
Feature Article

THE RETAIL INDUSTRY IN SCOTLAND

by Iain McNicoll*

Introduction

The retail trade in Scotland is probably the industry with which everyone has, at least superficially, the greatest familiarity since we are all shop customers to a greater or lesser extent. Retailing is also one of Scotland's largest industries, with a total employment of over 220,000 and a turnover of some £4,500 million in 1979 (Fraser of Allander (1982), Scottish Economic Bulletin Summer 1982). In view of its large size and pervasive importance as a channel of distribution, it is surprising to note that very little is known of the economic and financial characteristics of retail activities in Scotland. Indeed, the only published data available on a regular basis comes from the Annual Retail Inquiry, which provides figures for number of outlets and turnover by Census classifications of retail business. This remains the only time series information on Scottish retailing, and as such is useful for analysing broad structural change. It is, however, clearly limited as a source of material for a detailed study of the economics of the industry. In 1981 the Fraser of Allander Institute undertook, for SEPD, a survey of Scottish retailers designed to elicit information on employment, margins, costs, stocks, etc. A stratified random sampling technique was employed to attempt to make the coverage as representative of Scottish retailing as possible given the resources available for the study. In the event, 70 completed returns were received (a response rate of 54%) covering 1,070 Scottish establishments with a 1979/80 turnover of £554 million. Though satisfactory in most other respects, the returns were clearly biased in favour of larger-than-average establishments: the sample average turnover per establishment was £520,000 compared with a Scottish average of £155,000. The sectors in which the bias was most marked were: large general food, butchers, bakeries, confectioners, booksellers and mixed retailers. For these sectors in particular some of the survey results may not be representative of the population and, where relevant, this should be borne in mind subsequently.

This article utilises both the Retail Inquiry and Fraser Survey datasets to analyse some aspects of the economics of the Scottish Retailing Industry. Section 1 analyses structural characteristics of the industry while Section 2 appraises its performance and efficiency. Finally, Section 3 examines retail cost structures.

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The Structure of Scottish Retailing

The Retail Inquiry suggests that there were 29,000 retail outlets owned by businesses above the VAT exemption limit in Scotland in 1980. The equivalent 1976 figure was 31,300 outlets. However, since the VAT inclusion limit increased twice during the period it is difficult to infer that the number of outlets in Scotland actually fell between 1976 and 1980. In fact this caveat will apply throughout most of this section and implies that not too much importance should be given to apparent structural changes, especially rather small ones.

Total Scottish retail turnover in 1980 was £5,000 million compared with £2,900 million in 1976. Using the UK RPI as an approximate deflator, a low real growth rate in retail turnover of around 0.4% p.a. over the period 1976-1980 is indicated. For Great Britain as a whole, real growth in retail turnover was approximately 0.3% p.a. during the same period. The Fraser study indicated that there were 150,000 full-time, and 77,000 part-time, workers in Scottish retailing in 1979. Wage and salary payments (including those to working proprietors) in that year were estimated to be £550 million and gross profits were estimated to be £287 million, representing a 6.5% gross return on turnover.

The relative importance of different retail Kinds of Business (KOB's) in total Scottish retailing activity is shown in Table 1 below.

Table 1 Relative Importance of Different Kinds of Business in Scottish Retailing

KOB:	1976 % of Total		1980 % of Total	
	Outlets	Turnover	Outlets	Turnover
Grocers	15.2	9.4	15.7	10.6
Large General Food	2.6	12.4	4.8	22.2
Other Food	18.6	13.1	19.0	12.6
Confectioners, etc	13.3	8.6	13.8	7.7
Clothing, Textiles, Footwear	18.7	11.1	16.9	10.2
Household Goods	12.0	12.7	15.1	13.8
Other Non-Food	11.9	7.5	10.3	6.1
Mixed Retail	7.7	25.2	4.4	16.8
	100	100	100	100

Source: Annual Retail Inquiry

For either year, the table clearly demonstrates that a different impression of the relative importance of various retail trades will be gleaned depending on the specific measure of importance employed. Most obviously, large general food stores and mixed retailers are much more important in terms of turnover than in terms of outlets, while the reverse is true for

grocers and clothing, etc stores. Clearly, the former trades are comprised of a relatively small number of relatively large outlets while the opposite is true for the latter trades. This is shown explicitly in Table 2 below:

Table 2 Structure of Scottish Retailing: 1980

KOB:	No of Outlets (000)	Turnover (£ million)	Turnover/Outlet (£ thousand)
Grocers	4.6	527	114
Large General Food	1.4	1,104	797
Other Food	5.5	629	114
Confectioners, etc	4.0	384	97
Clothing/Textiles/ Footwear	4.9	510	105
Household Goods	4.4	688	148
Other Non-Food	3.0	306	102
Mixed Retail	1.2	831	705
Total Retail Trade	29.0	4,979	172

Source: Annual Retail Inquiry

Returning to Table 1, the apparent substantial increase in the relative importance of the large general food category and decline in mixed retailing between 1976 and 1980 is in fact largely definitional: there was reclassification of a significant number of outlets from mixed retailing to large general food in the intervening period. Bearing this in mind, the table suggests that, at least at the level of aggregation employed, changes in the relative importance of individual retail trades were fairly small, the most noticeable being the increase in the relative importance of household goods trades on either criterion. This was almost entirely due to expansion in catering for DIY activities.

Performance in Scottish Retailing

Though the Fraser data base permits inter-firm comparisons of retail performance, because of space limitations this section will be concerned exclusively with **intersectoral** performance comparisons.

One obvious measure of retail 'output' is retail turnover. Performance ratios which can be derived are turnover per employee and turnover per establishment (1). These ratios are shown for a number of Scottish retail KOB's in columns 1 and 2 of Table 3. It is immediately clear that there is considerable variation in both these ratios among different retail KOB's. Turnover per head was highest in large food stores (primarily supermarkets), off-licences, chemists/photographers and mixed retailers (primarily department stores). These were sectors in which average turnover per outlet was also relatively high. A statistical analysis of the survey data

indicated that there was a significant rank correlation between average turnover per head and average turnover per outlet overall.

These ratios are suggestive of different retailing technologies being employed in different sectors, with some KOB's being composed of large shops with broad product ranges employing labour-saving techniques while other KOB's are composed primarily of smaller shops selling a narrower product range using labour-intensive methods. Indeed, such a contention is supported by casual empiricism.

Unfortunately, ratios based on turnover are of limited use in assessing intersectoral differences in productivity or efficiency. One major reason for this is that turnover is an unsatisfactory measure of retail output. Retailing is a joint-product (or even multi-product) activity, one component of which is the commodity sold and the other is retail service, defined in the broadest possible way. Hence the average output 'bundles' of different trades may differ significantly and thus not be amenable to comparison using turnover ratios only. Furthermore consumers may demand different service assortments in combination with different (or even the same) commodities and be prepared to pay different prices for them; thus small specialist shops can survive in competition with large general stores.

In view of these difficulties, a number of authors (eg Hall and Knapp (1973)) have suggested that the retail **gross margin**, the difference between the value of sales and the cost of goods sold, is more satisfactory as a measure of retail output, since in reflecting the value added in retailing activity, it can be interpreted as a monetary proxy for the volume of retail services. Formally, for an establishment, the gross margin is defined as follows:

$$\text{gross margin} = \text{turnover} - \text{cost of goods bought for resale} + (\text{year end stocks} - \text{year beginning stocks}).$$

That is, the gross margin is the surplus out of which the retailer must meet operating expenses and (hopefully) make a profit.

Column 3 in Table 3 shows the average gross margin as a percentage of turnover (a figure commonly known as the 'mark down' in the industry) for Scottish retail trades in 1979. The unweighted average trade mark-down was 34.9%, and it is clear that the inter-trade variability about this mean was considerably less than that exhibited in either of the turnover ratio comparisons. Indeed, the variability would be even less without the inclusion of bakeries and electrical/music/TV hire which are in fact something of 'special cases'. The bakeries in the sample were primarily those who sold their own produce and hence the reported margin contains a significant wholesale element: respondents indicated that a 'pure' retail bakery would have a mark-down nearer 25%. The very high margin for electrical/music/TV hire is largely explained by the fact that television rental receipts (included in turnover) are not offset by any equivalent cost of good for resale. Nevertheless, although this measure suggests that the retail 'output' content of turnover is more similar among trades than would be suggested from turnover-derived output comparisons, significant inter-

Table 3 Performance Ratios for Scottish Retail KOB's: 1979

Kind of Business	(1) Turnover/ Head (£000)	(2) Turnover/ Estab. (£000)	(3) Gross Margin/ Turnover (%)	(4) Gross Margin/ Head (£)	(5) Net Margin (%) / Gross Margin
Grocers	15.5	114	26.1	4,046	- 8.5
Large General Food	36.4	797	24.7	8,991	42.7
Butchers	21.6	126	29.7	6,415	10.9
Greengrocers, Fruiterers	25.6	85	32.2	8,243	17.7
Dairies	n.a.	176	n.a.	n.a.	n.a.
Fishmongers	*	67	*	*	*
Bakeries	11.5	60	50.7	5,831	23.0
Off-Licences	96.8	239	9.8	9,486	21.3
Confectionery, etc	25.7	97	29.2	7,504	14.4
Clothing	17.9	108	42.3	7,572	25.1
Footwear	27.7	106	39.5	10,942	14.7
Household Textiles	15.8	82	45.5	7,191	15.6
Furniture, Furnishings	24.0	188	38.9	9,329	22.9
Electrical, Music, TV Hire	20.6	192	65.4	13,461	36.9
Hardware, etc	*	103	*	*	*
Chemists/Photo- graphic	30.3	142	32.4	9,817	38.0
Sports and Leisure	27.7	80	30.6	8,476	27.1
Booksellers	15.7	125	28.5	4,467	23.5
Other Non-Food	*	*	*	*	*
Mixed Retail	30.3	705	33.3	10,087	15.0

NB Two Part-time Employees = One Full-time

***** Figures available but not included for reasons of confidentiality.

Source: All data from Fraser Survey, except column (2) from Retail Inquiry.

sectoral differences in average percentage gross margins clearly exist. Further analysis reveals a **negative** rank correlation between turnover per head (and to a lesser extent, turnover per establishment) and percentage gross margin. In general, trades appear to divide into high volume-low margin or low volume-high margin types of operations. Since the same **money** gross margin can be earned by either approach, both are viable methods of retail trading. There is much empirical evidence (eg McClelland, (1967), Nooteboom, (1980)) to suggest that percentage margins in each trade are based on 'conventional'(2) percentage mark-ups for the principal commodities distributed through that trade and that the commodity mark-ups are themselves dependent on characteristics of the demand for the product. For example, a retailer dealing in an infrequently purchased product which has a high unit price will typically find he has a high stock/turnover ratio for that commodity (since he cannot temporally match supply and demand). Since the cost of holding stocks is a significant component of total costs, the retailer will seek to charge a high margin over purchase cost on such an item (3). Given that the demand for such goods often includes a desire for a substantial service element and is frequently income-elastic, there is a clear incentive for the retailer to attempt to realise high margins on these products. Some evidence in support of this contention is given in Table 4 below which compares **commodity** margins from the Scottish survey with a convenience/non-convenience good dichotomy suggested by Porter (1974) and with product income elasticities estimated by Nooteboom. Broadly, convenience goods are those which are purchased frequently and whose characteristics are familiar to the consumer. Non-convenience goods, on the other hand are bought infrequently and generally imply some learning and search behaviour on the part of consumers prior to purchase. For present purposes, the distinction is used as a summary proxy for the level of retail service provision likely to be associated with the sale of each good. Convenience goods require a low level of retail service and vice-versa for non-convenience goods.

Table 4 Scottish Commodity Margins and Product Characteristics

Commodity	Margin (%)	Convenience/ Non-Convenience	Income Elasticity
Groceries	19.8	C	0.50
Alcohol	9.2	C	0.90
Tobacco	10.8	C	n.a.
Clothing	46.4	NC	1.00
Furniture	37.2	NC	1.30
Jewellery	50.0	NC	2.00

Source: Fraser survey and references cited

While demand characteristics appear to have an influence on the general margins charged on products, the actual product margin charged in a particular store at a particular time will be influenced by many other factors including local competition, etc. The determination of store margin is further complicated by the fact that the product assortment offered is determined by the retailer who frequently opts to sell goods outwith his principal product groups. Pursuit of these points is, however beyond the scope of the present paper.

To the extent that the gross margin can be used as a measure of retail 'output', and noting that labour is the largest element of operating cost intersectoral comparisons of efficiency might be under-taken using some such measure as gross margin per employee. The gross margin per employee for

Scottish trades in 1979 in money terms is shown in column 4 of Table 3. Again, these figures reveal significant differences among Scottish trades with electrical/musical/TV hire, mixed retail and footwear having notably high margins per head, with grocers, booksellers and bakeries being at the other end of the scale.

There are certain difficulties in using gross margin based ratios for inter-sectoral efficiency comparisons however; for example, the gross margin includes pure profits which may be affected by differing elements of monopoly in the markets of different trades. Furthermore, equivalent gross margins may reflect very different operating characteristics and costs in different trades and hence may give misleading results in terms of efficiency differences. A good example of this is found in Table 3 where it can be seen that capital-intensive large food stores earn much the same gross margin per employee as labour intensive department stores.

These difficulties with output-based retail performance measures have led some writers (eg McClelland (op.cit)) to suggest that measures based on **financial efficiency** (rather than technical efficiency) could be usefully employed. The argument is that the profit-maximising retailer will set his prices, select his product ranges and determine his level of services, etc in the light of prevailing market conditions in such a way as to maximise his net return on assets or turnover, for example.

The Fraser survey permitted the derivation of a profit measure termed the **net margin** defined as:

calculated net margin = reported gross margin minus reported operating costs.

Salary payments taken by working proprietors were included as an operating cost, but loan interest and depreciation charges were not. This may mean that measured net margin is an overestimation of true profit in trades which are capital-intensive and/or have high stock ratios. A most important reservation concerning the Fraser data is that establishment net margins were generally calculated as a **residual** between stated gross margins and operating expenses and hence could be subject to significant errors if either of these items were incorrectly reported. However, to the authors' knowledge there is no alternative source on the profitability of Scottish retail trades.

Column 5 of Table 3 gives net/gross margin estimates for different trades derived from the survey data. Bearing in mind the caveats discussed above, the most profitable trades appear to be large general food, electrical/music/TV hire and chemist/photographic. The least profitable trades were grocers, butchers and confectionists/tobacconists/newsagents, with the former apparently actually making a loss.

Costs in Scottish Retailing

The largest single cost to Scottish retailers is the cost of goods bought for resale, estimated at 71% of aggregate turnover in 1979. Other costs reflect the provision of retail **services**, and since the gross margin is a measure of the reward for the provision of retail services (and also represents the fund out of which operating costs are met), this section concentrates on the relationships between various elements of operating costs and gross margins in different Scottish retail trades.

Labour costs are estimated to have accounted for 44% of gross margin in Scottish retail trade as a whole in 1979 and were the largest single item of operating expenditure in every KOB. However, the exact importance of labour costs varied quite widely among different trades: from a low of 30% of gross margin in electrical/music/TV hire to a high of 80% in grocers. Clearly such differences reflect variations in the labour intensity of the type of retail services provided.

Labour cost per person employed varied from £1,899 in confectioners/tobacconists/newsagents to £4,012 in electrical/music/TV hire. Generally trades which employed predominantly full-time staff with a relatively high skill level were found to have higher labour costs per head than trades with a high proportion of part-time staff of lesser skill. Labour costs per head appear to reflect the skill intensity of the labour required to provide the retail service in each trade. It is quite possible (eg grocers in the Scottish case) for the nature of the service provided in a particular trade to be highly labour intensive overall, but to be of low intensity in terms of skilled labour requirements.

Occupancy costs (4) are generally the second most important cost item, and for Scottish retailing as a whole accounted for 12% of the gross margin in 1979. Rates were the highest single occupancy cost (42% of total), and in total Scottish retailing paid an estimated £64 million in rates. Retailers regard rates as an unavoidable overhead cost, and as such feel they are a significant burden on profits: in aggregate, rates were equivalent to 22% of Scottish retail net margin in 1979. Again there were significant variations in the relative importance of occupancy costs which, from previous studies (eg McClelland (op.cit)), would be expected to be related to differences in establishment areal size and location. Unfortunately, this hypothesis cannot be tested from the Fraser data since size and location information was not collected.

Other important operating expenditure items were:

- (i) **business service costs.** These included accountancy and legal fees, bank charges, computing, advertising, etc and accounted for 5% of aggregate gross margin

- (ii) **transport costs.** These accounted for 2.7% of aggregate gross margin, or 0.7% of aggregate turnover. The relatively small importance of **recorded** transport expenditures strongly suggests that the cost of goods for resale to the retailer includes transport delivery charges from the producer in many cases

(iii) **energy costs.** Representing 2.6% of aggregate gross margin, by far the single largest item was expenditure on electricity (93% of total energy costs).

One final general point can be noted, however. **Packaging** costs, traditionally important in retailing, amounted to only 1.3% of total gross margin and 0.4% of total turnover. The relatively small proportion of contemporary retailer expenditure taken by packaging costs is indicative of the modern tendency for goods to arrive at the retail stage of the distributive chain pre-packaged from the producer or wholesaler stages.

Conclusions

Whether measured in terms of turnover, value added or employment, retailing is one of Scotland's largest industries. Figures from the retail inquiry suggest that in recent years the number of outlets in the trade has fallen slightly while real turnover has been growing slowly. During the period 1976-80, the structure of the industry as measured by the relative importance of different KOB's appears to have changed very little, though as always analysis at a more detailed KOB level is likely to reveal greater structural alterations. One feature which is clear however is that, while 'small shop' trades such as grocers, shoe shops, etc have a relatively high proportion of total Scottish outlets, 'large store' trades such as supermarkets and department stores are relatively much more important in terms of turnover.

Appraising the performance of retailers is difficult since, as the Fraser survey clearly revealed, not only are different retailing technologies employed but also different retailing 'outputs' are produced. Some trades could be identified as employing labour-saving (eg supermarkets) or labour-intensive (eg grocers) techniques. Similarly, trades could be distinguished on the basis of whether they were characterised by high volume/low margin (eg large general food, off-licences) or low volume/high margin (eg clothing, bakeries) operations. It is, however, difficult to compare the efficiency of different trades using any such measures. On the argument that the efficiency of any trade can be assessed by its ability to select a retail technology/output mix combination which maximises profit, the most 'successful' Scottish retail trades appear to be large general food, electrical/music/TV hire and chemists/photographic.

Apart from the cost of goods for resale, the most important item of retailer operating expenditure was on labour. The relative importance of labour costs varied from trade to trade depending on the quantity and quality of labour input required by the retail service technology chosen. Recorded expenditures by retailers on transport and packaging costs were relatively small suggesting that in the modern distribution network such costs are borne initially by the producer or wholesaler and are presumably included, at least in part, in the purchase cost of goods to the retailer.

FOOTNOTES

1. Another desirable indicator would be turnover per unit area but the survey did not request area data, nor is it reported in the Retail Inquiry.
2. Of course an individual trade will not adopt these blindly, but will use them as a benchmark for deriving gross margins appropriate to his own trading conditions.
3. In fact, the Fraser survey in common with previous studies reveals a positive correlation between average trade percentage margins and average trade stock/turnover ratios.
4. Defined as rent plus rates plus building insurance plus building maintenance costs.

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