Pork – Marketing O-S.

PIGMEAT MARKETING IN NEW SOUTH WALES: A MARKET STRUCTURE ANALYSIS

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

One of the roles of public policy is to ensure that industries or markets perform in a socially desirable manner. The need for analyses of the performance of marketing systems for agricultural products has often been urged [20, 21, 23, 28, 31, 32, 37] and in recent years attempts have been made to study some Australian agricultural commodity markets in this way [1, 6, 13, 14, 19, 24, 25, 34, 36]. Apart from three important contributions [11, 12, 22] though, the Australian pig industry has been ignored in these analyses. With the potential expansion in pigmeat production and consumption, and the rising level of sophistication in pigmeat marketing, this neglect should not continue.

The theory of industrial organization first proposed by Mason [29], and subsequently refined and extended by Bain [8], Scherer [35] and others, has generally been employed in these types of studies [17, 20, 28, 31, 32].[1] This model has three basic components:

(a) <u>structure</u>, which describes what the market is;
(b) <u>conduct</u>, which outlines what the market does, and
(c) <u>performance</u>, which evaluates how well it does its job.

Before a complete performance evaluation is undertaken though, it is often extremely useful to describe the structure of the market in some detail. This is so for two reasons. First, structural factors are generally thought to explain to a high degree how firms conduct their activities and how industries or markets perform in the aggregate [17]. Second, and following on, if policy prescriptions are to flow from the analysis, it is usually more feasible to attempt to "... maintain, encourage or create an industrial environment in which firms, and those responsible for business decisions, perform in the public interest" [32, p. 1369], rather than try to influence the level of performance directly. In these cases, policies can only be correctly framed if reliable information is available about the market structure under consideration.

1.2 AIM OF THE STUDY

The aim of this Bulletin is to describe the market structure of the N.S.W. Pig and Pigmeat Markets.[2] This will be done first by determining the various structural parameters which theory suggests are relevant to performance, and second (where possible) by empirically measuring these parameters. No direct attempt is made to tie these elements of market structure to any performance dimension, but comments concerning conduct and performance are made where relevant.

We consider that information gained from this study will be useful in three major ways. Initially, it will provide market participants with more and/or better information about their positions

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1. See Clodius and Mueller [17] or Moore and Walsh [31] for a discussion of the early development of this theory in an agricultural setting.

2. Data restrictions confine this study to N.S.W. for the present.

in the market, and should allow them to operate more efficiently. It will also provide information to administrators and policy-makers and should lead to more efficient public decisions. Finally, and perhaps most importantly, by pinpointing inefficient links in the system it will provide a basis for discussion of possible alternative marketing methods.

The Bulletin is partitioned as follows:

* Chapter 2 defines the methodology in greater detail and outlines the criteria employed in the market structure analysis.

* Results, generally, and on a sector-by-sector basis, are contained in Chapter 3, while

* Chapter 4 draws the major conclusions.

* References cited are listed in Chapter 5, and three Appendices complete the study.

CHAPTER 2

METHODOLOGY

Market structure is defined by Bain as "...those characteristics of the organisation of a market that seem to exercise a strategic influence on the nature of competition and pricing within the market" [8, p. 7]. It is thus concerned primarily with the degree of competition in the market and with the extent of pricing efficiency. It is not concerned with macro-economic influences or effects such as national income, trade relationships, inflation or unemployment, or with personal factors relating to individuals in firms or in the market [17].

The list of characteristics we have selected as determinants of market structure is fairly standard, and is presented below.[3]

2.1 ELEMENTS OF MARKET STRUCTURE

(a) the number and size distribution of buyers and sellers, the variations among firms with respect to the degree of specialization or diversification and other aspects of type or class, and the location pattern of these buyers and sellers.

(b) the ease of entry into or exit from the market.

(c) the degree of product differentiation.

(d) the types and extent of vertical integration.

(e) the type of business enterprise, for example co-operatives, partnerships, private and public companies.

(f) the extent and distribution of market information and in particular an assessment of the adequacy, availability, uniformity, accuracy and currency of this information.

(g) the use of uniform and objective standards of product description, and

(h) the extent of government regulation and involvement, and the enforcement of these regulations.

Additionally we need an understanding of the way buyers and sellers in each sector combine to determine the configuration and facilities of the whole marketing channel.

These elements of market structure outlined above should not be considered independent, as they are often highly interrelated. For example, government involvement is related to product description which is related to market information. They do, however, provide a useful breakdown of the main features of market structure analysis.

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3. Clodius and Mueller [17, p. 516], or any of the texts on market structure analysis, outline the rationale for including these elements. Other elements of market structure have been proposed from time to time but are not generally accepted as yet. An example is the price elasticity of demand [16, 26].

This seems to be a difficult task we have set ourselves, especially since it seems *a priori* that there is a general lack of information in the areas we are covering, and we are forced to acknowledge that we may be unable to fully achieve our expectations. We are encouraged to persevere however, by the following comment from Mueller, "I am convinced that the marginal returns to society of competent market structure research are greater than competent research in most other fields of marketing" [32, p. 1370].

CHAPTER 3

RESULTS

3.1 RESULTS RELATING TO THE WHOLE MARKET

It is both easy and convenient to define the structure of the pigmeat market in terms of each of the groups of market participants that comprise the market, and this is done in Sections 3.2 to 3.9 in some detail.

The pig market as a whole, however, is characterised by the lack of a uniform and objective standard of product description, general deficiencies in the market information system, an increasing number of vertical co-ordination arrangements, and a relatively low level of product differentiation and government involvement. These general points are discussed in this section.

(a) No national uniform measurement, classification or grading scheme is employed in the pig industry. The introduction of such a scheme, furthermore, is constrained by the absence of uniform carcase definitions and uniform weighing procedures, and an inadequate system of carcase identification. Some processors have a grading scheme as a service to regular suppliers and to facilitate consignment selling, and processors, wholesalers, and retailers naturally operate their own classification or grading schemes when purchasing pigs. In the main though these schemes are not uniform, are subjective, are liable to change and do not provide adequate feedback to the producers as to the type of pigs desired by various purchasers.[4]

(b) The flow of useful market information is severely hampered by this lack of a uniform and objective product description scheme. Information on prices and yardings at some auction centres are collected and disseminated via various sources (discussed later under the section on auction centres), but this information is usually an inadequate representation of the overall pig market. Thus it has severe limitations in its usefulness to pig producers. It is also out-of-date, insufficient for sharpening price/quality differentials, and often subject to biases or collection inaccuracies. Additionally, available information is often unfairly distributed due to the economies of size gained by large buying firms in information collection and interpretation, and this leads to adverse effects on sellers, especially producers, in price negotiation. Information on prices paid and charges made are available from various firms in each section of the pig market, though this information is not generally publicised for competitive reasons. Once again the usefulness of a general flow of such information is hampered by the lack of uniform product description procedure.

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4. The Australian Pig Industry Research Committee is currently financing a series of projects which are examining the economic and technical feasibility of a National Pig Carcase Measurement and Information Service. This Service aims to provide carcase descriptions based on objectively measured criteria to both buyers and sellers, and market information to all sectors of the industry.

(c) Throughout the pig industry there is also a growing trend towards more formalised vertical co-ordination arrangements, and this is especially so in the production and processing sectors. These ventures appear to have been set up primarily on operational efficiency grounds, and considerable cost savings may accrue to the participating firms. There may be an adverse effect on pricing efficiency however, which in a total market sense could well outweigh the advantages in cost reduction in these firms.

(d) Pigs are purchased in various classes based mainly on weight and sex. The two main types of pigs are baconers and porkers and these are further differentiated on a weight basis. Individual retail butchers tend to specialize in a certain type and weight of carcase and manner of cutting that carcase, and some supermarket chains sell fresh pigmeat under trade names, but these trade names do not represent a consistent, uniform product and product differentiation is therefore quite low in the fresh pigmeat trade. Pigmeat products from processors and smallgoods manufacturers are more highly differentiated in that each processor sells his products under individual, well-recognised brand names.

(e) N.S.W. Government involvement is limited primarily to control through the Marketing of Primary Products Act, the Meat Industry Act and the various Health, Local Government, and Shops and Factories Acts, the ownership of some service abattoirs, and the ownership and control of some selling centres (see Appendix I). The Australian Government also contributes to the Australian Pig Industry Research Committee and hence helps finance research projects and promotional activities. There is no formal government intervention in price formation or supply management, but indirectly the activities of the Prices Justification Tribunal and the Trade Practices Commission are potential means of intervention, especially in the processing sector.

Noting the above general features of the pigmeat market enables us to analyse each group in a less repetitive manner. Figure 1 outlines the relationships between the various groups of participants in the N.S.W. pigmeat market. They include producers, auction centres, abattoirs, wholesalers, processors, retailers, exporters and consumers. Each of these groups is examined in turn, but this obviously does not imply strictly sequential market stages, as again a large degree of interdependence is evident.

The following sections are based largely on two Bureau of Agricultural Economics (B.A.E.) survey publications [11, 12], for which acknowledgement is made. While some of the statistics presented in these surveys is dated, little comparable information is available since their publication. Where possible though, these figures have been updated from other sources.

3.2 PIG PRODUCERS

There are about 10,000 pig producers in N.S.W. Table 11, (Appendix II), shows that this number has fluctuated about a steadily declining trend, reaching a low of 8,599 in 1974-75.

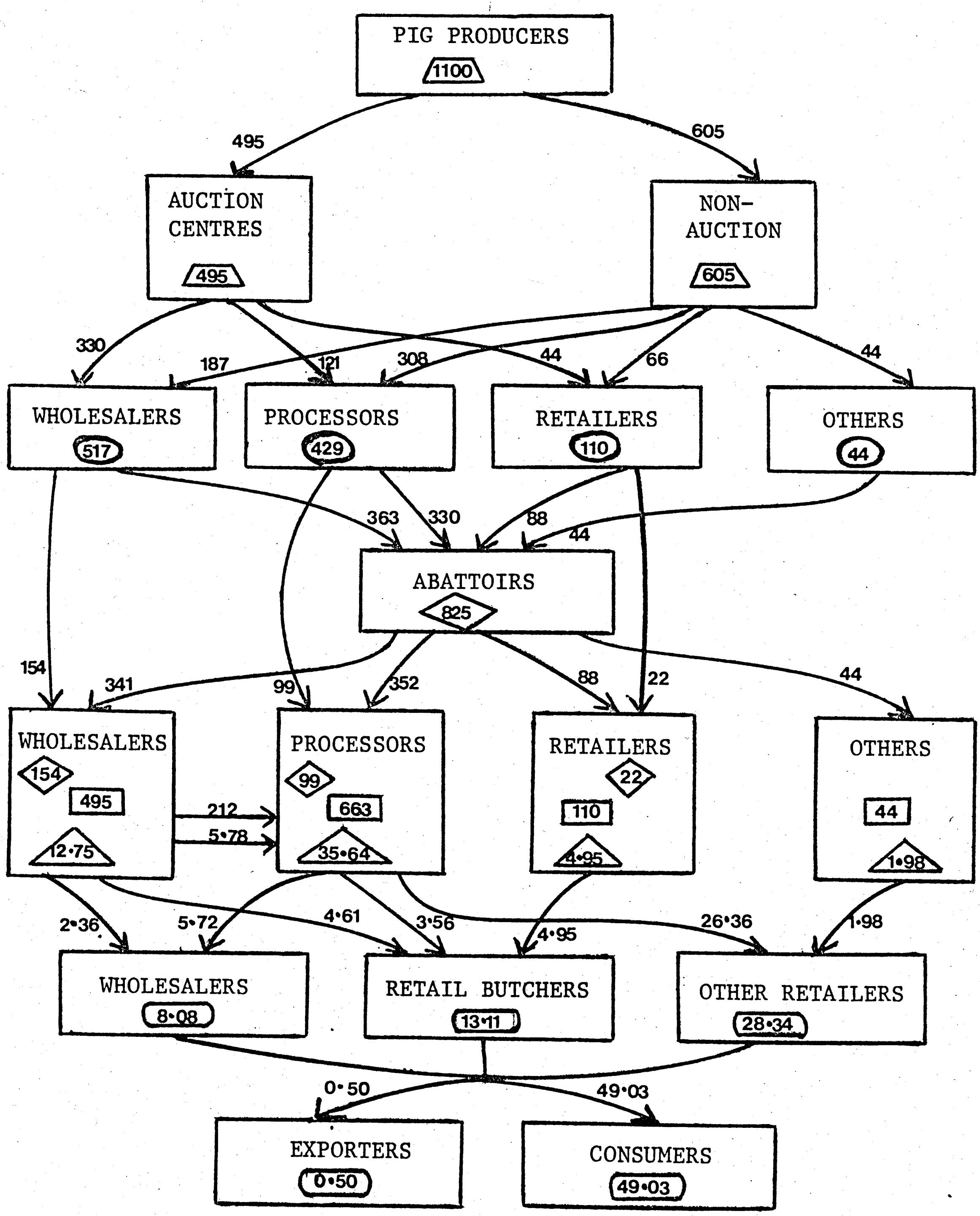
Pig producers can be broadly divided into three main categories:

- pig-dairy farms, which are found primarily along the coastal regions,

- pig-cereal farms, which are located in the inland wheat/sheep areas, and

FIGURE 1

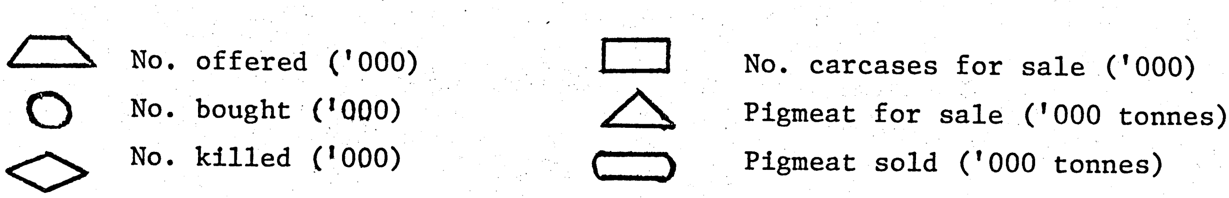
The N.S.W. Pig and Pigmeat Market[a]



Source: [11,12].

[a]Numbers relate to the number of animals or carcases or the quantity of meat in a particular marketing channel in 1973-74.

The key for subtotals at particular points is:



specialist piggeries, which are fairly evenly dispersed between coastal and inland areas.

Additionally there are other types of pig holdings which do not fit into any of the other categories. Specialist holdings can be further divided into -

large, intensively-managed farms carrying more than 1,000 pigs, and

smaller holdings, mainly on the fringe of towns and cities.

Large, specialist holdings are the biggest of all pig holdings in terms of capital value and pig numbers, followed by pig-cereal farms, pig-dairies and small specialists. Numbers of the first two types have increased in recent years and numbers of the latter two have declined. Table 1 shows the distribution of N.S.W. pig farms according to this categorization.

TABLE 1

The Distribution of N.S.W. Pig Farms, By Type, 1967-70 - (% of Total)

Region	Specialist		Pig-Cereal	Pig-Dairy	Pig-Other	Total
	Small	Large				
Coastal	9.1	0.4	0.0	61.8	28.7	100.00
Inland	12.6	0.2	49.6	1.9	35.7	100.00
State	11.7	0.2	37.6	16.5	34.0	100.00

Source: [11, p. 32]

Figures in Appendix 2 show a declining trend in the numbers of holdings with pigs and an increasing trend in the number of sows, number of pigs and the number of pigs slaughtered. This has meant an increase in the average number of pigs per holding and a trend to larger specialist piggeries.

Table 2 provides more recent and complete information, on an Australia-wide basis, of the number of holdings with pigs classified according to the size of the pig herd and the area of the holding. Statistics for the size of the pig herd only are also given for N.S.W., and these indicate that the proportion of large, specialised holdings has more than doubled from 0.2 per cent in 1967-70 to 0.5 per cent in 1974-75. The small herds still dominate though, with more than 2,900 herds, or 34 per cent of the total, containing less than 20 pigs.

In general then, the pig production sector is fairly atomistic: there are a large number of pig producing units, they mainly operate independently, and each unit is small enough so that their operations have no discernable long-run effects on prices.

As mentioned above, however, there is a growing trend towards more formalised vertical co-ordination arrangements in the production sector. Vertical integration in particular may become an important factor in the future with producers being tied by arrangements to feed suppliers, processors, and retailers. For example, a projected 30,000 sow piggery at Gloucester with associated processing facilities, and an even larger piggery and abattoir contemplated for Hay, could potentially supply more than 25 per cent

TABLE 2

Rural Holdings Classified According to Size of Pig Head, Australia, at 31st March, 1975

Area of holding (hectares)	Size of pig herd (number) 1-9	10-19	20-29	30-39	40-49	50-69	70-99	100-149	150-199	200-299	300-499	500-699	700-999	1,000 and over	Holdings with pigs	Holdings without pigs	Total number of holdings
1975																	
1 - 4	211	67	51	38	25	33	29	25	23	23	22	13	6	8	574	13,571	14,145
5 - 9	188	77	65	35	36	42	36	31	19	28	31	13	8	13	622	11,014	11,636
10 - 19	278	128	87	61	49	47	52	38	36	40	35	18	7	12	888	14,920	15,808
20 - 29	225	79	77	37	40	43	44	26	15	37	21	9	7	8	668	9,456	10,124
30 - 39	189	89	67	44	29	43	30	29	22	16	24	7	2	4	595	8,045	8,640
40 - 49	213	96	60	62	34	50	59	35	18	16	13	10	2	10	678	8,762	9,440
50 - 74	372	191	145	103	89	146	110	95	44	40	37	19	11	17	1,419	15,632	17,051
75 - 99	254	145	119	95	61	79	84	59	42	41	32	11	5	11	1,038	11,403	12,441
100 - 124	235	119	101	97	65	97	82	77	29	29	31	4	4	6	976	8,991	9,967
125 - 149	221	120	87	83	65	85	87	65	37	24	25	13	5	7	924	7,881	8,805
150 - 199	295	199	135	110	96	144	120	87	47	41	28	10	11	9	1,332	10,553	11,885
200 - 249	286	171	126	116	83	123	122	96	46	55	41	5	8	4	1,282	9,325	10,607
250 - 299	212	168	114	115	83	107	89	105	48	38	24	4	7	10	1,124	7,568	8,692
300 - 399	368	241	196	175	140	184	173	137	85	71	34	11	8	7	1,830	10,619	12,449
400 - 499	326	226	191	168	153	167	176	121	66	51	34	21	4	5	1,709	8,617	10,326
500 - 749	506	374	326	271	221	293	304	225	109	106	43	16	7	13	2,814	13,208	16,022
750 - 999	306	224	203	153	121	203	206	163	59	67	32	13	16	9	1,775	7,872	9,647
1,000 - 1,999	444	390	324	271	226	369	319	270	148	121	71	14	14	7	2,988	13,623	16,611
2,000 - 2,999	122	116	107	84	71	92	91	80	38	33	16	7	5	4	866	4,483	5,349
3,000 - 3,999	49	36	39	45	25	46	31	35	17	14	8	3	1	6	355	2,028	2,383
4,000 - 4,999	29	21	24	12	19	12	18	23	15	6	6	1	1	2	189	1,273	1,462
5,000 - 9,999	36	22	25	20	12	15	19	18	5	6	8	4	1	2	193	2,664	2,857
10,000 - 19,999	14	11	13	9	5	5	6	3	3	2	1	..	..	..	72	2,104	2,176
20,000 - 29,999	6	5	2	5	1	..	..	2	1	..	..	..	..	..	22	881	903
30,000 - 49,999	14	5	2	2	2	..	..	..	..	1	..	..	..	..	26	707	733
50,000 and over	15	6	4	1	2	1	2	3	..	1	..	..	..	..	35	1,313	1,348
Australia(a)	5,414	3,326	2,690	2,212	1,753	2,426	2,289	1,848	972	907	617	226	140	174	24,994	206,513	231,507

(a) Includes Northern Territory and Australian Capital Territory.

TABLE 2 (Continued)

Rural Holdings Classified According to Size of Pig Herd, Australia, at 31st March, 1975

Area of holding (hectares)	Size of pig herd (number)														Holdings with pigs	Holdings without pigs	Total number of holdings
	1-9	10-19	20-29	30-39	40-49	50-69	70-99	100-149	150-199	200-299	300-499	500-699	700-999	1,000 and over			
1975																	
N.S.W.	1,781	1,129	942	822	634	891	849	626	308	289	182	61	36	47	8,599	61,946	70,545
Vic.	1,148	480	388	299	220	264	283	230	131	147	106	43	37	45	3,821	59,105	62,926
Qld.	844	559	404	318	258	382	329	292	170	179	134	60	34	45	4,008	35,764	39,772
S.A.	855	612	492	402	320	455	411	331	169	143	90	35	20	14	4,349	23,836	28,185
W.A.	413	380	356	290	262	379	364	321	173	110	86	19	9	17	3,179	17,321	20,500
Tas.	362	163	106	79	57	54	52	46	21	37	19	8	2	4	1,010	8,042	9,052

Source: [3, p. 16].

of current N.S.W. pig production. These integrated systems would undoubtedly lead to cost reductions, but the pricing efficiency of the market could be substantially impaired.

A number of successful producer co-operatives have also been established both for the processing and marketing of pigs. The coastal dairy product marketing co-operatives have always been involved in pig processing, and lately there have emerged a number of co-operative marketing groups located inland. These newer co-operatives, such as the former North-Western Co-operative Marketing Group and the Lachlan Valley Marketing Group, have apparently been very successful in lowering marketing costs and increasing net producer returns, even though their organisational structure may sometimes have been found wanting.

Three recently formed organisations give producers a greater role in the planning and control of the industry. The Australian Commercial Pig Producers Federation represents pig producers in all matters connected with the industry; the N.S.W. Pork and Bacon Council is a co-ordinating body for all sectors of the pig industry in N.S.W., and the Australian Pig Industry Research Committee, jointly financed by producers and the Australian Government, funds research into the production and marketing of pigs and pigmeats and the promotion of pigmeats.

There seem to be moderate barriers to the entry or exit from pig production, including health and building regulations, the expected pigmeat:feed price ratio, and the capital involvement required. The fixed nature of the piggery asset is another barrier to exit.

Another point regarding entry and specialised units which may bear emphasising is that new piggeries have to incorporate effective waste-disposal systems to meet recently legislated and impending environmental and pollution regulations. In combination with other factors mentioned above, this should induce a more stable pig production base.

Overall then, the pig production sector seems to have the structural characteristics for competitive efficiency and is only lacking in those elements mentioned in section 3.1 which pervade the whole market.

3.3 AUCTION CENTRES

The selling of pigs by producers constitutes the first step in the marketing chain. Many different methods of sale are open to producers and the B.A.E. in their survey [12, p. 7] outlined eight of these methods. These are - auction selling, consignment selling, selling unweighed pigs direct to processors, selling "over the scales", selling to a visiting buyer, selling to an independent agent, selling to a retail butcher, and direct farmer-to-farmer selling.

It was estimated in the survey that for 1969-70, 46 per cent of the pigs in N.S.W. were sold by auction, 22 per cent by consignment, 14 per cent "over the scales" and 18 per cent by various other methods [12, p. 7].

Trade sources feel that consignment selling and the selling of pigs "over the scales" is becoming more important, while auction selling is tending to decrease in importance. This trend reflects two influences -

(a) a growing dissatisfaction with the present auction system and its attendant inaccuracies in weight and quality estimation and in pricing, and

(b) the greater co-ordination in the processing sector which tends to increase consignment selling direct to processors.

Additionally, stock agents, through their short-term financing of livestock production, have sometimes been thought to have too dominating an influence on producer marketing patterns.

Besides the Metropolitan Meat Industry Board's saleyards at Homebush, auction centres are found in most large country towns, and some of these centres have weighing facilities for sales over the scales. Saleyards in N.S.W. are mostly owned and maintained by local government authorities, but there exist a few yards which are owned by auctioneers.

The building and maintaining of selling centres is subject to local government control. Only persons licensed under the Auctioneers and Agents Act can sell at auction centres, whether privately owned or owned by a local government.

There are some 50 auction centres in N.S.W. which have regular and relatively large pig sales. Numbers yarded for 14 of these centres over the period 1971-73 are listed in Table 3.

The B.A.E. surveyed 25 auction centres in N.S.W. that were selling pigs. Most of the larger centres as outlined in Table 3 would have been included. Some statistics from this survey are given in Table 4.

As can be seen from the table, a large percentage of auction sales of pigs are concentrated into a small number of selling centres. Homebush, selling around 150,000 pigs annually, accounted for 29 per cent of auction sales of pigs in N.S.W. in 1967-70. On the other hand, 36 per cent of the auction centres individually selling less than 5,000 pigs annually, only accounted for 4 per cent of pigs sold by auction in N.S.W. over the same period [12, p. 10].

As mentioned earlier, information on prices, yardings and some description of type and quality of pigs auctioned is collected and disseminated by the Department of Agriculture, the rural department of radio networks and the city and country press.

At present the Department of Agriculture only collects information on livestock sales from Homebush. The prices collected by the Department are published as Daily Price Quotations, (which form the basis of marketing reports in city newspapers and are used by wholesalers as a guide in setting wholesale prices), as Weekly Marketing Notes, and as monthly figures incorporated into Departmental booklets [33].

Material in the Weekly Marketing Notes forms the basis for marketing reports on the A.B.C. and Macquarie radio networks, and in rural weekly newspapers and various country newspapers.

Extensive Statewide coverage of livestock sales are given in the two rural weekly newspapers, THE LAND [27] and COUNTRY LIFE [18]. Coverage of the Homebush sales is based on information in the Department of Agriculture's Weekly Marketing Notes. Information on country selling centres is provided by selling agents.

TABLE 3

Major Pig Auction Centres in N.S.W., Numbers Yarded, 1971-73(a)

Location	Year					
	1971		1972		1973	
	No.	% (b)	No.	%	No.	%
Homebush	144,794	35.7	177,093	42.5	179,901	38.2
Wagga	9,000	2.2	9,800	2.4	10,159	2.2
Tamworth	23,670	5.8	23,988	5.8	29,288	6.2
Dubbo	49,864	12.3	50,269	12.1	55,174	11.7
Lismore	42,822	10.5	35,439	8.5	45,626	9.7
Casino	51,121	12.6	43,542	10.4	49,050	10.4
Moree	6,592	1.6	5,075	1.2	367	0.1
Griffith	6,946	1.7	3,226	0.8	5,535	1.2
Finley	9,110	2.2	12,122	2.9	12,644	2.7
Deniliquin	1,645	0.4	4,166	1.0	6,062	1.3
Cootamundra	1,464	0.4	87	0.0	6,810	1.4
Goulburn	499	0.1	842	0.2	1,001	0.2
Forbes	57,623	14.2	50,132	12.0	68,714	14.6
Grafton	950	0.2	1,400	0.3	1,100	0.2
TOTAL	406,100	100.0	417,181	100.0	471,431	100.0

(a) These 14 centres sell approximately 40 per cent of all N.S.W. pigs.

(b) Percentages are calculated using the total of these centres each year.

Source: Division of Animal Industry, N.S.W. Department of Agriculture.

TABLE 4

The Distribution of N.S.W. Pig Auction Centres, By Throughput, 1967-70

Sales of Pigs ('000/p.a.)	No. of Centres (No.)	Distribution by No. Centres (%)	Distribution by Sales (%)
Under 5	9	36.0	3.7
5 - 10	7	28.0	11.6
10 - 20	2	8.0	6.9
20 - 30	2	8.0	10.1
30 - 50	3	12.0	28.5
50 - 100	1	4.0	10.6
Over 100	1	4.0	28.6
TOTAL	25	100.0	100.0

Source: [12, pp. 11-12].

THE LAND, in its weekly feature "The National Market Guide", quotes prices for pigs according to the broad categories of Light Pork, Heavy Pork, Light Bacon, Heavy Bacon and Backfatters. These classifications give little indication to the producer of the type of pig the consumer is demanding and little scope for the consumer to indicate to the producer his preferences. Minimal information is provided on country selling centres. Any descriptive comments on selected selling centres are likely to be biased due to the fact that descriptions are being provided by vested interests, and again these suffer from the lack of uniform grading or classification procedures.

Purchasers of pigs in N.S.W. can be identified into four groupings. These are wholesalers, (purchasing about 47 per cent), processors (30 per cent), retailers (10 per cent) and others (4 per cent), of the pigs sold in N.S.W. in 1969-70 [12, p. 9]. Wholesalers, processors and retailers, along with exporters and consumers, will be considered separately in following sections.

3.4 ABATTOIRS

Once purchased for consumption, pigs are killed at a slaughtering establishment and converted into products acceptable to wholesalers and other processors.

In N.S.W. there are 37 major abattoirs, of which 33 kill pigs. Besides these abattoirs there are about 190 slaughterhouses licensed to supply meat to areas in the State other than the Sydney Metropolitan Area or abattoir areas administered by local government bodies. These slaughtering houses consist of establishments owned by retail butchers or by many of the smaller processors and wholesalers.

Table 12 (Appendix 3) lists N.S.W. abattoirs slaughtering pigs by ownership and license type. Of the 33 abattoirs, 29 are licensed to kill for the Sydney region, 25 are licensed for export and 23 satisfy the strict U.S.D.A. license for export to the U.S. and Canada [34, p. 25]. The majority of these abattoirs are located in production regions instead of near major consumption regions with only two being located in the Sydney Metropolitan Area. Heaviest concentration is in the inland wheat belt and the north coast dairying region.

Of the 33 major abattoirs killing pigs, 15 are privately owned and are usually tied in a vertically integrated fashion into a wholesale-retail network. These integrated units only killed about 14 per cent of all pigs killed in N.S.W. in 1969-70 in their own works, while 75 per cent of all pigs were killed in service abattoirs. Fourteen of these private abattoirs are in country areas and supply mainly local butchers, but they often send carcases to Sydney and sometimes offer service facilities for other local wholesalers and retailers. The other private abattoir is on the outskirts of Sydney.

The 13 City, Municipal and County Council abattoirs listed are service abattoirs, slaughtering stock mainly for local requirements, but also supplying meat for the Sydney market. Newcastle is the only one of these which is actually engaged in trading although several others have the power to do so.

The four co-operative abattoirs are located on the North Coast. They provide service facilities for their shareholder producers, as well as other operators. Some of these abattoirs trade carcases on their own account.

The remaining abattoir, the Homebush complex, is owned by the Metropolitan Meat Industry Board, and is one of the largest in Australia. As well as providing slaughtering facilities it also has facilities for auction selling (mentioned above), dressing, chilling, cold storage, carcase display and sale, and by-product utilization. It is a wholly service abattoir and has no trading powers. In 1971-72, the throughput of pigs for slaughter was 178,900 while the throughput of pork carcases in the meat halls was 432,000. This suggests that the high costs of slaughtering at Homebush, plus the cost of transporting livestock (rather than carcases) to Homebush has made it more of an assembly point for wholesalers than a slaughtering establishment.

Table 5 gives an indication of the size and distribution of pig slaughtering establishments. The table is based on the B.A.E. sample of slaughtering establishments which accounted for 72 per cent of total throughput of pigs in N.S.W. for 1969-70 [12, p. 4].

TABLE 5

The Distribution of N.S.W. Pig Slaughtering Establishments, By Throughput, 1967-70

Pigs Slaughtered ('000 p.a.)	Distribution of Establishments		
	By Size(a)		By Slaughterings
	(No.)	(%)	(%)
Under 5	2	10.5	0.8
5 - 10	4	21.2	3.3
10 - 20	2	10.5	3.7
20 - 30	3	15.8	9.6
30 - 40	2	10.5	9.4
40 - 50	2	10.5	11.6
50 - 100	2	10.5	16.1
Over 100	2	10.5	45.5
TOTAL	19	100.0	100.0

(a) Excluding retail butcher establishments.

Source: [12, p. 17].

It can be seen that for 1969-70, the two establishments killing more than 100,000 pigs annually slaughtered almost half the pigs killed by the works surveyed, while 80 per cent of all slaughtering establishments surveyed (those killing less than 50,000 pigs annually) killed only about one-third of the pigs killed in surveyed works.

Large amounts of capital are involved in establishing abattoirs thus forming a barrier to the entry of new operators and the exit of established operators. Most service abattoirs seem quite efficient even though subsidied and they contribute to a highly competitive slaughtering sector. The small percentage of N.S.W. pigs killed at Homebush provides some evidence that it is more profitable to have smaller-scaled works than large-scale works.

In general, pigs only account for a small proportion of an abattoir's total throughput. For example, in only 11 per cent of the slaughtering establishments surveyed by the B.A.E. did pigs represent more than 10 per cent of total kill [12, p. 18].

The proportion of pigs killed outside the 33 major works is small. In the B.A.E. survey it was estimated that retailers, bacon factories and other processors killed only 11 per cent of all pigs slaughtered in N.S.W. in their own establishments [12, p. 16]. Virtually no pigs are killed on farms.

3.5 WHOLESALERS

Wholesalers typically provide the link between the livestock producer, and the retailer. Wholesalers assemble and allocate supplies of carcases (mainly porkers) between States and regions, and between different end-users such as processors and retailers [12, p. 26]. In 1969-70 wholesalers bought almost half the pigs traded in N.S.W. (see Figure 1). Wholesalers face the risk of trading losses due to changes in price resulting from storage or processing lags, or to the existence of price levelling during periods of rising auction prices. Further, wholesalers must settle their purchase accounts within seven days although payments due to them may not be so prompt. Attempts by wholesalers to allocate supplies over time also brings problems of the optimal level of inventory for different carcase types [1, p. 53]. The three major functions of wholesalers thus become risk-bearing, distribution and inventory carrying.

Wholesalers trading in pigs and pigmeat consist of two major types:

(a) the partially vertically integrated corporate wholesalers who own their own abattoirs, or who operate at Homebush or other service abattoirs, and who own or have a controlling interest in a number of retail outlets. Only about 19 per cent of the carcases traded by wholesalers were killed in their own establishments in 1969-70; 66 per cent were killed in service abattoirs and 15 per cent bought as meat. At the same time only 18 per cent of the output of wholesalers was sold through their own shops [12, p. 25].

(b) the non-integrated wholesalers who are company partnerships or persons that operate predominately at Homebush. These wholesalers control the bulk of carcases traded in N.S.W.

In country areas the retail butcher, in most cases, acts as his own wholesaler, or in some cases wholesalers perform the usual wholesaling functions. Homebush markets however, are characterised by the full array of different types of wholesalers. Of the 46 members of the Wholesalers Meat Traders' Association (all Homebush-based operators), five are sole traders, 39 are proprietary trading companies and two are public companies [34, p. 28].

Entry and exit to and from the wholesaling business is relatively free from barriers. Government licenses to control health standards are really the only restrictions to entry. Some information on concentration levels in the wholesaling sector is given in Table 6. This data relates to Australia as a whole for 1968-69, and indicates that the wholesaling of meat is a moderately concentrated activity with the top few enterprise groups controlling for example, 20 per cent by value of turnover and 12 per cent of value added.

TABLE 6

Selected Statistics and Concentration Ratios, Meat Wholesalers, Australia, 1968-69

Item		Largest Four Enterprise Groups	Industry Total
Enterprise Groups	No.	4	389
	Ratio	.01	
Establishments	No.	16	451
	Ratio	.04	
Turnover	$M	101.0	494.8
	Ratio	.20	
Value Added	$M	5.8	47.5
	Ratio	.12	
Employment at June 1969	No.	406	4950
	Ratio	.08	
Wages and Salaries	$M	1.3	15.1
	Ratio	.09	
Fixed Capital Expenditure	$M	.2	1.2
	Ratio	.15	

Source: [4].

3.6 PROCESSORS

Bacon factories are the principal type of processing firm, processing some 52 per cent of all the pigmeat produced in N.S.W. in 1969-70. Other processing firms include smallgoods manufacturers not producing bacon and ham. Processors handle mostly baconer-type pigs.

In 1969-70, about one-quarter of the pigmeat processed by bacon factories was bought from wholesalers as carcases; just over half was killed at the bacon factories and the remainder was killed at service abattoirs on behalf of bacon factories [12, p. 22].[5]

For the survey period bacon factories produced half of the pigmeat output of N.S.W. - 84 per cent of this was sold through retail outlets with the other 16 per cent sold to wholesalers for re-distribution. In that year none of the sample factories sold pigmeat products through their own shops, although other factories do. Approximately 62 per cent of the output was sold as bacon and ham, including canned ham, 24 per cent as smallgoods and 14 per cent as pork.

There are some twelve major firms processing pigmeats in N.S.W., most of which are large public companies. Some are operating in other states and selling products under various brand names. As early as 1964, Herr commented - "Today, virtually all the big international names in food processing have either expanded or established plants in Australia" [24, p. 412].

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[5] These were the estimates drawn from the B.A.E. survey in which five bacon factories were sampled. Although the sample coverage was small in terms of numbers, these five factories accounted for around 60 per cent of the estimated N.S.W. production of bacon products for 1969-70.

The processing sector has a high capital:labour ratio and is apparently more profitable than slaughtering given that private companies tend to invest in processing plants rather than compete with government-subsidied service abattoirs. Economies of size are important and contracted suppliers assume a much greater role in the operations of the processors. The recent establishment of a new pigmeat processing plant at Blayney attests to the continuing profitability of this sector.

The entry of potential operators into the processing sector is, however, limited by the economics of establishing a processing plant, the much greater influence of brand names and other forms of product differentiation, and government regulations on health, building and waste disposal.

Concentration ratios for bacon, ham and smallgoods manufacturing firms on an Australia-wide basis for the periods 1968-69 and 1972-73 are given in Table 7. This information indicates that the pigmeat processing sector is quite highly concentrated with the top few enterprise groups controlling, for example, in 1968-69 41 per cent by value of turnover, 46 per cent of value added, 44 per cent of employment and 42 per cent of wages and salaries. The comparative 1972-73 data indicates that this sector is deconcentrating - by value added, the degree of concentration decreased by almost 20 per cent between 1968-69 and 1972-73.

TABLE 7

Selected Statistics and Concentration Ratios: Bacon, Ham and Smallgoods Manufacturing, Australia, 1968-69 And 1972-73

Item		Largest Four Enterprise Groups		Industry Total	
		1968-69	1972-73	1968-69	1972-73
Enterprise Groups	No.	4	4	147	148
	Ratio	.03	.03		
Establishments	No.	21	18	176	194
	Ratio	.12	.10		
Turnover	$M	70.7	91.0	171.9	239.0
	Ratio	.41	.38		
Value Added	$M	22.0	24.9	47.6	65.7
	Ratio	.46	.38		
Employment at end June	No.	3504	3570	7878	8831
	Ratio	.44	.40		
Wages and Salaries	$M	9.2	14.4	22.0	37.2
	Ratio	.42	.39		
Fixed Capital Expenditure	$M	1.3	1.1	4.1	4.5
	Ratio	.32	.24		

Source: [4].

3.7 RETAILERS

There are several types of retail outlets for pigmeat [34, p. 40;1] namely:

(a) a single butcher's shop owned by a sole proprietor, a partnership or an exempt proprietary company.

(b) a group of shops owned by a sole proprietor, a partnership or an exempt proprietary company.

(c) a chain of butcher's shops owned by a listed or unlisted public company, or an exempt proprietary company.

(d) supermarkets or chain stores owned by a public company.

(e) single grocery shops and delicatessen stores.

There is considerable confusion about the number of retail outlets selling fresh meat in N.S.W. The Australian Bureau of Statistics quotes 4924 [2], the "Brewer Report" 3538 [34] and the Australian Agricultural Economics Society 3188 [1]. Some of this discrepancy may be due to miscounting of multiple-ownership outlets, to changes over time or to the approximation used for grocery stores, delicatessens etc. which also sell meat. The difference still remains large however, and may well reflect on survey methods and collection procedures. The A.A.E.S. report is the most recent, so their data is used here.

At June, 1972, there were estimated to be over 3450 retail establishments in N.S.W. selling meat. Nearly all of these sell some pigmeat or pigmeat products. About 2,265 are independent establishments, 738 are branches of 369 multiple-unit butcheries, 185 are branches of nine supermarkets with meat cabinets and there are an unknown number (approximately 200) of grocery stores and delicatessens. This breakdown can be seen in Figure 2. Unfortunately, sales distribution figures are not available in this disaggregated form, so we have no information on the relative importance of these outlets in terms of throughput.

Supermarkets, delicatessens and grocery stores usually provide convenience, packaged meats and are the usual outlet for smallgoods products and some bacon and ham. Retail butchers on the other hand, generally provide a more specialised, personal service, selling most of the pork carcases. Most of the bacon and ham is sold by four or five major supermarket chains.

Some 55 per cent of retail meat establishments are located in the Sydney Metropolitan Area, 31 per cent in country N.S.W. and 14 per cent split between Newcastle and Wollongong-Port Kembla urban areas.

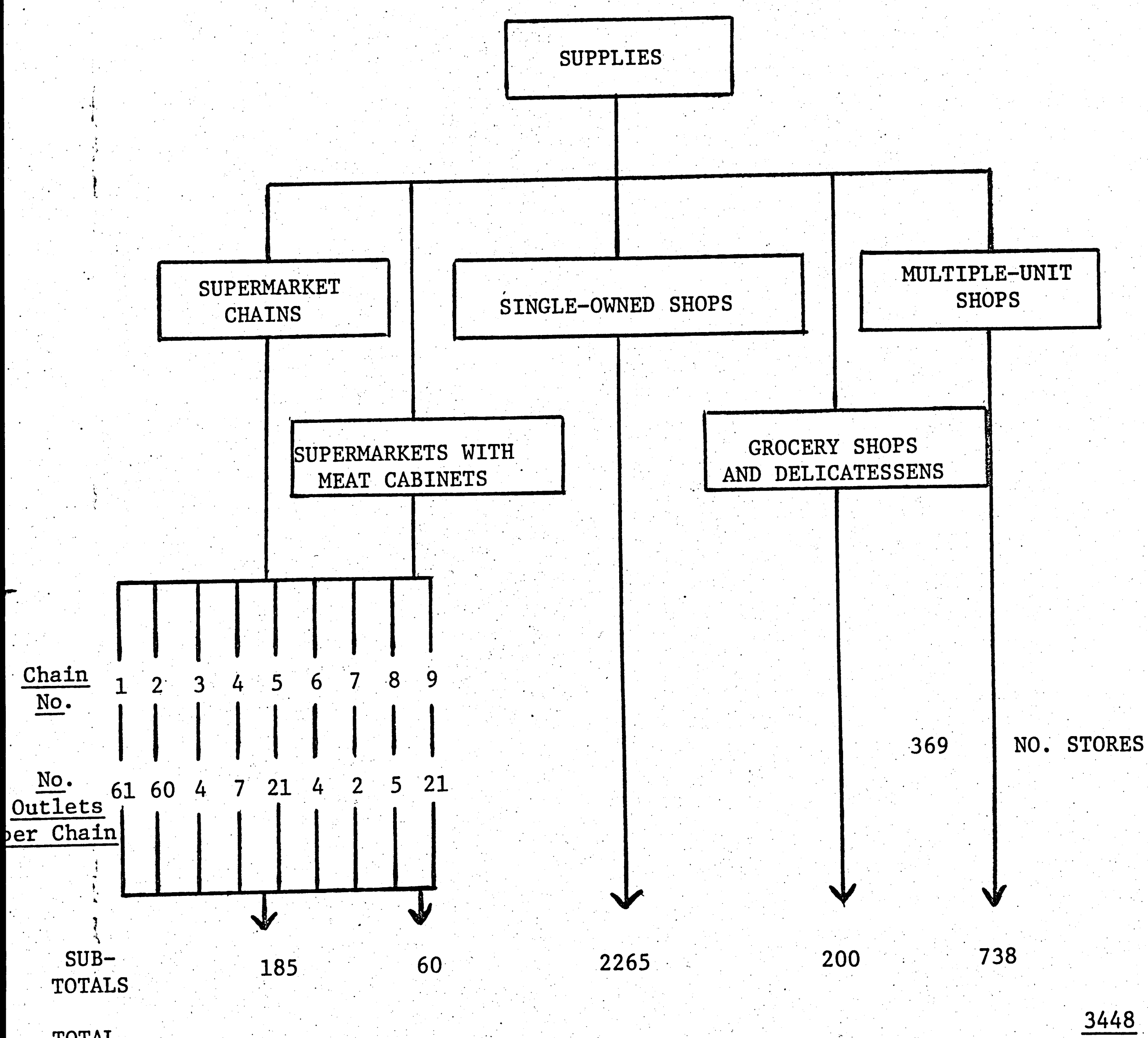
Overall the number of butcher shops appears to be static while supermarket and chain store meat retailing is expanding, largely due to advances made in meat packaging technology and the cost advantages of scale economies. There is a relatively rapid turnover of ownership of independent butchers' shops, indicating minimal barriers to entry in this part of meat retailing.

While some retail butchers kill their own pigs and some wholesalers own or operate their own retail outlets, vertical integration is relatively undeveloped in the retail sector of the N.S.W. pig market. For example, in the B.A.E. survey it was estimated that retailers killed about 10 per cent of the pigs in N.S.W., but only two per cent in their own works.

Some further information on butchers' shops on an Australia-wide basis is given in Tables 8 and 9. Table 8 indicates that concentration in this sector is extremely low and that there are a very large number of firms and outlets. Table 9 presents some more up-to-date data on the "average" butchery in Australia.

FIGURE 2

Estimated Number of Retail Establishments
Selling Meat in N.S.W., 1972



Source: [1, p. 17].

TABLE 8

Selected Statistics and Concentration Ratios: Butcher Shops, Australia - 1968-69

Item		Largest Four Enterprise Groups	Industry Total
Enterprise Groups	No.	4	7686
	Ratio	-	
Establishments	No.	241	9447
	Ratio	.03	
Turnover	$M	33.7	598.8
	Ratio	.06	
Value Added	$M	8.1	145.4
	Ratio	.06	
Employment at end June '69	No.	1411	34434
	Ratio	.04	
Wages and Salaries	$M	4.8	63.7
	Ratio	.08	
Fixed Capital Expenditure	$M	0.3	7.7
	Ratio	.04	

Source: [4].

TABLE 9

Summary of Operations; Retail Butcher Establishments, Australia - 1973-74

(a) Total and Average Summary Statistics

	No. Estab. 30/6/74	No. Employed 30/6/74	Wages & Sal. $M	Retail Sales $M	Whole. Sales $M	Total Sales $M
Total	8460	29515	93.8	830.2	5.3	836.6
Average		3.5	.011	.10	.0006	.10

(b) No. Establishments, Sales and Turnover, by Sales and Turnover ($'000)

	< 10	10-20	20-50	50-100	100-200	200-500	> 500	Total
By Retail Sales								
No. Estab.	51	168	1682	2936	2192	650	45	7724
Sales $M	.3	2.6	62.0	211.6	298.6	181.6	30.9	787.7
By Turnover								
No. Estab.	52	168	1671	2931	2195	657	50	7724
Turnover $M	.8	2.6	61.6	211.2	299.2	183.4	34.2	793.0

Source: [2].

3.8 EXPORTERS

Exports are relatively insignificant as far as the Australia pig industry is concerned. Favourable domestic:export price ratios, high domestic production costs, an exchange rate favourable to imports, heavy competition from traditional exporting nations (particularly Canada, Poland, Holland and Scandanavia) and the poor quality of the local product have inhibited export growth. In the record year of 1972-73, exports of pigmeat from Australia only accounted for nine per cent of production while exports from N.S.W. in 1970-71 were only one per cent of N.S.W. output [7, pp. 40-44]. For this reason pigmeat exporters will not be discussed in detail. The structure of a pigmeat export industry exists though, because pigmeat exporters deal in other commodities and particularly other meats, as well.

The "Brewer Report" [34, p. 46] notes that there are many different types of meat exporters in N.S.W. including listed public companies, unlisted public companies and exempt proprietary companies. Some are vertically integrated concerns which own livestock holdings and operate abattoirs and wholesaling businesses. For example, of the 97 listed meat exporters with N.S.W. addresses [7] (1972 data), some 14 own and operate slaughtering facilities, and 15 are members of the N.S.W. Wholesale Meat Traders Association.

3.9 CONSUMERS

Consumers constitute the final link in the marketing chain. Many of the elements of market structure cannot, however, be applied to consumers directly, so we analyse this sector indirectly by describing those characteristics that affect the demand for pigmeats. To date very little work has been done on consumer demand for pigmeats in Australia, but one notable exception is the Granger, Baker and Berge survey [22]. Although it is based on Brisbane data, it should give some indication of the factors that are most likely to affect the demand for pigmeat in N.S.W.

The B.A.E. has also conducted two surveys of household meat consumption in Sydney [9] and Melbourne [15]. These studies were designed to provide details of meat consumption in these cities and to examine the importance of factors influencing consumption of different types of meats.

The economic behavioural unit involved in the purchasing of foodstuffs is the household. The characteristics affecting the quantity of various food consumed by households can be divided into two categories [1, p. 4]. These characteristics are:

A. Household Characteristics

1. Level and distribution of household income,
2. Size of household,
3. Composition of household,
4. Age of housekeeper,
5. Location of household,
6. Occupation of household,
7. Level of education of household members,
8. Country of birth of household,
9. Religion or social group to which the household belongs.

B. Market Conditions

1. Number of households and their distribution by relevant characteristics,
2. Price of the particular food,
3. Availability of supplies,
4. Price of competing foods,

5. General price level,
6. Level of marketing technology,
7. Rate of emergence of new products,
8. Nature and extent of advertising,
9. Preference patterns of consumers for various food products.

Meat forms a large part of household spending on food. In the B.A.E. Sydney survey it was estimated that 20 per cent of total expenditure on food was for meat: 71 per cent of this amount was for the butchers' meats - beef, veal, mutton, lamb and pork. Pork, however, only forms a small proportion of the Australian diet and consumption of pork per capita is very low compared to a number of other countries.

Pigmeat consumption in N.S.W. has been fairly steady in terms of both total consumption and per capita consumption, and this can be seen in Appendix II. Annual total pigmeat consumption at around eight to nine kg per head is also extremely low compared to overseas countries, leaving room for substantial further increases.

The income elasticity of food for Sydney was estimated from the B.A.E. survey as +0.22. The elasticity for meat generally was estimated to be slightly higher at +0.25, while the income elasticity for beef and veal was estimated at +0.27 and for mutton was estimated to be as low as +0.15.

The income elasticity of pork, however, has been estimated to be much higher than any of these figures - a figure of +1.4 or higher has been suggested [1, p. 14]. It would be expected then that as real incomes rise, pork consumption would form a greater proportion of meat consumption. This is in fact suggested by the findings of the Brisbane survey as shown by Table 10.

TABLE 10

Quantity Bought and Expenditure on Pork, Ham and Bacon

(Per Household per Week, according to Gross Income per Household, as a Percentage of Total Meat Bought)

Item	\$ 20	\$ 20-40	\$ 40-60	\$ 60-80	\$ 80-100	\$ 100-120	\$ 120-140	\$ 140
Per cent Value	2	3	4	4	4	6	7	7
Per cent Amount	1	1	2	2	2	3	3	3

Source: [22, pp. 32-33].

The cross elasticity of demand for pork with other meats is thought to be +1.1 [1, p. 14]. A 1 per cent fall in the price of other meats would thus be expected to cause a 1.1 per cent decrease in the demand for pork, and vice versa. Butchers claimed in the Brisbane study however, that the specialling of pork caused an increase in pork sales without affecting sales of other meats. The Brisbane study found that bacon was the most popular of the three pigmeat products, with ham the next followed by fresh pork.

Butchers claimed that one main reason for the low usage of pork was the lack of promotion. The promotion of pork is virtually confined to infrequent price specialling. The two other significant constraints are the high price of pork compared to other meats and the overall poor quality of the product. Further, consumers seem to have the preconceived notion that pork is "too expensive", irrespective of the actual price of pork or its relative price to other meats.

While little product promotion of ham or bacon exists, individual processors extensively promote their own brand images. Bacon consumption is tied closely with its use as a breakfast food and thus promotion of alternate uses of bacon may increase consumption. Ham is used mainly for festive occasions, as a salad constituent in summer, and in situations that require minimal preparation of food such as in households that are large or consist of single men or working couples.

Findings of the Brisbane study indicate that increased promotion of pork, ham and bacon would be likely to affect most uses. It would be unlikely that complete non-users would be affected to any extent since the majority of non-users of pigmeats were so because of health or religious reasons, but complete non-users are only a small percentage of consumers (3 per cent of respondents for ham and 7 per cent of respondents for bacon).

In the B.A.E. surveys, information on the amount and value of pigmeat purchased according to certain household characteristics was obtained. Differences in demand for rural and urban households could not be examined because only households in the metropolitan area were surveyed. The effect of level of education on demand was not studied because of the close relationship between education and characteristics such as occupation.

Occupation of the head of the household did seem to have a bearing on the amount of pigmeat consumed. Households where the head was employed in professional, technical, administrative and managerial positions consumed the lowest amounts of pork, but the most bacon and ham. Households where the head was employed as a production process worker or other type of manual worker consumed the greatest amount of pork and relatively large amounts of bacon and ham. Those households where the head was employed in a clerical or semi-clerical position ate low levels of ham and bacon.

Pork consumption increased with size of household up to three members and then decreased.

Pork consumption was greatest in households where the housekeeper was between 15 and 24 or between 50 and 59, and least where the age of the housekeeper was between 35 and 44. The value of ham consumed was variable but the amount increased with the age of the housekeeper until 70 years, with the exception of the age bracket 25-34 years, where there was a slight drop.

Households where the head was born in the United Kingdom or Ireland ate the most pork, whereas those households where the head was born in an Eastern European country spent the least on pork. Those households where the head was born in Northern European countries consumed the most ham and bacon.

It appears from the Sydney survey that the longer the head of the household has resided in Australia then the lower the amount of pork consumed by the household. No such trend is evident with bacon and ham.

CHAPTER 4

CONCLUSIONS

This Bulletin has aimed to shed some light on the framework in which pigs and pigmeats are marketed in N.S.W. As well as possessing intrinsic interest, it should also provide information for the formulating of hypotheses that are useful in understanding and forecasting the probable conduct of firms and the performance of the industry.

We offer the following general conclusions:

(1) As with studies that have preceded us [1, 34], we found two elements of the structure of pigmeat marketing that could be substantially improved in a pricing efficiency sense. These were, (a) the procedures available for product description, and (b) the market information service. Proposed marketing reforms which concentrate on uniform and objective product descriptions and on renovating the current market information systems would therefore appear to be well founded.

(2) State and Local Government involvement in the pig market is limited to control in health, building and environmental aspects and the ownership and control of some selling centres and some service abattoirs. The Australian Government has an impact on research and promotion and through the Trade Practices Act, but there is no formal intervention in price formation or supply management.

(3) The baconer marketing system (large producer-processor-retailer-consumer) is probably better organised and more operationally efficient than the porker system (small producers-auction centre-abattoirs-wholesaler-retailer-consumer), due to the increasing number of vertical co-ordination arrangements occurring in baconer processing. In conjunction with greater product differentiation, this trend would usually result in a narrowing of the price discovery process and a decrease in pricing efficiency. In the present N.S.W. situation, however, baconer marketing would seem to be at least as efficient at price discovery as porker marketing due to the greater incidence of weight and grade consignment selling, and to the inadequate auction selling system where porkers are mostly sold.

(4) The porker marketing systems would therefore appear to have suffered most from the lack of a uniform product description scheme and an inadequate market information service, and in total seems to be quite inefficient.

(5) Certain sectors, such as slaughtering, wholesaling and retailing, do give the impression of operating efficiently given the constraints, but even so there would seem to be a great potential for the introduction of cost-saving technology, in retailing especially.

(6) The processing sector appears to be one of the more profitable sectors given that large private companies tend to invest in processing plants rather than compete with government-subsidised service abattoirs. This would reflect, we suspect, the high income elasticity of demand for market services and the consequent greater consumption of processed products.

CHAPTER 5

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APPENDIX 1

LEGISLATION IN THE PIG MARKET

The conduct of business in the N.S.W. pig market is governed by a number of Acts of Parliament that are peculiar to the meat and livestock industries, and by sections of other legislation that regulate many aspects of business.

Producers

All pig producers must register with the Pastures Protection Board under the Pastures Protection Act. Producers with less than three pigs have to be licensed by the Department of Agriculture, producers with greater than three pigs must obtain a registered brand from the Department of Agriculture. To erect or modify housings, approval has to be obtained from the Local Council and the State Pollution and Environment Commission. A travelling stock permit from the Pastures Protection Board is needed if pigs are moved from a saleyard other than for slaughter. Finally, notifiable diseases must be communicated to the N.S.W. State Veterinary Service. Another Act having implications for pig production and marketing is the Marketing of Primary Products Act, but at present this Act has no direct relevance to the pig market.

Auction Centres

Legislation regulating the activities of selling agents is contained in the Auctioneers, Stock and Station Agents and Real Estate Agents Act. It covers the activities of these persons regarding the sale of livestock for producers.

Abattoirs, Processors, Wholesalers and Retailers

The Pure Foods Act related to cleanliness of premises and meat, the use of additives, flavourings and preservatives and the labelling of prepacked meat. The Local Government Act refers to the sale and preparation of meat and smallgoods, and the licensing of such outlets by appropriate local authorities. The Meat Industry Authority Act provides for a system of licensing places at which animals are slaughtered for human consumption and the regulation of meat entering and sold in certain areas. The Meat Industry Act provides for the constitution of the Metropolitan Meat Industry Board and the control and influence of the Homebush saleyards, abattoir and meat halls. Other Acts, such as the Factories, Shops and Industries Act, the N.S.W. State Apprentices Act, the Federal Meat Industry Award and the Retail Butchers Award of N.S.W., govern the general working conditions of employees and apprentices and their wages and allowances.

Consumers

As mentioned in the text there are two recently enacted pieces of legislation under which consumers have redress. These are the Trade Practices Act and the Prices Justification Tribunal Act. Both aim to protect consumers from unfair market conduct including unfair pricing practices.

Finally, it is not known at this stage what legislation may result from the recommendations of the "Brewer Report" [34]. This Committee recommended the establishment of a new Meat Industry Authority with the power to regulate and control all aspects of the meat industry (in N.S.W.). Obviously these far-reaching powers would have, if implemented, substantial effects on all sectors of the pig market in the State.

APPENDIX 2

TABLE 11

Some Statistics on the N.S.W. Pig Industry 1959-60 To 1974-75

Year	No. of Holdings With Pigs	No. of Sows	No. of Pigs	No. of Pigs S'tered	Total Pigmeat Produced	Bacon & Ham Produced (a)		Apparent Consumption of Pigmeat (Australia)				Average Baconer Prices Homebush S'yards	Average Retail Price of Pork Chops
						Bone-in	Bone-out	Total Pigmeat	Bacon & Ham	Total Pigmeat	Bacon & Ham		
	No.	'000 head	'000 head	'000 head	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	kg per head	kg per head	Cents per kg	$ per kg
1959/60	13,997	60	399	583.5	26.7	11.2		48.1	32.4	4.7	3.2	56.8	N.A.
1960/61	14,904	69	455	654.7	29.5	11.5		54.1	32.3	5.2	3.1	51.7	N.A.
1961/62	14,548	68	471	755.4	33.2	11.3		65.7	33.7	6.2	3.1	39.4	N.A.
1962/63	12,769	57	392	688.2	30.8	13.0		59.2	36.7	5.5	3.1	39.4	N.A.
1963/64	12,077	60	391	636.4	29.2	13.8		57.8	36.8	5.2	3.4	53.7	1.17
1964/65	11,887	68	449	674.0	32.0	14.2		60.9	38.7	5.4	3.3	55.9	1.23
1965/66	12,055	70	480	774.3	35.9	15.3		69.8	39.6	6.0	3.5	58.7	1.30
1966/67	12,547	77	514	849.4	38.9	15.7		71.6	42.9	6.1	3.5	56.8	1.34
1967/68	12,876	99	645	908.5	41.8	15.4		79.5	41.9	6.7	3.7	60.1	1.38
1968/69	12,271	98	690	1008.1	47.0	15.0		89.5	43.2	7.4	3.5	62.9	1.42
1969/70	12,125	104	708	1064.5	49.8	16.2		94.5	46.7	7.6	3.5	54.3	1.32
1970/71	11,684	118	796	1092.5	50.2	10.9	5.0	87.9	59.0	7.0	3.8	54.0	1.31
1971/72	12,817	161	1059	1093.7	49.7	10.5	5.9	88.8	63.9	6.9	4.6	58.4	1.43
1972/73	11,753	142	1065	1323.7	59.6	11.6	6.6	102.8	71.8	7.9	5.0	58.1	1.51
1973/74	9,731	113	835	1166.2	54.1	9.9	7.8	90.3 (P)	72.9 (P)	6.8 (P)	5.5	54.8	1.46
1974/75	8,599	113	727	978.8	46.1	8.6	7.4	70.1	67.3	5.2	5.5 (P)	86.3	1.93
											5.0	94.1	1.05

Sources: Australian Bureau of Statistics [3,5], Australian Meat Board [7], N.S.W. Department of Agriculture [33].

(a) Prior to July, 1970 the figures represent cured bacon and ham (including canned) on a "bone-in" weight basis. From July, 1970 production of bacon and ham "on the bone" is shown in terms of "bone-in" weight, whilst production of boneless bacon and ham is shown in terms of "bone-out" weight. Production of canned bacon and ham, which is resorted in terms of "stated netweight of packs" is included in the "bone-out" category.

(P) Preliminary.

APPENDIX 3

TABLE 12

Major Abattoirs Slaughtering Pigs in N.S.W, 1972

Ownership	U.S.D.A. Licensed	Export Licensed	Sydney Metropolitan Area Licensed	Other
Private	A.C.F., Aberdeen Berrima, Moss Vale Cowra, Cowra Conkey, Cootamundra Gosford, Gosford Riverstone, Tenterfield Rogers, Orange Walkers, Byron Bay	Riverstone, Riverstone	Bush & Sons, Yanco Illawarra Meat, Bellambi Nicholls Pty. Ltd., Woy Woy Wyong Abattoirs Tuggerah	Dorahy Bros., Wollongong Griffith Abattoir, Griffith
City or Municipal Council	Dubbo City Goulburn City Gunnedah Municipal Maitland City Newcastle City Wagga City			Albury City Tamworth City
County Council	Blayney, Blayney Cudgegong, Mudgee Gwydir, Moree Lachlan, Forbes New England, Guyra			
Co-operatives	Clarence River, Grafton Manning, Wingham Mid-Coast, Macksville Northern, Casino			
M.M.I.B.		Homebush State		

Source: [30, 34].

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