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A REVIEW OF THE SCOTTISH PIG SECTOR

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W M Caldwell

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SUMMARY

1. In recent years there has been a marked drop in the Scottish pig breeding herd and in the number of pigs slaughtered.
2. Pig farmers' margins in the period 1972-78 have fluctuated around a deteriorating trend.
3. Pigs have formed a smaller part of Total Scottish Agricultural Output falling from 6.8 per cent in 1974 to 5.6 per cent in 1978.
4. The number of agricultural holdings with breeding pigs has been in constant decline, falling by over 63 per cent between 1970 and 1977.
5. In the same period the average size of breeding herd and feeding herd increased by 121 per cent and 123 per cent respectively.
6. More than 50 per cent of the Scottish pig herd is located in the North East.
7. Bacon factories handled 70 per cent of fat pigs in 1971 dropping to 63 per cent in 1977.
8. Local slaughter houses are a significant outlet for culled breeding stock as well as handling a good third of the fat clean pigs.
9. Concentration of factory slaughterings in a few regions and also at a few centres is a key feature of the pig sector.
10. The number of fat pigs transferred to England (and Wales) fell by 20 per cent from 1971/72 to 1977/78.
11. Transport costs are significant in the collection of pigs and distribution/marketing of finished products. Scotland's remoteness from main southern markets and its inadequate linkage to the UK trunk network aggravates the transport cost issue.
12. The home pigmeat market in Scotland is relatively small and processors have sought outlets through the national grocery multiples.
13. The trading power of the multiples has grown considerably and will be a factor of increasing significance in the future.
14. Farmers prefer a local outlet but, compared with other outlets, it must pay a competitive price per pig, net of transport costs, to be attractive in the long run.
15. The Scottish fresh pork market represents about 4 per cent of the UK total despite the fact that Scotland has 10 per cent of the UK's population. Bacon and ham is 8 per cent of the UK figure and manufactured products about 10 per cent.
16. In the Scottish bacon market there has been an overall decline in market share held by key home brands.
17. Although there is a considerable pie and sausage market only a small proportion is pork based and processors have used convenience foods as the growth sector.
18. It is likely that some processors will not survive as concentration in retailing continues and supply contracts become more difficult to hold.
19. The Scottish retail market is heavily concentrated in the industrial Central Lowlands imposing some disadvantages on processors operating on the periphery.
20. The Scottish pig industry's response to its total market has been one based on specialisation in bacon and concentration of production and processing in large units.
21. Market changes will produce new structures in both production and processing.

A REVIEW OF THE SCOTTISH PIG SECTOR

INTRODUCTION

In recent years the financial performance of all sections of the Scottish pig industry has been disappointing. Reasons for the low profitability on pig farms include shifts in the relationship between feed and end product prices which, in turn, have been affected by changes in green currency values and levels of Monetary Compensatory Amounts.

Fewer pigs have been produced, thus reducing the throughput, and hence the profits, of the processing sector. The stresses within the industry are now so great that major structural changes are becoming necessary. This report therefore reviews the present and recent structure of the industry in an attempt to identify all the causes of the changes and thereby anticipate the future developments that are likely to take place. Certainly over the last few years there has been a marked contraction in the industry's output accompanied by a concentration of production and processing.

1.

BACKGROUND

The Scottish breeding herd and pigs slaughtered have declined in relation to the UK total, as shown in Table 1. There has also been a decline in the proportion of pigmeat manufactured as bacon and ham, which has contributed to the fall in the value of Scottish pig output. The result has been that pigs form a smaller part of total gross output from Scottish agriculture (5.6 per cent 1978, 6.8 per cent 1974, Table 2).

Table 1 The contraction of the Scottish pig industry 1972 to 1978

	Unit	1972	1973	1974	1975	1976	1977	1978
Total Scottish sows and gilts-in-pig	('000 head)	76	75	68	56	61	55	55
Total UK sows and gilts-in-pig	('000 head)	963	1,018	890	810	887	821	843
Scottish breeding herd as per cent of UK		7.9	7.4	7.6	6.9	6.9	6.7	6.5
Scottish slaughterings	('000 head)	767	805	777	657	660	654	—
UK slaughterings	('000 head)	15,406	15,091	15,274	12,768	13,238	14,195	13,768
Scottish slaughterings as per cent of UK's		5.0	5.3	5.1	5.1	5.0	4.6	—
Grampian Region slaughterings as per cent of Scottish		50.9	50.6	48.6	47.8	47.3	42.7	—
Scottish bacon consumption	('000 t)	—	26.6	23.0	21.7	22.5	24.0	24.0
Scottish manufacture of bacon and ham	('000 t)	20.8	19.3	18.2	17.1	16.9	—	—
Scottish pig output at constant 1972 prices	(£m)	19.4	19.0	18.7	16.7	16.1	17.5	—

Source: Agricultural Statistics—Scotland (population data at June).

Table 2 Value of Scottish pig output 1974 to 1978

	Pig output	Total gross output	Pig output as per cent of total gross output
	£m		
1974*	30.7	450.8	6.8
1975	33.6	568.6	5.9
1976	40.3	719.2	5.6
1977 (Prov.)	41.2	753.2	5.5
1978 (Est.)	43.6	773.3	5.6

*Prior to 1974 output statistics available only as June/May years.

Source: Scottish Agricultural Economics, Volumes 28 (1978) and 29 (1979).

Pig farmers' margins in the period 1972-78 as shown in Table 3*, have fluctuated, but tended downwards. The most important factor has been a marked increase in the real cost of feed.

Table 3 Real costs and returns from pig production* 1972 to 1978

	Unit	(Constant 1972 prices)						
		1972	1973	1974	1975	1976	1977	1978
All feeds	£/tonne	35.21	45.43	57.00	44.79	46.53	52.13	45.23
Bacon	p/kg dwt	32.0	32.1	34.7	34.3	33.8	32.0	32.6
Pork	p/kg dwt	33.0	34.8	36.3	35.5	36.5	34.8	35.7
**Margin from baconers	£/head	3.49	3.66	0.72	4.32	3.56	0.08	2.71
**Margin from porkers	£/head	1.87	2.34	-0.27	2.82	2.62	-0.54	1.93
.....								
Average bank interest rate	%	5.8	12.0	15.0	14.0	14.5	12.5	11.5

*Based on Cambridge Pig Management Scheme.

**Excludes interest charges.

The effects of this deteriorating economic situation on the structure of Scottish pig production are examined below.

*Although the figures are based on the Cambridge Pig Management Scheme, Scottish results were generally similar to those in East Anglia but possibly lower in later years with the added feature of greater dependence on baconer margins.

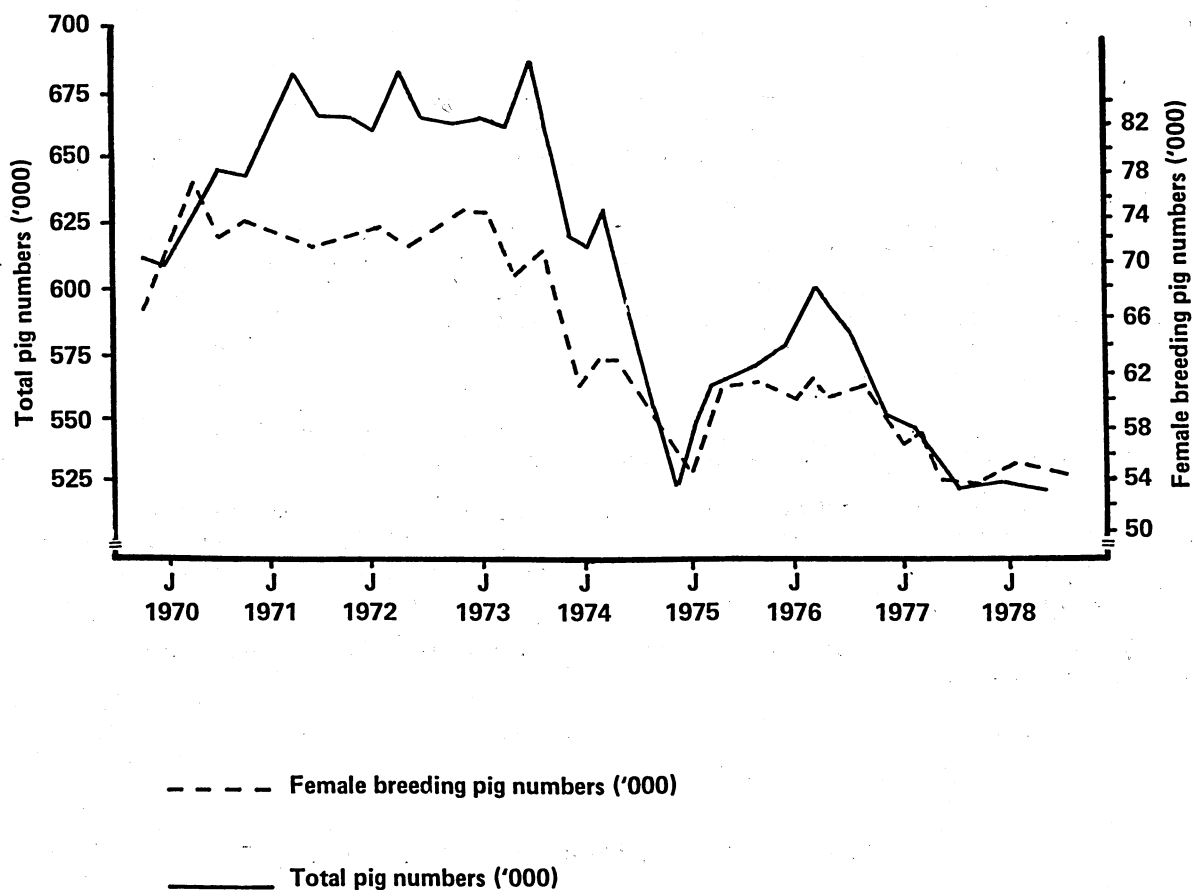
2.

STRUCTURE OF FARM PRODUCTION

The Scottish herd

The "normal" cyclical trends in national herd size changed sharply in 1974 when numbers fell by over 20 per cent in the 18 months to April 1975 (Figure 1). The total herd rose modestly to 596 thousand in August 1976 followed by a decrease of 12 per cent to 523 thousand in April 1977, this herd size being maintained to December 1978.

Figure 1 Scottish pig herd 1970-78 (June census)



The breeding herd of sows and gilts-in-pig has undergone a similar pattern of decline. The last peak in breeding numbers was in September 1970 when the herd stood at 76,000. The largest decline was between mid 1973 and early 1975 when numbers dropped by over 26 per cent. A modest expansion occurred up to June 1976 when a decline re-emerged taking the herd to 54,000 head at December 1978.

The number of agricultural holdings with breeding pigs has fallen steadily in recent years by a total of 63 per cent between 1970 and 1977 (Annex 1). At the same time, herd sizes have risen by 120 per cent over the same seven year period. (Table 4).

**Table 4 Average Scottish pig herd sizes
—June census 1970 to 1977**

Year	Female breeding pigs	Feeding pigs
1970	19	91
1971	22	103
1972	24	116
1973	28	129
1974	29	147
1975	33	162
1976	37	193
1977	42	203

Source: Scottish Agricultural Economics,
Volume 28 (1978)

Herds of more than 100 sows have become more numerous, in contrast to all other size categories (Annex 1). In June 1970 just over 30 per cent of the breeding herd was held on holdings with over 100 sows whereas in June 1977 this share had risen to nearly 60 per cent. A similar concentration and reduction in total numbers has occurred in the feeding pig sector.

Pigs in the North East

More than 50 per cent of the Scottish pig herd is located in the North East (Annex 1) and this region is therefore of particular importance in the structure of production.

From 1970 to 1975 the number of holdings with more than 50 sows and gilts increased by 14 per cent and all smaller size groups became less important. Herds with over 100 sows numbered 65 in 1970 and 75 in 1975*, and they accounted for 32 and 50 per cent of the North East breeding herd respectively.

Changes in the distribution of the North East feeding herd are of a broadly similar magnitude to those in the breeding sector.

3. STRUCTURE OF SLAUGHTERING AND PROCESSING

The volume of fat pig slaughterings from 1970/71 to 1975/76 fell by 20 per cent from 992,000 head to 790,000 head (Table 5). The consequential drop in pigmeat production was from 61,800 tonnes to 49,600 tonnes, a reduction of 20 per cent over the period at an average slaughter weight of fat pigs of 62 kg.

*The last year of available statistics for the former "North East" region.

Table 5 Scottish pig slaughter statistics 1970/71 to 1975/76

	No. of head ('000's)		Tonnes of pigmeat ('000's)		Average slaughter wt (kg)	
	Fat pigs*	Sows and boars	Fat pigs	Sows and boars	Fat pigs	Sows and boars
1970/71	992	23	61.8	3.6	62.3	156.5
1971/72	1,048	24	65.5	3.8	62.5	158.3
1972/73	998	30	63.4	4.8	63.5	160.0
1973/74	993	21	64.8	3.4	65.3	161.9
1974/75	903	14	57.4	2.3	63.6	164.3
1975/76	790	10	49.6	1.5	62.8	150.0
Per cent change 1970/71 to 1975/76	(20.4)	(56.5)	(19.7)	(58.3)	—	—

*Includes pigs slaughtered in England.

Over the same period, the slaughter of sows and boars also fell, by 57 per cent from 23,000 to 10,000 head, with a corresponding fall in pigmeat output from these animals.

The "traffic" of slaughterings through different outlets changed over the 1971-77 period with a small trend away from bacon factories towards slaughter houses (Table 6).

Table 6 Slaughter outlets for Scottish pigs 1971 to 1977

	Percentage of pigs sold to each outlet			
	Slaughter houses		Bacon factories	
	Pigs	Sows and boars	Pigs	Sows and boars
1971*	29.9	81.2	70.1	18.8
1972	34.4	91.8	65.6	8.2
1973	37.8	91.3	62.2	8.7
1974	37.8	89.7	62.2	10.3
1975	31.8	82.1	68.2	17.9
1976	33.0	75.8	67.0	24.2
1977	36.5	79.1	63.5	20.9

* June-December only.

Source: DAFS.

Slaughter houses are clearly a very significant outlet for culled breeding stock as well as handling a good third of the fat pig flow. The movement of fat pigs to slaughter centres in England is a significant feature of the Scottish pig trade. From 1971/72 to 1977/78 this inter-regional transfer has fluctuated around 150,000 to 200,000 fat pigs per annum to as far south as Yorkshire, Merseyside and North Wales (Table 7).

Table 7 Fat pig flows to slaughter centres in England 1971/72 to 1977/78

June–May years	Total pigs
1971/72	194,271
1972/73	171,730
1973/74	162,053
1974/75	155,789
1975/76	168,043
1976/77	178,881
1977/78	155,000 (Est.)
Per cent change 1971/72 to 1977/78	(20.2)

Notes

1. Producers transport under private contract or treaty to England and Wales *eg* Newcastle, Thirsk, Manchester and Bangor.
2. Some of these contracts are short-life.
3. Bulk of inter-regional transfer is conducted by FMC, Walls *etc.*

The geographical distribution of fat pig slaughtering (Table 8), shows that Grampian is still the most important region, although its share of Scottish slaughterings fell from 51 per cent in 1972 to 43 per cent in 1977.

Table 8 Scottish fat pig slaughter by region 1972 to 1977

	Per cent distribution					
	1972	1973	1974	1975	1976	1977
Border	5.2	4.8	4.3	3.8	2.6	2.0
Central	9.8	10.0	9.4	10.4	12.0	14.1
Dum/Gall	2.6	2.6	2.7	2.8	2.6	2.8
Fife	2.2	1.8	1.8	1.8	1.8	1.9
Grampian	50.9	50.6	48.6	47.8	47.3	42.7
High/WI	2.0	1.9	1.7	1.6	1.8	1.9
Lothian	11.7	13.1	13.8	14.6	13.2	13.9
Orkney	0.5	0.4	0.5	0.5	0.3	0.4
Shetland	—	—	—	—	—	—
Strathclyde	10.8	10.4	12.6	11.0	12.5	14.2
Tayside	4.3	4.3	4.6	5.6	5.8	6.0
Scotland	100	100	100	100	100	100

Source: DAFS.

Concentration of factory slaughterings in a few regions and also at a few centres is a key feature of the pig sector. This, together with the relative absence of a pork market and substantial butcher outlets, makes the producer's market particularly vulnerable to any inadequacies at his local factory slaughter centre. The ability to move pigs to England serves as an important safety valve even if undesired by many producers because of high transport costs.

Table 9 shows the location of the main and secondary centres involved in fat pig slaughter along with estimates of their 1977/78 throughput. These premises include bacon factories concentrating on bacon production and abattoirs involved only with pork.

Table 9 Pig throughput by slaughter centres 1977/78¹

	1977/78 (Est.)*
Main centres (> 100,000 pigs per annum)	
Dyce	205,000
Stirling	130,000
[Carlisle ²	104,000]
Secondary centres³ (< 100,000 pigs per annum)	
Ayr	4,500
Kilmarnock	10,000
Inverness	2,000
Portlethen	25,000
Kirkcaldy	7,800
Broxburn	68,000
Edinburgh	37,000
East Kilbride	40,000
Hawick	2,000
Saltcoats	7,500
Stranraer	8,000
Glasgow	25,000
Buckie	23,000
Turriff	4,000

* Author's estimates.

¹ Bacon factories and abattoirs.

² Included as it is an important outlet for Scottish pigs—throughput equals total from Scotland and England.

³ Excludes minor centres handling < 1,000 pigs per annum.

4.

REGIONAL LOCATION OF SLAUGHTERING

Pig slaughter is conducted at bacon and pig processing factories, and at local slaughterhouses which may be municipal or privately operated and are predominantly involved in the dead weight trade in fresh pork. The principal centres conducting pigmeat handling in Scotland are given in Table 10.

Table 10 Fat pig slaughter centres by main type of production 1978

Bacon	Pork*
Dyce — Lawsons	Ayr
Stirling — FMC	Buckie
Broxburn — Halls	East Kilbride
Saltcoats — Robertsons	Edinburgh
Stranraer — Rhins Bacon	Glasgow
Carlisle — Cavaghan and Gray	Hawick
	Inverness
	Kilmarnock
	Kirkcaldy
	Portlethen
	Turriff

* Includes public and private slaughtering.

See Annex 2 for list of Scottish slaughterhouses.

The availability of slaughter facilities to butchers and indirectly to farmers, at local situations, is important. Live animals are transported short distances, shrinkage and transit "damage" is reduced and the subsequent movement of fresh meat through the distribution network is in a higher value form.

Pork production in Scotland is not at a high level, nonetheless some 37 per cent of fat pig slaughterings in 1977 were conducted by local abattoirs. The regional distribution of these slaughterings in 1977 is given in Table 11.

Table 11 Fat pig slaughterings through regional abattoirs* in 1977

Region	Thousand head	Per cent of total
Border	13	3.0
Central	92	21.6
Dumfries/Galloway	19	4.4
Fife	12	2.8
Grampian	55	12.9
Highlands/Western/Isles	13	3.0
Lothian	91	21.3
Strathclyde	93	21.8
Tayside	39	9.2
Total	<u>427</u>	<u>100.0</u>

* Excludes bacon factories.

Slaughterings through individual slaughter premises fluctuate markedly and may indeed die out for a period and then be continued. The association of abattoirs with centres of population and therefore demand for fresh meat through local butchers is notable for the comprehensive geographic spread achieved in Scotland (Figure 2A and B). In recent years some local authorities have taken a critical view of their abattoir "service" and its associated economics of operation (Figure 2C). It seems likely that more local authority premises will be closed in the next few years—a situation which also exists in other parts of the UK.

5. TRANSPORT COSTS AND PIG PROCESSING LOCATION

General

Discussion on transport costs is relevant to both pig and pigmeat movement. However, pigs have a limited number of sales outlets and their location can be crucial.

In pig producing areas, pigs are normally shipped out as meat, bacon or manufactured products, whereas in consumption areas, live pigs also are moved in from producers. Movement of pigs "in" to slaughter and movement of pigmeat "out" to the market are virtually the two sides of the same transport cost equation and the discussion that follows centres on this point.

Comparisons of the opposing advantages of live weight and dead weight transport are based on transport costs and the physical factors of weight loss, damage in transit and quality deterioration. It is generally assumed that dead weight transport costs per pig are less than those incurred for moving equivalent quantities of live pigs over similar distances and therefore the location policy is to site slaughtering in production areas. Such a policy has a greater advantage where production is remote from main consuming areas although road improvements expand the peripheral boundary.

There is here a conflict of interest for the bacon curer/processor. If he wishes to maintain close contact with suppliers then it is sensible to locate in a production area. However a pig processor's best policy, given the priority placed on daily delivery to numerous outlets, will usually be to locate in a consumption area. The latter would be a complete answer if the activities of curer and processor were not closely intermingled. When a regional market is selected then the above problems may be more easily resolved. But if a processor chooses to cover a national market, the financing of a distribution network, is likely to be countenanced only by large organisations.

Historically, the economic situation in Scotland permitted slaughter points to develop in production rather than consumption areas. But it is questionable whether the current spatial location will be viable in the future, given changing conditions.

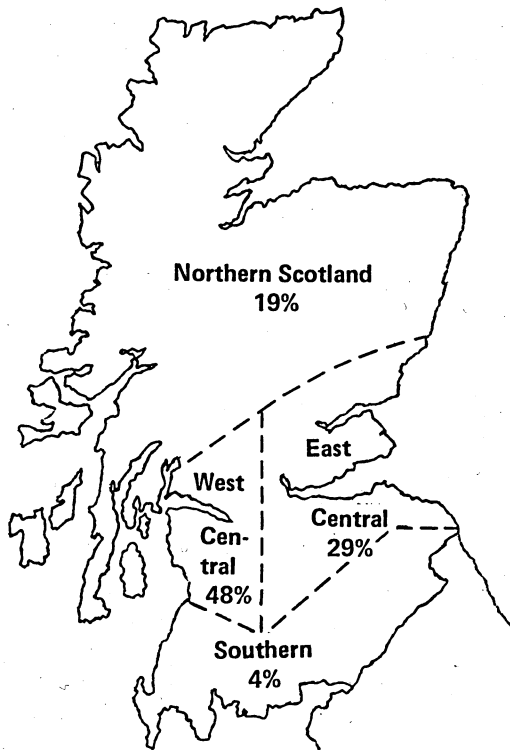
Distribution costs

Total distribution costs represent a significant proportion of sales value. Transport alone generally constitutes at least 5 to 6 per cent of sales in most industries. The sharp rise in haulage costs since the 1973 oil crisis and the threat of further increases has concentrated attention on distribution costs.

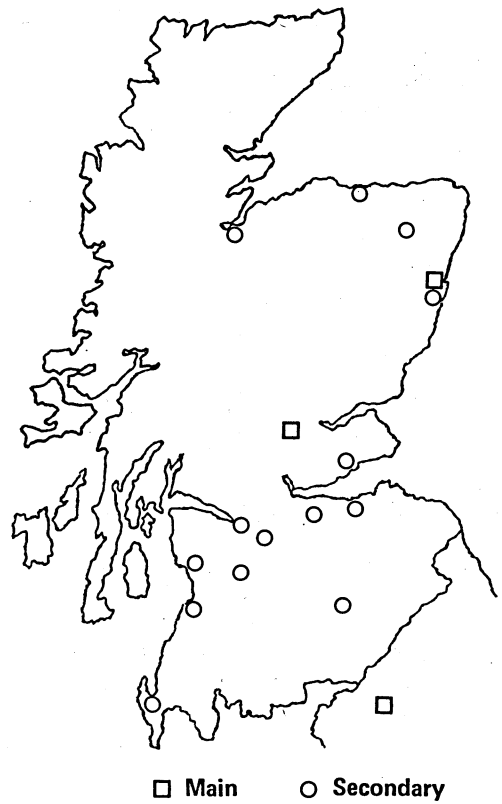
For example, price increases in new vehicles between January 1972 and January 1977 have in many cases been around 140 per cent and, for the 32 tonne vehicle, as high as 170 per cent. The prices of spares have also increased sharply and affected operating costs. Shorter drivers' hours to meet EEC regulations will further inflate costs.

Figure 2 Locations

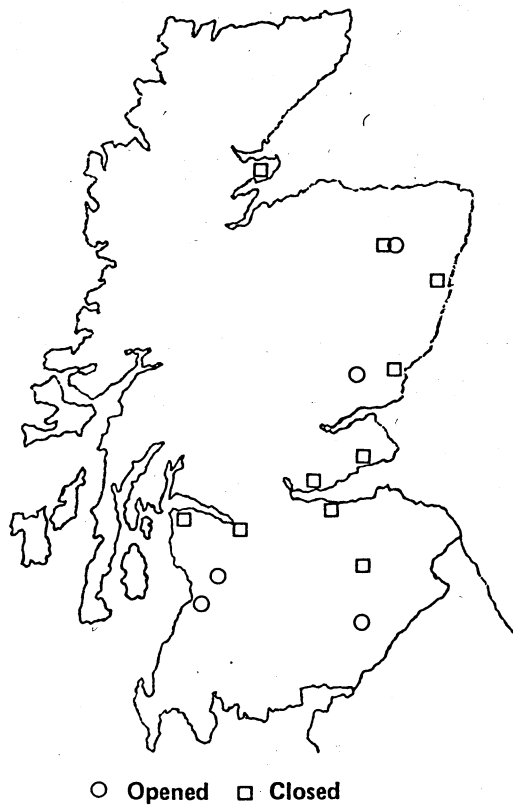
A. Pigmeat market 1978



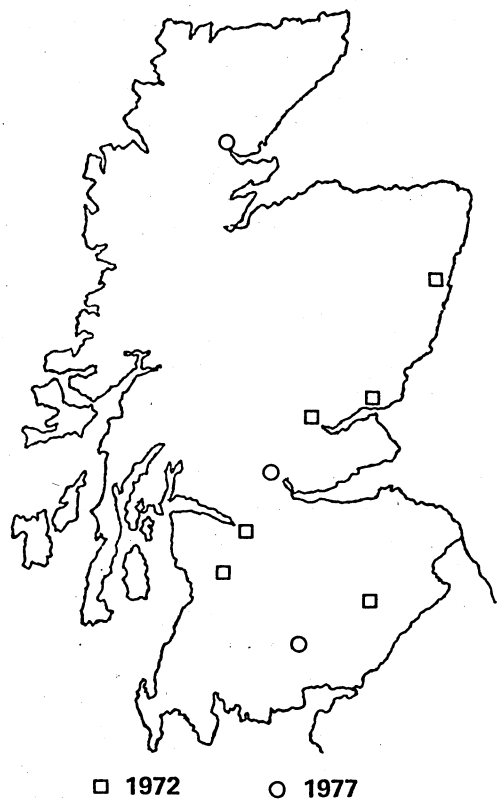
B. Pig slaughtering centres 1978



C. Slaughter houses opened/closed 1972-77



D. FMC distribution depots 1972-77



Since 1 January 1979 it is likely that many distribution depots have been found to be located in the wrong place. From that date legally permitted daily driving time has been progressively reduced to eight hours which implies curtailment of the potential performance of commercial vehicles. The greatest impact will be felt at the top end of the vehicle weight range, when vehicles are usually used for trucking bulk loads between factories, warehouses and depots.

Stimulus to reconsider the role of depots in a particular distribution system can only be welcomed. Many networks were designed over 20 years ago when the motorway system was embryonic.

The impact of changing transport/depot economics can be illustrated by reference to FMC's pig products distribution in Scotland (Figure 2D). Around 1972, the group maintained six depots (at Aberdeen, Hawick, Perth, Dundee, Glasgow and Kilmarnock) and a fleet of thirty-one 2-tonne vans. By 1977/78 all these depots had been closed, the fleet reduced to 17 vehicles (eight 2-tonne vans, six 3-tonners and three 8-tonnetruckers) and distribution centralised at Stirling, with a depot at Thornhill and one sub-contractor serving Caithness *etc* from Bonar Bridge.

While this has simplified distribution and no doubt improved its economics it has necessarily been accompanied by an enlargement of the pig catchment area in order to procure sufficient pigs to "feed" a larger plant.

FMC procurement in Scotland is essentially national rather than regional with pigs being supplied, not necessarily from local sources, on contract for other processors. The costs of transporting pigs around Scotland under this arrangement have become obscured but they cannot be insignificant.

Changes in distribution

The geographical location of Scottish processors is largely along a North-South axis with the consumer market in the South. The more northerly operators are likely to emphasise local regional market outlets and to de-emphasise southern markets.

For example, one west coast firm is relinquishing its Highland and North-West market and moving business expansion south along the motorways to England, while a North-East concern is ready to take over his vacated market share. Another business, in the Central belt, has developed in recent years a significant market in the North-East of England. The strong individuality of company "philosophies" is much in evidence. For example some feel own brand marketing is vital and that Scotland is the basic market, while others take an opposite view.

Supermarketing by national grocery multiples continues to develop in Scotland and they offer possibilities of "house brand" supply contracts to local processors thus constraining meat transport costs, as well as providing potential national distribution through their own distribution networks. The trading power of the multiples has grown considerably and will be a factor of increasing significance in the future, as they seem more capable of coming up with solutions to the problems of transport economics.

Transport costs from the producer's viewpoint are also significant (Table 12) and there is an obvious preference for short distance haulage to local slaughter centres. As transport costs continue to rise the trucking of livestock over long distances will be increasingly questioned.

Table 12 Live pig transport costs
(1979 estimates)

	Km	Cost per pig £
North-East to:		
Stirling	195	1.10
Glasgow	255	1.30
Yorkshire	545	1.80
Midlands	675	2.00

Producer outlets

Local outlets, over the period 1972–78, have declined somewhat, as the dominant outlets for fat pigs. FMC's role as a pig procurer for other processors in Scotland and England, has led to large inter-regional transfers of pigs. In this trading climate many producers have welcomed the highly competitive pricing element introduced and have traded with several outlets.

A few producers, strongly independent and sometimes equipped with their own transport, have trucked pigs from the North-East to Yorkshire and North Wales but such activities have generally been short-term. Most producers seem to believe that shrinkage losses in long distance "live" transport are unacceptable. However pigs have travelled regularly from north of Inverness to East Kilbride and from Moray to Carlisle.

Slaughterhouses account for 35 per cent of the fat pigs killed in Scotland and a much larger proportion (80 per cent) of cull sows and boars. They therefore provided an important local outlet for cull stock which few producers would wish to transport over greater distances mainly because numbers are usually small and sometimes because "near casualties" require careful handling.

The local abattoir is no longer seen as an important municipal facility but it is still a significant alternative outlet when combined with local live auctions for producers of fat pigs of lighter weights. Using both facilities, the pork butcher and small processor are able to acquire the pigs and slaughtering they desire.

6.

LOCAL OUTLETS AND THE FUTURE

The advantages of factory location in the production area have both buyer and seller aspects. For the buyer to operate profitably he has to secure his market for pigmeat by establishing and operating an effective distribution network and offering acceptable branded goods. The period involved in building up a company's market can be a long one. Initial investment will take several years to recover. Confidence in how the market is likely to develop is important in planning expansion.

An example of a pigmeat processor pursuing growth in the post-war era is represented in the North-East. A local concern established originally in the 1930's expanded its market and procurement of pigs up to a peak of 7,000 pigs per week in 1971. The purchasing was almost 100 per cent contract class. The benefits to both sides were clear. As the pigmeat market expanded, the factory facilities were financed and the necessary supplies of raw material were assured. Producers benefited by being able to expand production with the confidence of an assured contracted outlet.

Competition was not removed from the scene, for other outlets grew in parallel, although placed mainly outside the area. Sufficient market "tension" was available to encourage production of pigs surplus to local requirements and to meet producers' needs for alternative markets.

The changes taking place in slaughterhouses from 1972–77 have been largely the closure of old outdated premises, mainly municipal, and the opening of a few modern abattoirs, mainly privately owned. The Glasgow municipal abattoir is a notable exception. Also some pig slaughter/processors have closed their slaughter premises and now use the local abattoir.

The present geographical location of main and secondary slaughter centres along with the level of inter-regional transfers "suggests" the local nature of outlets may be a factor of diminished importance. Concentration of facilities in the past was largely underpinned by certain expectations about transport cost. These may no longer be valid. Indeed it is more likely that the closure of any main centre in Scotland would have an extremely disruptive effect on the pig sector, as it now depends on a small number of centres.

7.

PIGMEAT MARKET—WHOLESALE AND RETAIL

UK market

The UK market for pigmeat is divided almost equally between bacon and pork. About half of the bacon market is supplied by imports so that home-produced bacon supplies of some 250,000 tonnes are about half the amount of pork produced.

Demand for pigmeat in the UK and Scotland is shown in Table 13. The Scottish fresh pork market represents about 4 per cent of the UK total, despite the fact that Scotland has 10 per cent of the UK's population. Bacon and ham is 8 per cent of the UK figure and manufactured products 10 per cent.

Table 13 Demand for pigmeat* in Scotland and the UK in 1972 and 1978
(‘000 tonne carcass weight)

Area	Product group	1972		1978	
		‘000 tonne carcass weight	Per cent of total demand	‘000 tonne carcass weight	Per cent of total demand
NE Scotland	Fresh pork	3	14	2	12
	Bacon and ham (including canned)	11	53	9	53
	Manufactured products (pigmeat content)	<u>7</u>	<u>33</u>	<u>6</u>	<u>35</u>
	TOTAL DEMAND	<u>21</u>	<u>100</u>	<u>17</u>	<u>100</u>
Scotland	Fresh pork	15	15	12	14
	Bacon and ham (including canned)	53	52	43	52
	Manufactured products (pigmeat content)	<u>34</u>	<u>33</u>	<u>28</u>	<u>34</u>
	TOTAL DEMAND	<u>102</u>	<u>100</u>	<u>83</u>	<u>100</u>
UK	Fresh pork	376	27	300	27
	Bacon and ham (including canned)	660	48	520	47
	Manufactured products (pigmeat content)	<u>340</u>	<u>25</u>	<u>280</u>	<u>26</u>
	TOTAL DEMAND	<u>1,376</u>	<u>100</u>	<u>1,100</u>	<u>100</u>

*Includes imports.

Sources: P A Management Consultants 1973 and author's estimate for 1978.

In 1972, pig slaughterings in Scotland produced almost 70,000 tonnes of pigmeat—equivalent to nearly 70 per cent of total Scottish demand, the balance being filled by "imports" of bacon, ham and manufactured products.

Many Scottish pigs are transported and slaughtered in England. Also, some Scottish pigmeat moves to England, and vice versa. Pigmeat also enters Scotland from Ireland and the rest of the EEC. The volume of trade involved in all these movements is not known with any precision. Scottish producers therefore do not produce specifically for a Scottish market, but for an overall UK market.

Wholesale

The structure of pig purchase, process and wholesaling is essentially oligopolistic with a handful of large concerns dominating trading and creating their own competition. A very minor addition to competition is created by a larger number of smaller firms.

The concentration in buying power creates a certain market vulnerability in times of economic strain since producers have few alternative outlets in Scotland which lacks the additional flexibility provided in England by a large multiple outlet pork market. This "export" market is largely closed to Scottish pig producers by the high transport cost burden imposed on what is already a relatively low value product.

Retail

Figure 3 presents data for bacon consumption from 1973 to 1978. Significant changes in product type are evident with bulk pre-pack up from 500 to 2,500 tonnes and boiling joints up 15 per cent from 2,000 to 2,300 tonnes. But these increases were unable to fully counteract the fall in prime cut, down 37 per cent from 17,700 to 11,200 tonnes.

The Vac Pac bacon segment has been a growth area in the seventies but recent performance shows an overall decline in market share held by key home brands. This trend has been attributed to a loss of competitiveness by home brands due to the levels of MCA paid on imported bacon. While MCA's have been significant, they should not be held entirely responsible. The UK industry has also suffered from a lack of marketing aggressiveness, mediocre management, labour difficulties and under-investment in modern plant.

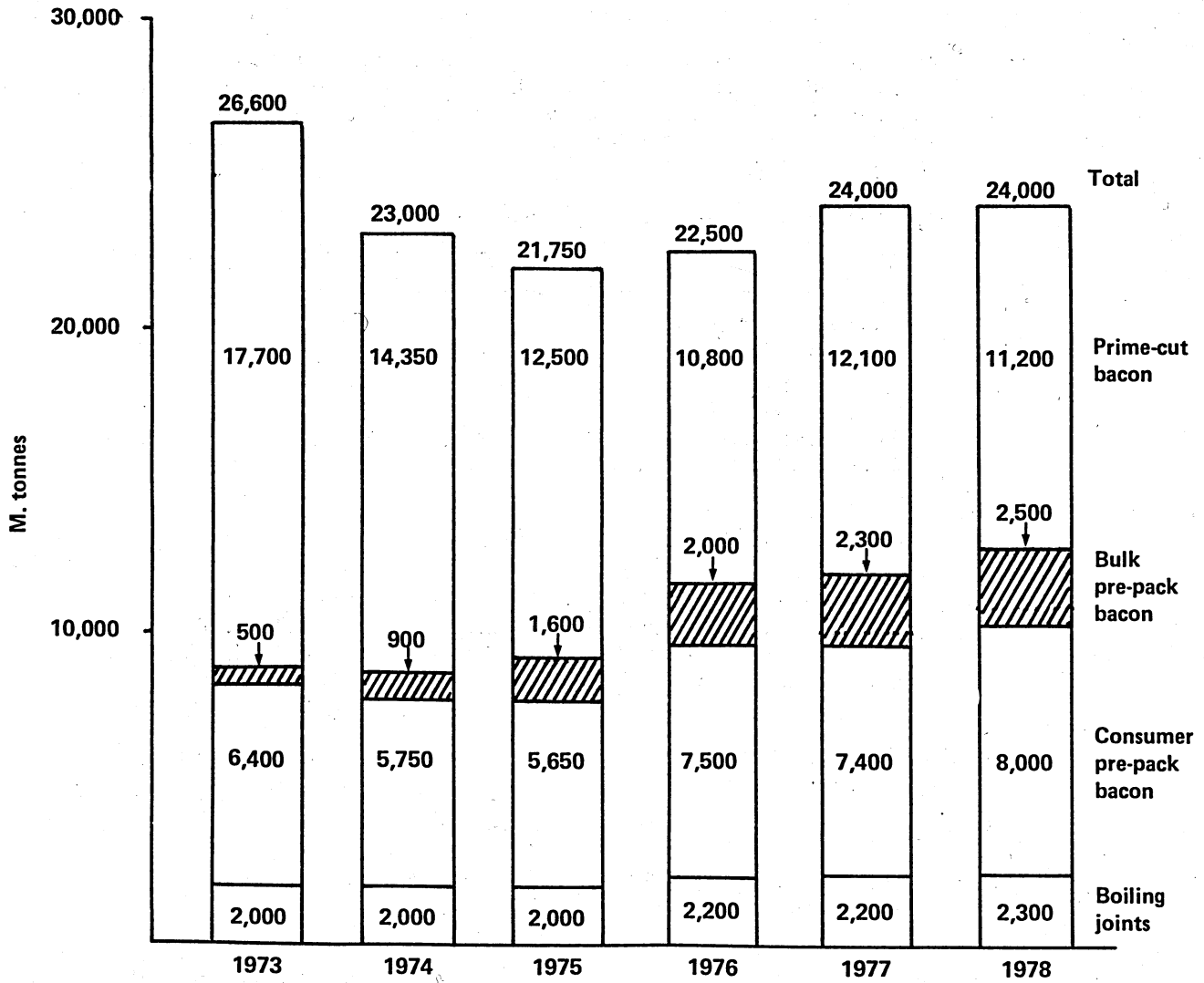
Fresh pork consumption declined from 1973 to 1978 falling by 19 per cent from 13,570 to 11,000 tonnes. Expenditure on pork in Scotland in 1975/76 was 4.6 per cent of total meat expenditure compared with 8.7 per cent in the UK, whilst expenditure on beef and veal was 36.1 per cent compared with 27.6 per cent in the UK. These differences inevitably affect the Scottish regional meat market, in particular reducing the size of the pork sector. Recently, pork consumption has shown some growth as the market adjusts to processing difficulties.

There is a considerable sausage market of some 35,000 tonnes (1978), but this is mostly based on beef, with pork content represented by 6,500 tonnes and fairly static at this level. However, "small goods" (pies, sausages, pizzas, etc) have become the most dynamic sector of the meat market principally because they present greater opportunities to the processor to add value and increase margins, thus increasing overall profitability even when trading in bacon and fresh pork registers some decline. The above does not necessarily imply increased utilisation and consumption of pigmeat since other ingredients are included such as carbohydrates and meat substitutes (eg soyabean) but their development is important to processor survival. The market for pies, pizza and convenience products in general is a growing and competitive sector.

Changes in retail distribution are important to processors in holding market share and an adequate level of profitability. Data from the Bacon and Meat Manufacturers Association 1976 shows, for example, that pie retailing is still dominated in Scotland by butchers and bakers—holding a 50 per cent market share, with independent grocers holding a rapidly declining 15 per cent and the multiple stores taking a steadily increasing 35 per cent*.

*eg Marks and Spencer have 10 per cent of the UK pie market.

Figure 3 "Scottish" bacon consumption 1973-1978



Source: Lawson of Dyce Ltd, 1978.

For the processor, taking and holding a share of the growing demand from the multiple stores means intense marketing effort to maintain the quality, service and competitive pricing demanded by these powerful buying groups. In this trading climate, the loss of a supply contract can be very serious and it should be anticipated that some processors will not survive as concentration in retailing continues. A decline in the number of processors will mean fewer individual outlets for the pig producer.

The butcher's shop sector of meat retailing has undergone rationalisation but it has also emerged in recent years as a significant outlet for bacon joints (Table 14). According to a recent survey by Danish Agricultural Producers, butchers account for 26 per cent of all purchases of bacon steaks and bacon joints and 23 per cent of all rasher purchases. Butchers' bacon sales in 1978 reached a record figure for supplies from all countries.

Table 14 Bacon sales through butchers in Great Britain 1976 to 1978

	1976	1977	1978
Estimated sales of bacon joints (tonnes)	6,688	8,547	10,500
Estimated percentage of housewives buying bacon joints from butchers	21	23	26 (28)*

*Scotland.

Source: Audits of Great Britain Ltd 1979.

Changes in the structure of the food retail trade are important to meat processors. The Institute of Grocery Distribution reported (1979) that the number of supermarkets grew from 4,800 in 1971 to an estimated 6,190 in 1978—a rise of 29 per cent. In 1977 only 308 "buying points" controlled 77 per cent of grocers' sales in Great Britain (co-ops 206, multiple head offices 58, major symbol wholesalers 44)*.

Negotiating and holding on to supply contracts with these powerful buyers has become critical to the large and medium size meat processor.

Location of retail market

The uneven distribution of the Scottish population poses market and location problems for processors (Figure 2A). Reasonable proximity to urban concentrations is an advantage for efficient product distribution.

Companies located in the Central belt would appear to be more favourably placed in the future with a large consumer market, virtually "on the doorstep", particularly if production increases in that region. However, there are other possibilities.

The operations of large food distribution networks are increasingly important to processors of any size. As they come to dominate the retail market more and more, the independent and house brands which they control can be used for and against the interest of processors. Supply contracts with the large retailers offer several advantages—continuity of outlet, participation in a quality market with general raising of standards, delegation of promotion and facilitation of planned production. Disadvantages could include tighter margins, loss of own branding, and overconcentration in a single outlet leading to general vulnerability.

*Source: A C Nielsen, Market fact 1979

The regional limitations of market size no longer apply when supplying to a large national "multiple". For example, the Marks and Spencer food distribution system, run by BOC Transfield, has only one Scottish depot—at Cumbernauld. But this is the entry to a trunk distribution system which can carry Scottish products eventually to almost any corner of the UK where Marks and Spencer are retailing food lines.

8.

COMMENTARY

The fortunes of the Scottish pig industry depend heavily on those of the UK bacon market which suffers from considerable import pressure and price squeezing. Curers and processors operating at a distance from the large consuming population bases in the UK are at further disadvantages due mainly to the transport cost burden. This is essentially true for Scottish processors.

The native pork market is relatively undeveloped unlike its counterpart in the South. Fresh pork is of low value compared with processed products and it therefore can bear only a modest transport cost if a satisfactory margin is to be retained. Moreover, if trucked South it then has to compete in a market already well supplied by English producers.

In addition to Scotland's dependence on the bacon market, vulnerabilities to import competition and market remoteness also affect the industry. Slaughtering and processing are heavily concentrated with a small number of concerns and in a few regions. This, plus the relative absence of a pork market with substantial butcher outlets makes the producers' market particularly vulnerable to any inadequacies at his local factory centre. The threatened closure of a major slaughter centre quickly puts at jeopardy pig production over a wide area.

The announcement in May 1979 by Lawsons of Dyce of their intention to cease their activities in procuring and slaughtering pigs was immediately recognised as a move which was potentially damaging to the whole Scottish pig industry. The decision to "close" finalised in October 1979 after protracted and abortive negotiations by a take-over consortium, left producers, particularly those in the North-East seeking alternative outlets in both Scotland and England.

Some of these alternatives will inevitably have a temporary character. The burden of additional transport cost, given the emerging fuel cost position, is set to worsen. The Scottish pig industry should be fully recognised, now, as peculiarly vulnerable to adverse economic circumstances because its home market is small and highly competitive and its "export" market is remote and already overcrowded.

As the industry adjusts to changing circumstances new structures in both production and processing will emerge.

ANNEX 1 – SCOTTISH PIG STATISTICS 1970 TO 1977

Table 1 Scottish pig numbers—June census ('000 head)

Year	Sows in pig	Gilts in pig	Other sows for breeding	Other sows for fattening	Boars used for service	Other pigs	Total pigs
1970	39.6	12.8	18.5	1.5	4.0	535.0	611.3
1971	43.4	10.0	19.2	1.7	4.0	585.2	663.4
1972	43.7	10.0	18.7	2.1	3.8	583.5	661.8
1973	43.6	10.6	19.4	1.4	3.9	588.7	667.6
1974	37.6	7.8	17.1	1.8	3.4	548.8	616.5
1975	35.9	7.1	14.9	1.1	3.0	487.0	549.1
1976	37.4	8.6	15.2	1.0	3.3	522.0	587.4
1977	35.5	6.7	14.2	1.6	2.9	488.9	549.8

Table 2 Changes in the number of holdings with female breeding pigs¹—June census

Female breeding pig size groups	Number of units June 1970	Percentage changes in number of herds							Number of units June 1977
		1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	
1–9	2,049	-11	-10	-20	-15	-22	-13	-19	616
10–19	695	-6	-18	-10	-25	-25	-4	-21	207
20–29	298	+1	-10	...	-25	-17	-9	-25	114
30–49	283	-11	-10	+4	-23	-16	+1	-23	120
50–99	201	+12	+1	-8	-22	-2	+6	-11	150
100 and over	121	+5	+10	+7	-9	+2	+6	-8	137
All size groups	3,647	-8	-10	-12	-19	-18	-7	-18	1,344

... less than 0.5 per cent change.

¹ Female breeding pigs are classified as sows in pig, gilts in pig and other sows for breeding.

Source: Scottish Agricultural Economics, Volume 28 (1978).

Table 3 Distribution of female breeding pigs by herd group sizes—June census

Female breeding pig size groups	1970	1971	1972	1973	1974	1975	1976	1977
1–9	8.2	7.2	6.5	5.3	4.3	3.3	3.0	2.4
10–19	9.4	8.8	7.4	6.6	4.9	3.7	3.6	2.9
20–29	7.0	7.1	6.4	6.5	4.8	4.0	3.7	2.8
30–49	10.6	9.4	8.5	8.9	6.9	5.9	5.9	4.6
50–99	13.5	15.4	15.7	14.8	11.8	11.1	11.8	10.5
100 and over	22.2	24.6	27.8	31.5	29.7	30.0	33.2	33.2
All size groups	70.8	72.6	72.4	73.6	62.5	58.0	61.1	56.4

Individual totals may not add due to rounding.

Table 4 Changes in the number of holdings with feeding pigs²—June census

Feeding pig size groups	Number of units June 1970	Percentage changes in number of herds							Number of units June 1977
		1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	
1— 9	1,324	- 10	- 15	- 13	- 19	- 19	- 17	- 7	445
10— 49	1,504	- 4	- 14	- 10	- 21	- 24	- 13	- 15	480
50— 99	480	+ 3	- 11	- 3	- 18	- 24	- 7	- 23	190
100—199	351	+ 3	- 4	- 11	- 18	- 22	+ 3	- 4	195
200—499	304	+ 4	+ 2	- 14	- 11	- 6	- 4	- 5	212
500—999	156	+ 21	+ 1	+ 6	- 15	- 16	-	- 7	88
1,000 and over				+ 8	+ 9	- 7	+ 11	- 8	73
All size groups	4,119	- 3	- 11	- 10	- 18	- 21	- 9	- 11	1,683

² Feeding pigs are classified as non-breeding pigs over 20 kg live weight.

Table 5 Distribution of feeding pigs by herd group sizes—June census

Feeding pig size groups	1970	1971	1972	1973	1974	1975	1976	1977
1— 9	5.6	4.9	4.2	3.7	2.8	2.2	1.9	1.7
10— 49	35.4	33.8	30.0	26.5	21.6	15.5	13.3	11.7
50— 99	33.4	34.4	29.7	29.8	24.3	18.5	17.3	13.4
100—199	49.3	51.2	47.5	43.3	34.9	27.6	28.2	27.9
200—499	94.4	97.3	99.0	85.4	77.1	71.6	71.4	64.9
500—999	157.1	190.1	88.9	94.1	79.5	65.2	64.5	59.8
1,000 and over			113.7	130.7	147.5	137.6	168.0	162.1
All size groups	375.2	411.6	413.0	413.5	387.6	338.3	364.6	341.4

Individual totals may not add due to rounding.

Table 6 Regional distribution of sows and gilts-in-pig in Scotland—June census

	1962	1972	1973	1974	1975	1976	1977
Sows and gilts-in-pig	40,958	53,641	54,189	45,453	43,041	45,965	42,200
Sows and gilts-in-pig (% by region)							
Highland	3.5	3.1	3.2	2.6	2.3	—	—
North-East	34.0	50.9	50.6	51.5	50.3	—	—
East-Central	19.5	17.7	17.1	16.3	16.1	—	—
South-East	19.0	14.4	15.6	16.4	18.7	—	—
South-West	24.0	13.9	13.5	13.2	12.6	—	—

Source: Agricultural Statistics, Scotland.

1976—1977 regional data not available under this classification.

Table 7 North-East—Distribution of female breeding pigs by herd size

Female breeding pigs* size groups	1970		1975		Per cent change	
	Units	Pigs	Units	Pigs	Units	Pigs
1— 9	10,477	4,684	8,930	1,713	- 14.8	- 63.4
10—19	372	5,060	146	2,035	- 60.8	- 59.8
20—29	161	3,729	92	2,190	- 42.9	- 41.3
30—49	138	5,127	80	3,003	- 42.0	- 41.4
50—99	77	5,199	87	6,013	+ 11.5	+ 15.7
100+	65	11,215	75	14,648	+ 15.4	+ 30.6
Totals	11,290	35,014	9,410	29,602	- 16.7	- 15.5

*Sows and gilts-in-pig and other sows for breeding.

Table 8 North-East—Distribution of feeding pigs by herd size

Feeding pigs* size groups	1970		1975		Per cent change	
	Units	Pigs	Units	Pigs	Units	Pigs
1— 9	9,921	2,699	8,639	1,038	- 12.9	- 61.5
10— 49	753	17,694	332	8,181	- 55.9	- 53.8
50— 99	244	16,772	147	10,265	- 39.8	- 38.8
100—199	164	22,842	98	13,088	- 40.2	- 42.7
200—499	128	39,577	107	33,772	- 16.4	- 14.7
500+	80	82,501	87	108,915	+ 8.8	+ 32.0
Totals	11,290	182,085	9,410	175,259	- 16.7	- 3.7

*Non-breeding pigs, 20 kg live weight and over.

ANNEX 2 – SLAUGHTER CENTRES IN SCOTLAND 1978

A. Public* (General)

Region	Location
Borders	Hawick Kelso
Dumfries/Galloway	Annan Dumfries Castle Douglas Stranraer
Fife	Kirkcaldy St. Andrews
Grampian	Fraserburgh Elgin Forres
Highland	Grantown-on-Spey Wick Dingwall Inverness
Lothian	Edinburgh
Strathclyde	Campbeltown Rothesay Glasgow Kilmarnock Paisley
Tayside	Dundee Forfar Perth
Orkney	Lerwick

*Municipal

B. Private (General)

Region	Location	Owner
Borders	Galashiels	Scottish Borders Abattoir Ltd
Central	Stirling Dunblane	FMC (Meat) Ltd Duncan Stevenson (Meats) Ltd
Dumfries/Galloway	Lockerbie Thornhill Newton Stewart	A Smith & Sons Messrs R Anderson & Son Robinson-Wyllie Ltd
Fife	Cupar	Messrs Gysels Ltd
Grampian	Turriff Dyce Inverurie (Upper) Inverurie Banchory Portlethen Buckie	Buchan Meat Producers Ltd Lawson of Dyce Ltd James McIntosh & Co Ltd Inverurie Scotch Meat Co Ltd AMMCO Wm Donald & Son AMMCO
Highland	Thurso Dornoch	Thurso Slaughtering Co Grants of Dornoch Ltd
Lothian	Linlithgow Burniehill	Messrs R Y Henderson & Sons AMMCO
Strathclyde	Saltcoats East Kilbride Strathaven Larkhall Ayr Biggar Lanark Shotts Wishaw Brechin	John Scott & Son (Meats) Ltd Scotbeef Ltd The Abattoir J Kelly & Sons (Meat) Ltd James Craig Ltd Biggar Auction Mart Ltd R G McIver James Chapman (Butchers) Ltd Wishaw Abattoir Ltd E C Matheson Ltd

C. Private (Pig)

Region	Location	Owner
Central	Stirling	A Kirkpatrick of Scotland Ltd
Lothian	Broxburn	David A Hall Ltd
Tayside	Perth	A M & G Robertson
	Milnathort	D Cunningham Ltd
	Blairgowrie	H W Irvine (Bacon curers)
Strathclyde	Cumnock	Robert White & Co
	Saltcoats	J Robertson & Sons (Ham curers)
	Carluke	John Ramsay & Sons
Orkney	Kirkwall	David Horne & Co (Bacon curers)