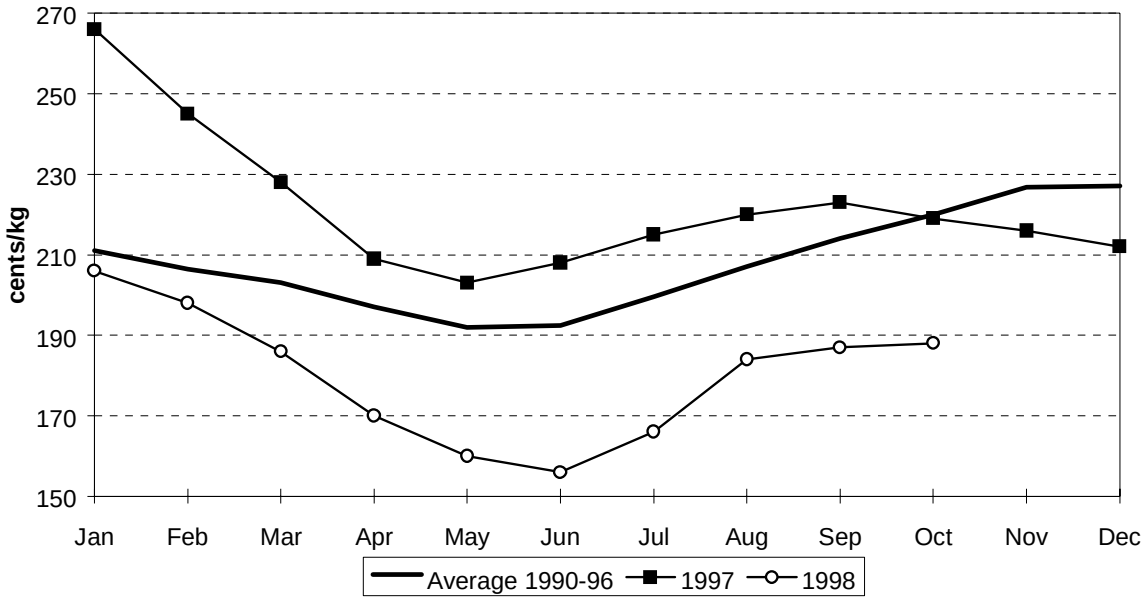
Table D.14 (continued)

	Baconer contract price	*Porker contract price*	*ABARE saleyard pig price*		*Baconer contract price*	*Porker contract price*	*ABARE saleyard pig price*
	cents/kg	cents/kg	cents/kg		cents/kg	cents/kg	cents/kg
1991				**1996**			
January	211	228	217	January	230	243	237
February	213	225	217	February	229	244	237
March	214	224	216	March	233	248	241
April	205	218	209	April	234	250	241
May	200	219	205	May	235	253	246
June	201	221	205	June	239	257	245
July	208	226	213	July	245	263	246
August	208	230	214	August	250	270	247
September	209	231	215	September	254	279	252
October	212	236	215	October	260	284	256
November	218	238	221	November	268	293	260
December	218	238	223	December	269	292	261
1992				**1997**			
January	210	231	213	January	266	287	259
February	206	225	207	February	245	272	243
March	205	223	205	March	228	253	224
April	194	214	196	April	209	240	193
May	181	207	181	May	203	228	195
June	166	197	166	June	208	237	205
July	172	198	174	July	215	253	218
August	179	204	184	August	220	259	226
September	194	213	194	September	223	260	221
October	204	225	210	October	219	262	214
November	218	238	216	November	216	257	216
December	217	233	210	December	212	250	210
1993				**1998**			
January	214	232	213	January	206	237	202
February	206	222	206	February	198	228	194
March	205	221	204	March	186	217	180
April	198	214	201	April	170	199	157
May	195	216	197	May	160	188	150
June	197	220	198	June	156	186	147
July	206	226	209	July	166	194	169
August	210	227	213	August	184	211	192
September	217	237	222	September	187	219	191
October	223	247	227	October	188	220	191
November	228	252	234				
December	227	250	231				

Source: ABARE (unpublished data) and QPPO (unpublished data).

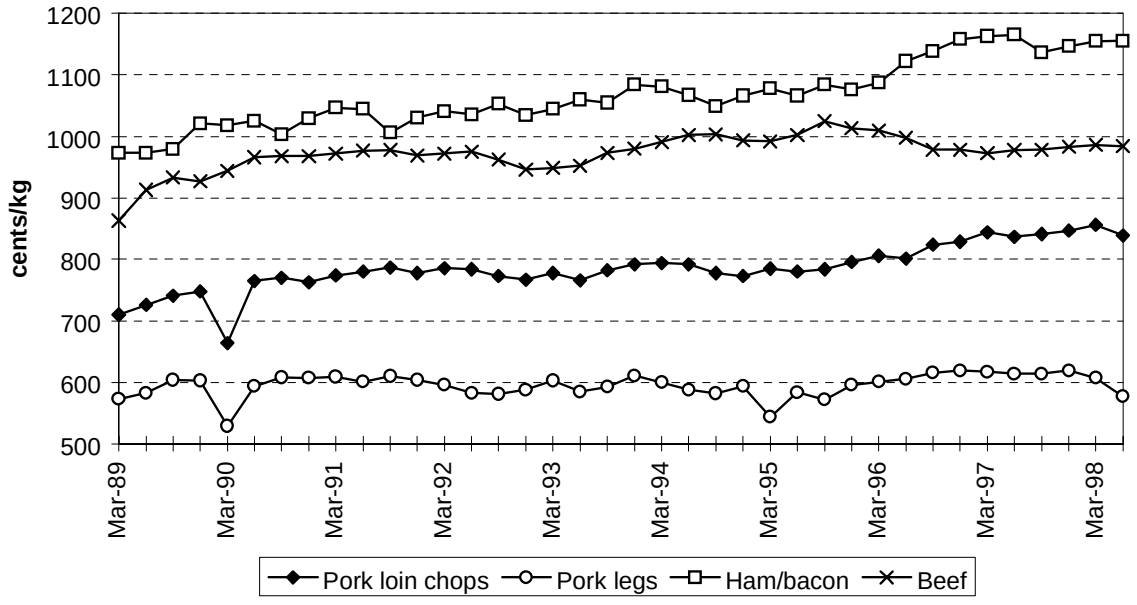
Figure D.3 **Seasonal contract price patterns for baconers**

Hot standard carcass weight



Source: QPPO (unpublished data).

Figure D.4 **Retail pork, ham, bacon and beef prices**



Source: APC (1998) and ABS (unpublished data).

D.7 Costs

The major component of pig production costs is the cost of feed. Between 1990–91 and 1996–97 the purchase of fodder varied between 53 and 63 per cent of non-wage variable costs (see table D.15). Other significant costs included the purchase of livestock, repairs and maintenance, marketing expenses and veterinary services.

Table D.15 **Pig production industry non-wage variable costs, by share**

	1990–91	*1992–93*	*1994–95*	*1996–97*
	%	%	%	%
Marketing expenses	6.5	6.4	7.0	4.6
Purchases of livestock	8.8	5.2	7.3	6.8
Payments for seed	0.6	0.4	0.7	0.7
Payments for fodder	**58.5**	**63.0**	**53.0**	**60.0**
Payments for fertiliser	1.2	1.2	1.6	1.3
Payments for crop and pasture chemicals	1.0	0.8	1.1	0.9
Payments for vet supplies and services	2.8	3.0	5.7	3.1
Payments for electricity	2.6	2.8	1.9	1.8
Payments for fuel	4.4	3.5	3.2	2.4
Water and drainage charges	0.3	0.8	0.5	0.4
Payments to contractors	1.8	1.9	1.9	3.5
Repairs and maintenance	7.3	7.7	6.8	7.5
Rent and leasing expenses	0.6	0.3	0.4	0.7
Other selected expenses	3.7	2.9	8.8	6.3
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS (Cat. No. 7507.0).

Total costs were estimated for a sample of 26 pig farms for *PigStats 97* (APC 1998). Feed costs made up between 49 and 64 per cent of total costs in 1996–97, the weighted average being 56 per cent (see table D.16).

Table D.16 **Pig production total cost structure, 1996–97**

	$/sow	*$/pig*	*$/kg Live Weight*	*Cost share*
	$	$	$	%
Feed costs	1 548.87	88.87	0.950	56.5
Herd costs	195.89	11.24	0.120	7.1
Shed costs	140.00	8.03	0.086	5.1
Labour costs	419.02	24.04	0.257	15.3
Overhead costs	439.34	25.21	0.270	16.0
Total costs	**2 743.12**	**157.40**	**1.683**	**100.0**

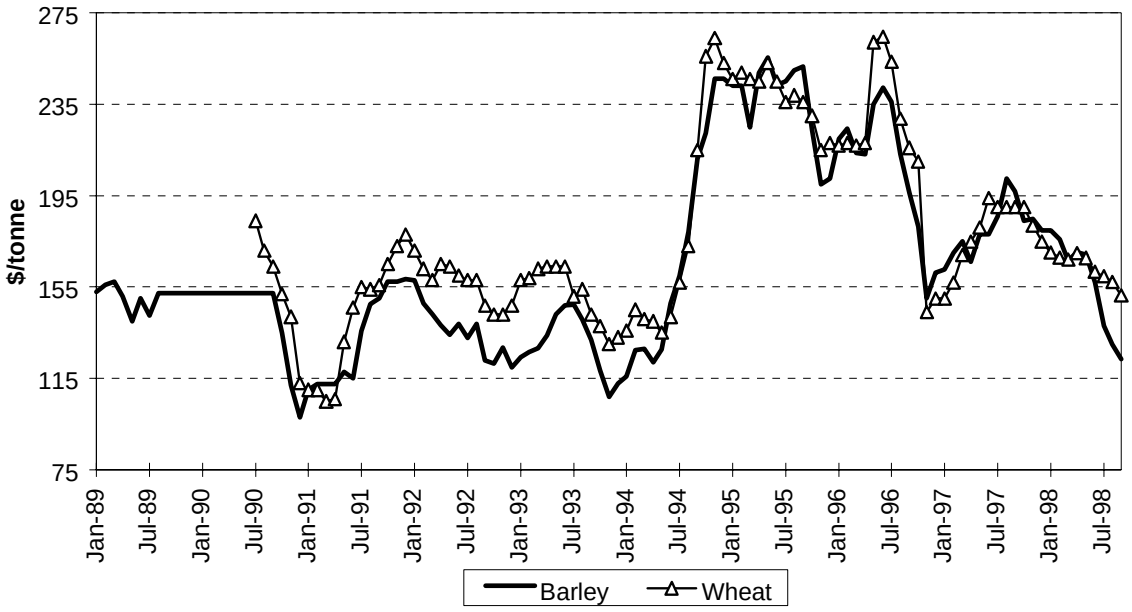
a APC survey data weighted by each piggery's contribution to total production.

Source: APC (1998).

The price of feed grain and protein supplements is a major factor in pig production. These prices are determined largely by Australian climatic conditions. Thus, grain prices were high during the 1994–95 drought, but eased considerably during the record harvests of 1996 and 1997 (see figure D.5).

Figure D.5 **Feed grain prices**

Sydney barley price and Australian Wheat Board Sydney cash price



Source: ABARE (unpublished data).

The ABS produces cost data for the meat processing industry. These data are used by the Commission to calculate the major costs borne by the pigmeat processing sector on the assumption that it is likely to have a cost structure similar to meat processing as a whole.

ABS input-output tables record the linkages between different industries in the domestic economy. The tables specify whether the output of an industry is used as an intermediate input, for final consumption, for investment or for exports. The tables also show the inputs used by each industry. The most recent input-output data are for 1993–94.

The input-output classification, *meat and meat products (2101)*, includes red meat processing, poultry processing, smallgoods manufacturing and by-product manufacturing. The Commission weighted the data, apart from beef cattle, pigs and sheep, by 0.58 to remove the inputs and sales of poultry processing, smallgoods manufacturing and by-product manufacturing from the meat processing sector. The sheep sector is weighted by 0.23 to exclude sheep used in wool production.

The largest input costs for the meat processing sector were livestock — beef cattle, pigs and sheep — which collectively accounted for around 65 per cent of total costs in 1993–94. Labour was the next largest cost, with wages and salaries accounting for around 10 per cent of total costs in 1993–94. Other significant costs were road transport, gross operating surplus (cost of capital), and goods purchased from the wholesale sector (see table D.17).

Major costs for the pigmeat processing sector will be similar to processing as a whole. The major cost will be livestock, followed by labour costs, transport costs and the cost of capital.

Table D.17 **Major meat processing industry inputs, 1993–94**

Input	*Value*[a]	*Share of production*
	$m	%
Livestock	4 938.6	66.0
Wages, salaries and supplements	790.5	10.6
Road transport	310.3	4.1
Gross operating surplus	280.1	3.7
Wholesale trade	151.4	2.0
Other property services	86.8	1.2
Other	931.0	12.4
Total	**7 488.7**	**100.0**

a Values are weighted to remove poultry processing, smallgoods manufacturing and by-product manufacturing from the meat and meat products sector.

Source: ABS (Cat. No. 5209.0) and Commission estimates.

D.8 Profitability

In the decade to 1996–97, average profitability for pig production before depreciation and income tax, has been higher than for agriculture as a whole. The return on assets and return on net worth provide broad measures of the profitability of an industry. Between 1987–88 and 1996–97, returns have averaged around 25 per cent higher in pig farming than returns on all agriculture (see table D.18).

Depreciation and amortisation charges were calculated from 1991–92. Allowing for the impact of depreciation over this period, reported profits on average were reduced by around 35 per cent for both pig farming and the agricultural sector as a whole. However, the relative profits remained roughly the same, pig farming returns remaining 25 per cent above average agricultural sector returns.

Grain prices have a strong influence on returns. For example, there was low profitability for 1994–95 as grain prices were increased by drought conditions. In contrast, profitability was high in 1996–97 partly as a result of lower grain prices.

Table D.18 **Profitability, pig production and total rural industry**[a]
percentage return

	Return on assets[b]		*Return on net worth*[c]	
Year	*Pig production*	*All agriculture*	*Pig production*	*All agriculture*
1987–88	3.9	5.1	4.6	5.8
1988–89	5.1	4.7	5.9	5.3
1989–90	7.8	4.6	9.6	5.2
1990–91	6.8	3.1	8.3	3.6
1991–92	4.3	2.9	5.2	3.3
1992–93	3.4	3.7	4.2	4.3
1993–94	6.3	3.9	7.6	4.5
1994–95	3.5	4.1	4.3	4.7
1995–96	5.9	5.0	7.3	5.9
1996–97	8.3	4.4	10.1	5.1
Average 1988–89 to 1996–97	5.5	4.2	6.7	4.8

a Calculation of asset values and net worth use the realisable value of land, buildings and assets on 30 June and the realisable value of stock equal to the number of stock on June 30 times the average June price. **b** Cash operating surplus/average total assets. **c** Cash operating surplus/average net worth.

Source: ABS (Cat. No. 7507.0).

While official data on profitability are not available for 1997–98, evidence for this period was submitted by participants. This indicates that profitability decreased as a result of low pig prices, particularly since March 1998.

The Pork Council of Australia (PCA) survey (covering 6 per cent of producers and 36 per cent of production) shows that, across the sample, profitability fell from a 7.6 per cent return on capital employed in 1996–97 to a *negative* return of 3.5 per cent in 1997–98 (sub. 55, p. 21).

D.8.1 Debt

Debt levels in pig farming have fluctuated over the last decade between $107 million in 1988–89 and $265 million in 1993–94. Generally, more profitable years allow debt levels to be reduced. The record high profit level of 1996–97 coincided with a debt level in that year lower than for any of the previous seven years (see table D.19). The debt to equity ratio has also fluctuated over this period. The industry's ability to service debt is measured by interest cover.

Table D.19 **Pig farm debt**

	Net Debt	*Net worth*	*Interest cover*[a]	*Debt to equity*[b]
	$m	$m		
1987–88	108.8	981.5	2.95	0.17
1988–89	107.1	1 057.6	3.25	0.17
1989–90	244.3	1 000.2	3.63	0.28
1990–91	199.1	1 429.7	3.99	0.16
1991–92	197.1	1 182.7	2.89	0.25
1992–93	165.4	1 070.4	3.64	0.19
1993–94	265.7	1 379.8	4.77	0.23
1994–95	215.5	1 228.3	3.11	0.26
1995–96	220.9	1 281.1	4.91	0.23
1996–97	138.3	1 144.6	9.04	0.22

a Cash operating surplus/interest paid. **b** Gross debt/net worth.

Source: ABS (Cat. No. 7507.0).

While official data on debt levels are not available for 1997–98, evidence for this period was submitted by participants.

The PCA survey shows that, across the sample, debt levels rose by 15 per cent between 1996–97 and 1997–98. If the PCA sample is representative of the whole industry, this indicates the net debt would still have remained low relative to most of the previous decade.

Debt owed to financial institutions rose by 13 per cent from $57 million to $64.3 million, while debt owed to feed suppliers increased by 82 per cent from $3.7 million to $6.7 million (sub. 55, p. 21).

D.9 Employment

The PCA estimated there were 2136 persons employed by the 3337 producers in June 1996–97. By June 1998, 200 producers had left the industry and estimated persons employed had declined by 7 per cent (approximately 200 people). (sub. 55, p. 21)

Among the 1500 non-specialist producers it can be assumed that labour is divided among many farming activities. Employed persons consist of full-time, part-time and casual labour.

A commonly accepted industry figure is that it takes one full-time person to run a 100 sow piggery, with another person needed for every additional 100 sows. This

suggests that there around 3000 to 3500 full-time equivalent employees in pig farming in Australia in 1998, including working owners/proprietors.

It is likely around 3000 people are employed in pigmeat processing (see section D.1, table D.2). In addition, over 6000 people are employed in bacon, ham and smallgoods manufacturing. (ABS Cat. No. 8221.0)

D.10 Maps

Figure D.6 **Location of pig producers throughout Australia, June 1997**

Source: APC (1998).

Figure D.7 **Location of the top 20 abattoirs, June 1997** [a]

a Some abattoirs have changed ownership or closed since 1996-97.

Source: APC (1998).

E World markets

E.1 World pigmeat production and consumption

Pigmeat is the meat of choice for the majority of the world's population. World production of pigmeat was over 80 million tonnes in 1997, accounting for 60 per cent of total meat production, excluding meat from poultry. (AMLC 1997)

World pigmeat production was dominated by China (accounting for 53 per cent), the European Union (20 per cent) and the United States (10 per cent). Other large producers included Russia, Brazil, Japan and Canada (see table E.1).

Table E.1 **World pigmeat production**

Million tonnes carcass weight

	1994	*1995*	*1996*	*1997p*
United States	8.03	8.10	7.76	7.84
Canada	1.23	1.28	1.24	1.25
Mexico	0.90	0.95	0.90	0.94
Total North America	**10.16**	**10.33**	**9.90**	**10.03**
Brazil	1.30	1.45	1.60	1.54
European Union	15.99	15.91	16.20	16.18
Other Western Europe	0.25	0.25	0.22	0.22
Total Western Europe	**16.24**	**16.16**	**16.42**	**16.40**
Eastern Europe	3.34	3.32	3.56	3.49
Russia	2.10	1.87	1.70	1.50
Other Former Soviet countries	0.92	0.81	0.79	0.75
Total Eastern Europe	**6.36**	**5.99**	**6.05**	**5.74**
China	32.05	36.48	40.37	42.50
Taiwan	1.20	1.23	1.27	1.01
Japan	1.39	1.32	1.27	1.27
South Korea	0.79	0.80	0.87	0.88
Other Asia	1.00	1.03	1.12	1.19
Total Asia	**36.43**	**40.86**	**44.90**	**46.85**
Australia	0.34	0.35	0.33	0.34
Other Countries	na	na	na	na
Total[a]	**70.83**	**75.14**	**79.20**	**80.87**

a Individual figures may not add to totals due to rounding. **na** Not available. **p** Preliminary figures.

Source: USDA Foreign Agricultural Service (1998).

These regions and countries also dominated world consumption in 1997. Australian per capita pigmeat consumption was low relative to most other countries (see table E.2).

Table E.2 **Pigmeat consumption, selected countries and total**
Carcass weight

	1996		*1997p*	
	Total	*Per capita*	*Total*	*Per capita*
	’000 t	kg/person	’000 t	kg/person
North America				
Canada	912	30.7	900	30.1
Mexico	914	9.9	960	10.2
United States	7 618	28.3	7 629	28.1
European Union				
Denmark	345	65.9	340	64.8
France	2 031	34.8	2 040	34.8
Germany	4 471	54.6	4 375	53.2
Italy	2 007	35.1	2 007	35.1
Netherlands	690	44.3	669	42.7
Spain	2 201	55.5	2 220	55.9
United Kingdom	1 381	23.8	1 440	24.7
Eastern Europe				
Poland	1 592	41.2	1 459	37.8
Russia	2 149	14.5	1 943	13.2
Asia				
China	40 185	32.6	42 353	34.1
Japan	2 119	16.9	2 061	16.4
South Korea	871	19.2	878	19.2
Taiwan	897	41.0	843	38.2
Australia	330	18.3	332	18.2
Total[a]	**78 331**		**80 199**	

a Selected countries consumption figures do not add to totals. **p** Preliminary figures.

Source: USDA Foreign Agricultural Service (1998).

E.2 World pigmeat trade

Over 2.4 million tonnes of pigmeat was traded in 1997, equal to 3 per cent of world pigmeat production. In comparison, over 10 per cent of beef, veal, lamb and mutton production was traded in the same year.

The major exporters of pigmeat in 1997 were the United States, Denmark, Canada, Poland and China (see table E.3). Major importers of pigmeat included Japan, Russia, the United States, Hong Kong, South Korea and Canada (see table E.4).

The effect on pigmeat trade flows of disease outbreaks in Taiwan and the Netherlands (which had almost doubled exports between 1995 and 1996) during 1997 can be seen in the fall in exports from those countries between 1996 and 1997 and concurrent rise in exports from the United States, Denmark and Canada. It can also be seen in the fall in Japanese imports in 1997.

Trade is highly regional in nature with most exporters heavily reliant on a few close neighbours for markets. Hence, the majority of European Union exports went to fellow European Union member countries, Taiwan exported predominantly to Japan and China, Canada and the United States traded between themselves, and China predominantly exported to Hong Kong.

The major exception is trade with the largest import market, Japan. Countries from all regions export significant amounts of pigmeat to Japan. More recently, other Asian markets, such as South Korea, and Russia have emerged as potentially large import markets.

Table E.3 **Top ten pigmeat exporters**

Thousand tonnes carcass weight

	1994	*1995*	*1996*	*1997p*
United States	241	350	440	474
Denmark	503	402	401	470
Canada	298	356	369	410
Poland	27	81	160	200
China	181	230	192	150
France	116	147	138	140
Hungary	42	54	103	85
South Korea	11	18	46	70
Taiwan	331	381	388	69
Netherlands	50	50	91	65
Other	375	282	285	329
Total	**2 175**	**2 351**	**2 613**	**2 462**

p Preliminary figures.

Source: USDA Foreign Agricultural Service (1998).

Table E.4 **Top ten pigmeat importers**
Thousand tonnes carcass weight

	1994	*1995*	*1996*	*1997p*
Japan	705	829	933	733
Russia	324	454	450	444
United States	337	301	280	287
Hong Kong	224	160	145	178
South Korea	26	45	49	77
Canada	27	27	39	54
Mexico	80	61	32	41
Bulgaria	8	1	0	35
Poland	99	47	39	32
Singapore	26	25	24	26
Other	106	104	133	123
Total	**1 962**	**2 054**	**2 124**	**2 030**

p Preliminary figures.

Source: USDA Foreign Agricultural Service (1998).

E.3 Country profiles

North America

North America accounted for around 12 per cent of world pigmeat production in 1997.

United States

The United States is the third largest producer of pigmeat after China and the European Union. It is the largest exporter of pigmeat in the world on a country basis although smaller than the European Union. Its major export markets are Japan, Canada, Russia and South Korea.

In the pigmeat processing sector, the top five establishments accounted for around 5 per cent of national kill in 1997. The average slaughter capacity in these plants was over 1 million head/year. (National Pork Producers Council 1998)

As in Australia, rationalisation has occurred in pig production. The number of pig farms fell by 80 per cent between 1976 and 1997. (USDA 1998)

Canada

While Canada is a relatively small producer of pigmeat, around a third of Canadian production is exported, making it the third largest exporter of pigmeat after the United States and European Union. Its major export markets are the United States, Japan, Russia and South Korea. Around 2 per cent of 1997 pigmeat exports were destined for Australia. (Canada Pork International 1998)

Pigmeat is a major export supported by a mature infrastructure of trading houses, transport and processing facilities. In 1996, the top 14 Canadian pigmeat processing establishments slaughtered 73 per cent of the national kill (average throughput was 780 000 head/year). The top five establishments slaughtered 35 per cent of the national kill (average throughput was 1 050 000 head/year).

Rationalisation in pig production saw the number of pig farms fall by 66 per cent between 1976 and 1996. (Canadian Pork Council 1998)

Asia

Asia accounts for around 55 per cent of world pigmeat production.

Japan

Japan is one of the largest producers of pigmeat and the largest importer of pigmeat. In 1997, the majority of imports came from the United States, Canada and Denmark.

Japan offers significant protection to its domestic pig producers by using a standard import price to keep domestic producer prices stable. Pork products imported below the set price are assessed a duty to bring the value of the product up to the nominated price. A duty of 4.8 per cent is then levied on all products entering at the standard import price. Various measures are also used to prevent surges in imports. (Canadian Pork Council 1998)

Taiwan

Taiwan withdrew from the international pork market in April 1997, after an outbreak of foot and mouth disease. Prior to the outbreak, Taiwan was exporting almost 400 000 t of pork annually, including 250 000 t to Japan. It will be absent from most of the world market until at least 2002.

Quotas and high tariffs severely limit pork imports. (USDA 1998)

China

China was the largest producer and consumer of pigmeat in the world in 1997. China's only substantial export market was the live pig trade with Hong Kong.

Imports have increased as trade has been liberalised. Tariffs on frozen/fresh/chilled pork and offal were decreased from 45 to 20 per cent and the processed pork products tariff was decreased from 55 to 30 per cent in 1997. (USDA 1998)

European Union

Collectively, the European Union is the second largest pig producing area in the world accounting for 20 per cent of world production in 1997. While European Union members are collectively the biggest exporters in the world, the majority of this trade is with other members. Nonetheless, the European Union is still the largest exporter of pigmeat in the world net of intra-European Union trade.

The major pig growing areas in the European Union are in Denmark, the Netherlands, northern Germany and Brittany in France. The Spanish industry is growing rapidly.

The European Union pork industry is supported by high tariff barriers protecting domestic markets and extensive export subsidies.

Europe is subject to intermittent outbreaks of Classical Swine Fever, the most recent in the Netherlands during 1997.

Denmark

Of the members of the European Union, Denmark is the major exporter of pigmeat outside the European Union. Excluding intra-European Union trade, Denmark is the second largest exporter of pigmeat in the world. Around 80 per cent of domestic production is exported. However, environmental regulation will make further expansion difficult.

Denmark's pigmeat industry is extensively integrated and concentrated. Almost the entire national kill is processed through 26 plants operated by four large co-operatives. The average kill per plant is more than 800 000 head/year.

The industry has seen much rationalisation with the number of farms falling by 70 per cent between 1980 and 1994. The number of processing plants fell by 33 per cent over the same period.

F Quarantine regulations

The Australian Quarantine and Inspection Service (AQIS) implements Australia's quarantine legislation.

AQIS handles import access requests according to the WTO Agreement on Sanitary and Phytosanitary Measures. This agreement establishes rules designed to allow countries to implement quarantine restrictions appropriate to their conditions but to minimise the use of these measures as trade protection devices. It aims to ensure that any import restrictions are based on an assessment of scientific evidence of the risk to humans, animals or plants, and are not disguised restrictions on international trade.

Imports of *cooked* pigmeat are allowed from all countries provided that the meat is hermetically sealed in cans and that various other conditions are met. Non-hermetically sealed (uncanned) imports of *cooked* pigmeat are allowed only from Canada. Denmark has requested similar access.

New Zealand, Canada and Denmark are the only countries from which Australia currently accepts imports of *uncooked* pigmeat. The protocols operating with each country are outlined below. Import access requests have been received from the European Union on behalf of several member states, the United States, South Africa and Mexico.

Due to the number of access requests, AQIS is conducting a generic risk analysis which will consider the importation of pigmeat from any source. The import risk analysis will include assessment of all potential disease agents that may be introduced into Australia, via the importation of pigmeat. Generic import conditions which may be developed would be applied to countries seeking access, as appropriate to their pig health status.

New Zealand

Since May 1990, imports of *uncooked* pigmeat have been allowed from the South Island of New Zealand. These imports do not have to be frozen nor do they have to be processed upon arrival in Australia.

Imports from the North Island are not permitted due to the Island's exposure to Aujeszky's disease.

Canada

Since July 1990, imports of *uncooked* pigmeat have been allowed from Canada. Under the quarantine protocol, the imported pigmeat was required to be frozen for at least 30 days prior to importation to inactivate *Trichinella spiralis*, a nematode parasite which infests pig muscle tissue.

In late 1992, regulations were amended to require the imported pigmeat to be boned (bone out) prior to export and processed on arrival in Australia. Processing could be by cooking (to prescribed criteria), or by exposing the meat to a pH of 5.2 or less (a fermentation process). These requirements were added to guard against the possible 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 1996, a new protocol was agreed with Canada to allow the importation of *uncooked* unfrozen pigmeat provided that it was processed by cooking in Australia. The cooking process destroys the parasite, *Trichinella spiralis*, if present in the meat. Meat to be processed by fermentation would still need to be frozen before importation. The option of processing by fermentation was suspended in February 1997.

In November 1997, a new protocol was agreed with Canada to allow the importation of *cooked* pigmeat.

Denmark

Since November 1997, imports of *uncooked* pigmeat from Denmark have been allowed under a similar protocol to that operating with Canada. Meat must be boned and must be processed by cooking upon arrival in Australia. The imported pigmeat is not required to be frozen prior to importation as Denmark is free of *Trichinella spiralis*.

G Econometric analysis

G.1 About the consultants

Two consultants were commissioned to analyse the effect of imports on the domestic industry: the Institute for Research into International Competitiveness (IRIC) and Muresk Institute of Agriculture (at Curtin University of Technology) and Dr Garry Griffith (NSW Agriculture, Armidale).

The IRIC group comprised Professor Peter Kenyon, Dr Garry MacDonald, Dr Martin Bent, Dr Fay Rola-Rubzen and Mr Paul Koshy.

Both consultants used time series modelling techniques.

The Commission also appointed an independent referee, Dr Brett Inder, a Senior Lecturer in Econometrics at Monash University, to assess both of the studies undertaken for the Commission as well as studies conducted for the Department of Primary Industries Queensland by Mr Tim Purcell and Associate Professor Steve Harrison (sub 49) and Mr Tim Purcell and Mr Rodney Beard (sub. 63).

This appendix reprints the concluding sections of each consultant's report and extracts from Dr Inder's report. Copies of all reports are available on request or on the Commission's website (http://www.pc.gov.au).

G.2 Analysis by Dr Garry Griffith (NSW Agriculture)

Dr Garry Griffith analysed the impact of pigmeat imports on the NSW pig industry, essentially updating evidence prepared for the 1995 Industry Commission report (IC 1995a). Dr Griffith used Granger and Sims (pairwise) causality models as well as a more general Vector Autoregressive (VAR) model designed to capture the effects of several key factors. His conclusions are reprinted in box G.1.

Box G.1 **Extracts from Dr Griffith's report**

… With so many options covered in the analysis, it could have been difficult to come to some conclusion about what may be the preferred results.

Fortunately, the results are basically consistent when viewed over the full period since Canadian imports have been allowed into Australia. It is evident that Canadian imports of pigmeat have no consistent causal effect on farm, wholesale or retail pigmeat prices in NSW. The pairwise Granger and Sims causality tests suggest that farm prices cause imports over longer lag periods; that imports may have some causal effect on wholesale prices over longer lag periods if the Sims results are used, but that this effect is a joint one if the Granger results are used; and that there is no effect on retail prices. Neither of the two VAR analyses suggest any causal influence of imports on domestic prices. Note also that many of the estimated significant test statistics are only significant at the 10 per cent level. In terms of differences if any across methods, the Granger model and the F test have tended to provide less evidence of causality flowing from imports to domestic prices. In fact if the Granger model was chosen as suggested in the literature and the standard F test of restrictions was the only test employed, there would be no evidence of any impact by imports on domestic prices.

However, when only the most recent six years data are examined, a wider range of causal impacts are found. The pairwise Granger tests suggest some joint relationships between farm price, import volumes and import values at longer lag lengths, but for all other prices the causation is from domestic prices to import volumes. The pairwise Sims tests also suggest some joint relationships between farm and wholesale prices and import volumes and unit values, but in addition there is evidence of imports causing farm price changes and retail price changes. The more general VAR models confirm a significant effect of imports on retail prices but there is no evidence for a significant effect on farm prices. The evidence on wholesale price and production are mixed in the VAR models.

If a position had to be taken, it would be to favour the more general VAR model results which take account of the simultaneous causal relationships shown in the pairwise Granger and Sims model results. In this case, the evidence is that retail leg prices and maybe wholesale prices have been significantly influenced by Canadian imports over the past 6 years. Other prices may have been influenced by imports in recent months, but the data are not available in sufficient quantities to allow that to be shown in the statistical analyses.

G.3 IRIC/Muresk analysis

The IRIC/Muresk team also used VAR techniques but with a different model of the industry and a different data set (Australia-wide for the period 1985 to 1998). Conclusions are set out in box G.2.

Box G.2 **Extracts from IRIC/Muresk report**

…This report has examined the impact of imports on the Australian pig and pigmeat industries in a time series framework. Time series modelling requires the data generating processes of the series and /or the structural relationships described by the model to be invariant with respect to time. As the quarterly series available for modelling the domestic pigmeat market were seasonally unadjusted, tests for the presence of seasonal unit roots in the data were undertaken. Failure to take into considerations the effects of seasonal fluctuations could generate spurious results and misleading inferences.

To examine the demand and supply relationship in the domestic pigmeat market, appropriate econometric techniques were used to test for the existence of a linear long-run relationship. A simple model specification based on past studies was used to allow for some degree of comparability. The four variables considered in the vector autoregressive (VAR) model were the saleyard prices of baconer (PS) and beef (BS), production of pigmeat (PP) and retail price of pigmeat (PR). Using the Johansen estimation method, a linear long-run cointegrating relationship was found between these four variables over the period 1985:2 to 1998:2. This result is further supported by the FM-OLS estimation. As the imports of Canadian pigmeat commenced only in 1990:3, estimation of a VAR(3) model using the post-1990 data would encounter the problem of insufficient degrees of freedom. Hence, the effects of imports in the early 1990s that led to evidence of instability in the estimated long-run relationship were examined. The results indicate that the imported pigmeat have no statistically significant effects on both the long-run and short-run relationships of the estimated models. Of the variables modelled in the short-run, the only influence on the dynamics of saleyard prices was the dynamics of domestic production, which has a sensible negative sign.

Whilst the above results are the findings of our econometric investigation we feel that a number of caveats are in order:

Firstly, we are unhappy about the theoretical specification of the model we have estimated, what we have is the result of the data limitations we encountered in the study. We feel that if the Commission and the Industry want to model the saleyard price of pigmeat in Australia, a key issue for the future would be the establishment of a database which would allow modelling using a reasonable theoretical framework. In this context a clear lack is that of data on the costs of production.

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Box G.2 (continued)

Secondly, whilst we find no statistically significant effect on the pigmeat industry due to imports, we feel that the issue of significance the Commission is considering is probably different to statistical significance. Econometrically an effect could be found to be statistically significant but of small magnitude, and it is clear that such distinctions should be borne in mind by the Commission.

Thirdly, it is also clear that most of the action in the data is at the end of the sample. This places severe restrictions on the econometric models ability to make sensible statements about the effects of the changes occurring in the market. Our tests for structural stability (the Hansen 1992 tests) must, for theoretical reasons … be based on a trimmed sample. In implementing the test we could not calculate the test statistic using the first 15 or last 15 per cent of the sample. Whilst we believe this is a better procedure than carrying out tests which are biased by arbitrary selection of the breakpoint they are clearly, nevertheless, limited in their applicability here. More generally, it is our view that, at this stage the econometrics must remain somewhat agnostic about the events at the end of the sample. Whilst they are not entirely without precedent in the data, it is, we feel, impossible to say whether they represent temporary aberration or a significant shift in the data generation process.

Given that the domestic supply of pigmeat is a major factor determining the saleyard price of pigmeat, it would seem reasonable to assume that imports could have a significant role only if the volume of their increase is substantial. However, it has been noted that the Canadian imports comprise a relatively small fraction of the overall pigmeat market, with the most significant impact on the industry being felt in the ham and smallgoods market. Furthermore, Australia has been a net exporter of pigmeat over the 1990s with the exception of 1996–97 (prior to the current price slump). It is likely that the lags between the issuing of contracts and the arrival of imported products may have led to the over supply of pigmeat in certain quarters, which in turn, affect the pigmeat prices.

A review of the pigmeat industry indicated that there does not appear to be an over supply of domestic produce compared with past 5 to 6 years. Given the stable consumption patterns for pork, it seems likely that substitute prices have had a large effect on pork prices, and our test results also indicated that the saleyard price of beef has a negative long-run effect on the saleyard price of pigmeat. On the basis of our data analysis, it would seem that it is the domestic conditions rather than the imports that affect the saleyard price of pigmeat in Australia. However, it is important to bear in mind that the conventional time series regression might not be able to capture the dynamics of imports on the saleyard prices due to the seasonal fluctuations, small sample size and the abnormal price fall occurred at the end of the sample.

G.4 Referee's report

Box G.3 reprints Dr. Inder's summary remarks about each of the studies reviewed.

Box G.3 **Extracts from Referee's report**

Griffith report

… The last paragraph of the Griffith report suggests that "if a position had to be taken", the VAR results would provide the most reliable guide. I would agree with this for the reasons given in the report, but also because the second set of VAR results are the only results which do not use first differences, as explained above. The misspecification implied by first differencing is likely to have a serious and unknown effect on the results.

Based on the levels VAR, then, the results indicate a strong possibility that imports affect prices. The Griffith report suggests that this is only on retail prices, and maybe on wholesale prices. The above discussion on interpreting causality analysis in multivariate systems indicates that the result is stronger than this — imports most likely affect all prices, some directly, and some through the other pricing levels.

It is difficult, given the results included with the report, to quantify these effects with elasticity estimates; however, indications are that the effects are not substantial. If effects were particularly strong, then significant results would tend to show up more consistently with the other sampling period, and even with the misspecified differenced models — strong effects are unlikely to simply disappear because of a partly misspecified model.

IRIC/Muresk (Curtin University of Technology) Report

… Is there anything wrong with the empirical work undertaken in the Curtin University report? Basically, No. The work is competent, uses good, up-to-date techniques, and is quite thorough.

Does the empirical work get to the bottom of what drives the domestic pigmeat market and hence allow a fair assessment of the possible impact of imports? In my view, No. A number of questions still hang over the empirical results which lead me to strongly suspect that there are other important factors to take into account in the model. The most compelling concern is best seen from Figure 5.1 — this "cointegrating" error term appears to be non-stationary (an observation consistent with the formal hypothesis tests). The estimates of the parameters of the cointegrating vector and the subsequent tests on the impact of imports are all thus going to be affected by a possible "spurious regressions" problem, which biases results and distorts findings of test procedures. There are enough counter-intuitive aspects of the cointegration parameter estimates and test results to suggest that this problem is real with the results presented in this report.

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Box G.3 (continued)

In terms of the question of the impact of imports on the domestic market, the findings of this report indicate strongly that there is no causal link from import volume to domestic

prices. I believe, however, that there are enough concerns about the results to suggest that we should treat this "negative" result with a great deal of caution.

Purcell and Harrison report (see sub. 49)

… The submission contains a vast array of results using all sorts of techniques. Many of the results are, for various reasons, misleading or unhelpful to the questions at hand. However, some results — especially chapter 13 — suggest potential effects of import volume on the domestic market, primarily prices. However, the work would need to be undertaken more thoroughly and many of the unanswered questions resolved before one could state any firm conclusions from these results.

Purcell and Beard report (see sub. 63)

… I think initially it is important to point out that the use of a state space formulation and Kalman filter is in essence not qualitatively different to using a standard VAR analysis. The state space equations in the report — equations (2.1) and (2.2) — can easily be rearranged to give a VAR representation, where the only difference is in the treatment of the deterministic/exogenous terms — constant, time, seasonal dummies. We thus do not expect any qualitatively different results.

There are a number of serious concerns with the estimation of the model. First, the use of differencing to make all variables stationary is not a good approach. I have discussed this earlier, in most detail in section 2. The problem is accentuated here by using first differences for some variables, and fourth differences for others. The misspecification problems will be nontrivial. Secondly, the state space model seems to have been estimated in such a way where only one lag of the variables enters - equivalent to a VAR(1). Earlier work suggests that a higher order VAR is necessary to capture all the dynamics. This underspecification will certainly corrupt the results. Third, I note from the footnote on page 10 that estimation of the model was problematic, and the seasonal dummies and trend had to be omitted. Omission of the trend is probably a good thing, as there seems to be no justification for it anyway. However, the seasonal dummies would be important to the analysis — there is clearly a seasonal pattern to the market. Failure to account for this may well lead to spurious results. Fourthly, there are no diagnostics with the results. All we see are graphs of model fit. Whilst this looks okay, would, for example, the residuals pass simple tests for autocorrelation? Without such information, we cannot really judge the adequacy of the model.

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Box G.3 (continued)

Turning to the results and the implication of them, the authors do make much of the good fit in the models. However, my impression is that the fit is nothing special — without some benchmark to compare against. Further, with the first differenced data, fit of the levels (which is what the graphs represent) will always be pretty reasonable within sample and one step ahead. Differenced models are kept 'on track' in levels, as they are simply a generalisation of a random walk, where next period's prediction is

simply today's value of the series. One is never likely to be too far wrong with such an estimate.

In terms of the finding of a structural change, the authors make much of the ability of the model to capture this when a change dummy is included. They may well be right, but I consider their conclusion to be far too strong, given that we have very little data after the alleged structural break. Only time will tell whether the break is permanent or temporary.

Overall then, there are several serious questions to be asked about this work. Whilst the raw data suggests that there does indeed seem to be a hint of some significant change in the market in late-1997/early-1998, there are too many questions surrounding this study to say that it reliably sheds light on the statistical significance or causes of any such possible change.

Concluding summary

Overall, this review of the reports exposes a number of methodological problems with much of the work. The different approaches seem to lead to a wide variety of conclusions. Some of the reported work has serious deficiencies which can only suggest that the conclusions drawn from them cannot be relied on. On the other hand, most of the results reviewed can be viewed as giving clues as to the role of imports in the domestic pig market. No particular set of results is definitive.

If a judgment had to be made, one would have to say that it is unlikely that imports have played a dominant role in affecting domestic prices or production. Many results fail to find any significant effect, and only a few questionable results show a particularly strong effect. On the other hand, the evidence also suggests that imports are not completely irrelevant to the domestic market. They do show up as significant a number of times — too often for this result to be entirely spurious.

It is clear that much of the ambiguity in the results is due to conflicting and at times inappropriate choice of methodology. However, even if one focused only on those results which use "acceptable" methodology, the outcome is not clear cut. Two possible reasons exist for this: first, that there simply has not yet been enough data for the effect of imports to be adequately measured. I believe this is a valid observation — whilst we do have five years or more of data where imports have been entering the market, they have comprised a relatively small share of the market, and thus their impact would be hard to measure.

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Box G.3 (continued)

The second reason would be that the econometric methodologies have not yet been executed to their full potential. By this I mean that with more investigation, some results could be developed further, and I believe a clearer picture could emerge. It is apparent from even the "best" of the results reviewed that an adequate quantitative model of the workings of the pigmeat market has not been achieved. Only in the context of such a model can we measure with some confidence the role imports have played in shaping this market.

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