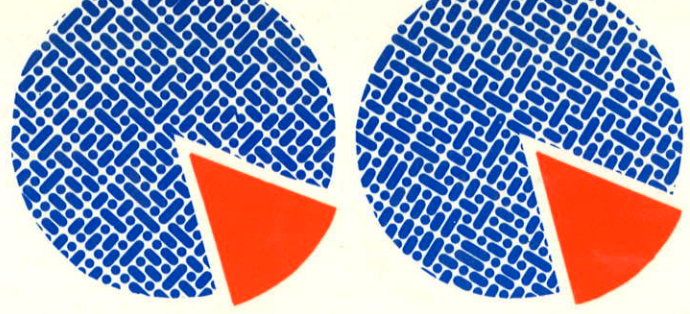
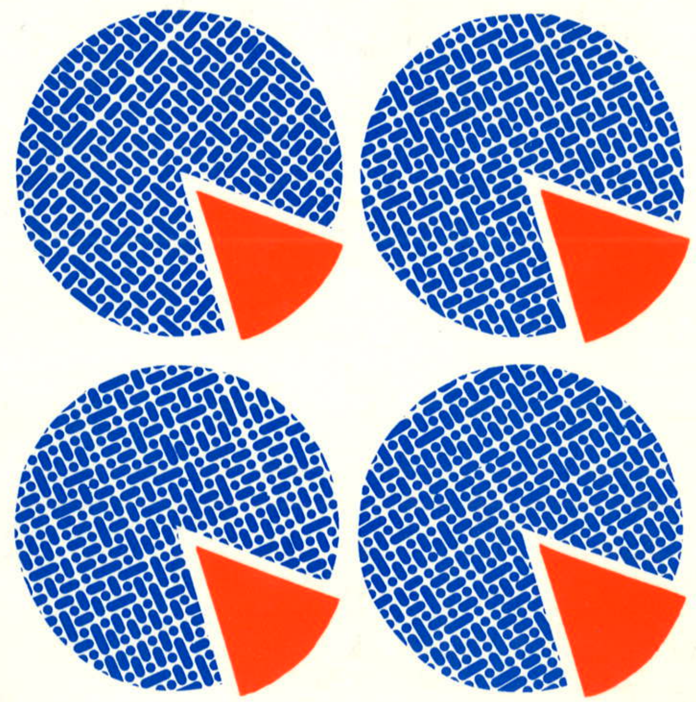


FIRMS AND MARKETS



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3 RISING CONCENTRATION: THE UK GROCERY TRADE 1970–1980[1]

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Introduction

Industrial economists among others have feared that an increase in concentration among sellers is likely to be detrimental to the public interest. Rising concentration is said to bring higher prices, higher barriers against new competitors and the dissipation of resources in non-price competition. Are these fears justified? Theory cannot fully justify or refute these fears; the argument hinges on evidence. Most empirical work on this issue has examined statistical relationships across samples of manufacturing (and mining) industries. Less work has been done examining industries over time, and very little work has been done on the service sector. The last omission is serious; in most Western economies the service sector is the largest and fastest growing. An examination of the UK grocery retailing trade between 1970 and 1980 casts doubt on the theory that rising concentration is always against the public interest. Some of the evidence used to support these conclusions has been drawn from the recently published Monopolies and Mergers Commission (MMC) Report on Discounts to Retailers (1981), but much has not been generally available before.

Brief Review of Theory

The economics literature suggests that rising concentration may be accompanied by some gains and costs. The gains may come from the greater efficiency in the utilisation of resources; the costs from

[1] The author alone is responsible for errors, all of which are unintentional. Grateful thanks to AGB; Michael Beesley; Mike Dent; Institute of Grocery Distribution, members of the trade; John McGee; Mary Morgan; Nielsen; Ken Tucker; Robin Wensley and Philip Williams.

the welfare losses of the higher margins which may be charged by the sellers.

Since the writing of J. S. Mill's *Principles* it has been recognised that increases in concentration may be associated with efficiency gains. These gains may occur within the industry. For example, if there were significant economies of scale or experience effects such that the most efficient firm size was larger than the current firm size, then were some firms to increase their size to take account of these unexploited gains, rises in their market share would occur. Such rises might translate into a rise in seller concentration and yet be associated with more efficient utilisation of resources. (See, for instance, Peltzman, 1977.) It will be suggested in this paper that in the UK grocery trade, such internal efficiencies have occurred but are relatively small.

Efficiency gains from rising concentration may occur outside the industry among suppliers. For example an increase in seller concentration may be accompanied by an increase in buyer concentration viewed from the suppliers' side. I shall call this effect 'buying power'. Lustgarten (1975) has observed this phenomenon in US manufacturing industry. In the UK grocery trade, the UK Monopolies and Mergers Commission (1981) has concluded that rising concentration has been associated with buying power; this paper will re-examine that evidence.

A number of economists have argued that rising concentration may bring undesirable effects. The arguments can be divided into two parts; those which consider the direct effect of increasing concentration on raising prices and those which consider the indirect effects of increasing concentration on prices by the raising of existing entry barriers.

It has been argued by Spence (1977) and others that increases in concentration may cause industry members to invest more resources in entry-deterring assets such as capacity, advertising or product differentiation. If this were so, and if the industry members were using some static or dynamic 'limit pricing' rule, then rising concentration might raise margins by this indirect route. This paper will examine the barriers facing entrants into UK grocery retailing generally, with special attention to the phenomenon of increased retailer advertising expenditures.

G Stigler (1964) and K Cowling and M Waterson (1976) among others have argued that, ignoring any effect on existing entry barriers, an increase in concentration may make industry members

more aware of their interdependence and more able to coordinate their actions so raising margins.[1]

A number of counter-arguments have been advanced that stress the many circumstances where it may be difficult or impossible to coordinate the raising of margins. Three of these are relevant here. The recent literature on contestability (see Baumol, 1982) emphasises that in the absence of entry barriers, existing firms may neither wish nor be able to raise margins. In retailing generally, entry is a credible threat as Hood and Yamey (1951) point out: 'Competition from new firms is not the only source of danger . . . retailers in other trades can take up items . . . the flexibility of merchandise is a potent contribution to price competition in retailing.'[2]

Peltzman (1977) among others stressed that the ability to coordinate actions may also depend on how the increase in concentration had arisen. If it had occurred by internal growth of the firms and was accompanied by changes in their rankings then coordinated actions between firms may be less likely.

Scherer (1980, pp. 224–5) stressed that management styles may also play a role. Where each firm's managers are drawn from different backgrounds then it may be harder to coordinate the raising of prices.

Since the pioneering work of Bain, it has been argued that concentration may work in a non-linear fashion. There may be thresholds below which increasing concentration has little effect; above these thresholds it may be accompanied by increasingly significant increases in market power. (For a survey see Scherer, 1980).

It is generally thought that, as far as retailing is concerned, the relevant thresholds in concentration (measured on a national basis) are quite small; smaller than those for manufacturing. For instance, Marion, Mueller *et al.* (1979, p. 7) noted that in the USA for grocery retailing in 1976 the four-firm concentration ratio was 19 per cent and the eight-firm 26 per cent. They (Chapter 6) expressed concern over the recent mergers that have caused national concentration to rise. Caves, Porter *et al.* (1980, p. 117) noted that in Canadian grocery retailing the four-firm concentration ratio in 1975 was 65 per cent; they (Chapter 14) commented that increasing concentration in sectors 'not subject to international trade' (of which retailing must be one) should cause concern.

In the UK in the last decade there has been a significant increase in concentration in grocery retailing. The four-firm concentration ratio has risen from 26 per cent in 1970 to 40 per cent in 1980 (or from 37 per cent to 51 per cent if the Cooperative stores are treated as one firm). This paper will now examine the causes and effects of this rise in concentration.

The UK Grocery Trade 1970–1980

UK grocery retailing is but one of many industries experiencing a rise in concentration. This increase has been large; the average market share of the top four or eight firms has grown by more than 40 per cent in the period 1970–1980. The significant rise in concentration has come about through internal growth of the firms and not by combination; moreover Allied Suppliers, the largest grocery retailer in 1970, fell to seventh place by 1980. The rising concentration has been encouraged and accompanied by fierce competition between the retailers. As a result grocery supplier margins and grocery retailer margins have fallen over the decade.

For those unfamiliar with the UK, here is a short description of the four types of retailers: multiples, cooperatives (cooperative retail societies), voluntary groups (retailers associated with wholesale buying organisations) and independents. Independent store operators are distinguished by operating fewer than ten outlets. Whilst there are a few large independent stores such as Carrefour, they are mostly small 'corner' grocers. Voluntary group members usually trade under the name of their buying group such as Spar, VG or Mace. While member stores are encouraged to purchase their goods from the federation, they are not obliged to do so; they frequently purchase from other wholesalers or independently. Most cooperative outlets are part of one of the large cooperative retail chains, which can purchase through the CWS (Cooperative Wholesale Society). However, many cooperative chains negotiate individually with suppliers and the CWS does not exercise central authority. In contrast, the outlets of multiple retailers are controlled centrally.

When examining the trade it should be realised that there is no general agreement as to whether the cooperative movement should be treated as one entity, or many; likewise for the voluntary groups. As the largest voluntary group, Spar, controls

less than 2½ per cent of packaged grocery sales, differing treatments of individual voluntary groups should not have material effect. The opposite is the case for cooperatives, whose share exceeds 15 per cent. Fortunately the trends in concentration are the same regardless of the treatment of cooperatives.

Trends in Concentration

There is no full agreement about the relevant market upon which to measure concentration. From the suppliers' viewpoint the national measure is probably appropriate. (UK food suppliers face minimal import competition.) From the buying public's viewpoint, the relevant market is certainly small. (Although increasing car ownership and lengthening of shop hours have extended the consumers' search area, almost all grocery products are purchased locally.) From the viewpoint of the retailers, competition takes place on many fronts; for larger retailers, local markets overlap and even regional ones are not clearly defined. Ideally an analysis of local, regional and national markets would be in order; alas trends of market shares (and hence concentration) are only available on a national basis. I am informed by those who have seen regional data on a time series basis that national trends reflect regional trends.

Market share data come from two sources: Nielsen and AGB. Nielsen (combining the Census reports into its statistics) calculates the sales of grocery retailers from data supplied by the firms. AGB, using a consumer panel, only measures the sales of major packaged grocery items. Differences exist between AGB and Nielsen data as different grocers sell differing product mixes; some emphasise products such as clothes, durables and fresh foods, whereas others stress packaged grocery items. AGB data permit calculation of Herfindahl indices and concentration ratios. Both AGB and Nielsen data ignore the sales of grocery items by non-grocery stores such as Marks and Spencer. (AGB have estimated that 85 to 90 per cent of all retail grocery sales go through grocers.)

Table 3.1, based on *Nielsen* data, shows that between 1950 and 1961 multiples gained little ground. It should be remembered that this was the period during which Retail Price Maintenance (RPM) was enforced. After RPM was abandoned around 1964, multiples and voluntary groups gained ground (mainly) at the expense of independent stores and cooperatives. For the period 1971 to 1981, *Nielsen's* data show a significant decline in the role of independent stores (21 per cent in 1971 to 11 per cent in 1981) and voluntary groups (22 per cent in 1971 to 17 per cent in 1981); a static role for cooperatives (15 per cent) and a significant gain in the role of multiples (44 per cent in 1971 to 58 per cent in 1981).

Table 3.1: Shares of U.K. Grocery Store Sales by Type of Store 1950–1981: Percentages

	1950	1961	1966	1971	1975	1976	1977	1978	1979	1980	1981
Multiples	24	27	36	44	48	48	50	52	54	55	58
Cooperatives	22	21	17	15	16	16	16	15	15	15	15
Voluntary Groups	54	13	21	22	20	21	20	19	18	17	17
Independents		40	26	21	16	15	14	13	13	12	11

Note: The columns may not add to 100% because of rounding.
Source: Nielsen

Table 3.2, based on *AGB's* figures, also shows a significant decline in the role of independent stores and voluntary groups and a significant gain for multiples. Differences exist between AGB and Nielsen data; AGB's figures show a higher market share for multiples for 1970, and a faster growth in market share. The differences are explained by the fact that in 1970 multiples sold proportionately more packaged groceries than other stores and this proportion has been increasing over the decade.[3] These

Table 3.2: Shares of Packed Grocery Sales by Grocers 1970–1981: Percentages[a]

	1970	1974	1975	1976	1977	1978	1979	1980	1981
Multiples	49[b]	53	55	57	60	64	65	68	70
Cooperatives	19	21	20	20	19	18	18	18	17
Voluntary Groups	16	14	14	13	12	10	9	8	7
Independent stores	18[b]	13	11	10	9	8	8	7	6
H8[c] with Cooperatives	.055	.057	.063	.059	.059	.066	.072	.076	.083
C4[d] with Cooperatives	37	41	42	41	42	46	48	51	53
C8[d] with Cooperatives	50	54	58	56	58	62	66	71	72
H8[c] without Cooperatives	.019	.021	.023	.023	.027	.037	.043	.048	.057
C4[d] without Cooperatives	26	27	27	27	30	34	36	40	42

Notes: a. The columns may not add to 100% because of rounding.
b. = approximate.
c. H8 = Herfindahl's indices based on leading eight stores.
d. C4, C8 = Four-firm and eight-firm concentration indices.
Sources: AGB/TCA

factors are reflected in AGB's figures which are based on sales of packaged groceries whereas Nielsen's are based on all sales.

The firm concentration ratios and Herfindahl indices computed on the basis of AGB data show that concentration increased very markedly over the decade. For instance the four-firm concentration ratio rose by 16 per cent, and the Herfindahl by 0.03.[4] (These increases were not significantly affected by including or excluding cooperatives.) The dramatic increases in concentration took place mainly after 1976, and had not stopped in 1980 as the 1981 figures show.

Sources of Increasing Concentration

Most of the increases in concentration can be attributed to internal expansion by the firms in the industry; only a small part was the result of merger activity. This is more remarkable given that the increase in concentration has been accompanied by a decline in one of the leading firms and the emergence of two new large retailers.

At the beginning of the decade (1970), the largest multiples (with market shares) were the Allied Group (7.9), Tesco (7.2), Sainsbury (6.1), Fine Fare (4.8), and International Stores (3.2). At the end of the decade (1980) they were Sainsbury (13.4), Tesco (13.4), Asda (8.5), Fine Fare (5.5), Kwik Save (5.4) and International Stores (4.7). Over the decade, Allied Suppliers fell from No. 1 to No. 7, losing nearly half its market share through closing unprofitable stores.[5] Tesco and Sainsbury, which in the period about doubled their shares, expanded mainly by opening new large stores.[6] Asda, the northern based superstore group, increased its market share about sixfold by a prolonged programme of rapid store openings outside town centres.[7] Kwik Save, also northern based, captured nearly 5 per cent of the market in ten years from an almost insignificant position in 1971; its policy was to offer cut-priced packaged groceries from smaller locations near town centres. Kwik Save has used acquisitions as a means of helping growth.[8] Similarly, International Stores has used acquisitions to help growth and it has increased market share by about 50 per cent over the same period.[9]

The cooperative movement has experienced little overall change in market share; however within the movement there have been many mergers, rationalisations and closures of smaller outlets, and building of many superstores. Even so it is thought that no individual retail society accounts for more than 1 per cent of grocery sales.

Effects of Increasing Concentration on Suppliers

The major force behind increasing concentration has probably been the desire to exploit 'buying power'. Retailing managers believe that a larger market share enables them to extract lower prices from suppliers. It has been said that Daisy Hyams, one time Chief Buyer of groceries at Tesco, was the bane of the grocery manufacturing industry because she was able to negotiate terms very favourable for Tesco. Suppliers also believe that increases in grocery concentration have resulted in greater buying power for the retailers causing manufacturers' margins to fall. The evidence generally supports this view.

In their 1981 report on Discounts to Retailers, the Monopolies and Mergers Commission (MMC) surveyed twelve major suppliers (manufacturers) of groceries supplying a range of nationally available brands valued at £960 millions. The report revealed that on average, the top four grocery multiples paid 1.5 per cent less than the next ten grocery multiples which in turn paid 2.0 per cent less than the rest of the trade. Some of these lower prices reflected services provided by the largest retailers in the form of in-store promotion etc., but in the opinion of the Commission the larger part reflected purchasing power. The Commission also examined discounts given to the three largest retailers Sainsbury, Tesco, and Asda, and showed that Tesco (by a small margin) obtained the best terms. Tesco, at that time, was the largest retailer, Sainsbury being a very close second.

Increases in buying power are evidenced by the downward trends over the decade in profitability of UK food manufacturing. Before examining the trends, it is appropriate to ask what determines the level and trend of profitability of food manufacturers. As regards the level of profits, the food manufacturing industry is highly concentrated and benefits from high entry barriers; in the absence of 'buying power' one might expect a higher than average rate of profit. As regards the trend, the movements of the value of sterling would not be a very important variable in this industry as there is little opportunity for import substitution. Food products such as cornflakes and biscuits are not easily transported long distances; and the generality of the proposition is confirmed by the share of UK manufacturing output going to export and very stable

shares of imports as a share of UK consumption. Likewise, the state of the economy would be unlikely to have great effect on the trends; generally food products have low income elasticities. Increased retailer buying power would adversely affect profitability trends especially if at the beginning of the period manufacturing had market power.

Figures on profitability are reported in Table 3.3. Those for food manufacturing are published by the Food and Drink Industries' Council and the Food Manufacturers' Federation and are based on a survey of 30 firms; the figures for all UK manufacturing are based on Department of Industry figures. Despite being adjusted for the effects of inflation, the data have limitations. Apparently no attempt has been made to separate out earnings from exports or from overseas subsidiaries which means that movements in exchange rates will affect the data. Also, the data are drawn from financial accounts and not managerial records so

Table 3.3 Profitability[a] of UK Food Manufacturers and all UK Manufacturers on a Current Cost Accounting Basis 1965 – 1977

Year	UK Food Manufacturers	All UK Manufacturers	Difference
1965	14.7	11.0	3.7
1966	11.4	9.2	2.2
1967	11.6	9.6	2.0
1968	10.5	9.9	0.6
1969	9.2	8.7	0.5
1970	6.5	5.8	0.7
1971	6.6	7.2	−0.6
1972	9.8	8.9	0.9
1973	1.3	7.1	−5.8
1974	3.5	3.5	0.0
1975	5.5	2.1	3.4
1976	5.4	4.4	0.9
1977	4.9	4.7	0.2
Mean 1965–1977	7.8	7.1	0.7

Note: a. Profitability is measured profits divided by capital employed 'net trading income before interest and less depreciation, and capital employed is averaged and includes net current assets other than investments, bank overdrafts and loans, together with tangible fixed assets at written down value'.

Sources: *Food and Drink Industries' Council* and *Food Manufacturers' Federation* cited in MMC (1981) p.197

their validity as measures of economic rates of return is subject to the usual caveats. (For a full discussion of this point see Fisher and McGowan 1983.)

As shown in Table 3.3, the profitability of food manufacturers measured on a *current cost* accounting basis, has fallen from 14.7 per cent in 1965 to 4.9 per cent in 1977. (1977 is the last year data were available.) This decline has been continuous, except for the years 1972–74 where the average of these three years is below the trend. Whilst year to year movements in profitability are not correlated with changes in retailing concentration, the overall declining trend is consistent with the view that buyers have become more 'powerful' over the decade.

Table 3.3 also gives figures comparing food manufacturers' profits with those of all manufacturers. They show that in the late 1960s food manufacturers were on average considerably more profitable than all manufacturing; and that between 1968 and 1974 the differences steadily vanished so that the rates of profit equalised. In 1975 and 1976 there was a reversal of the trend but the change was not great, and could be explained by the fact that UK manufacturing generally has had to compete with tougher international competition than food manufacturers. Once again, year on year changes in profitability differences are not correlated with changes in retail concentration, but the overall picture is consistent with the hypothesis that buying power has caused a decline in food manufacturers' profits, from a level which was greater than average to a level which is now average.

Economies of Scale and Increasing Concentration

In gauging the importance of 'buying power' and the potential importance of economies of scale it is useful to bear in mind the cost structure of a typical multiple grocery retailer. The value of sales is made up roughly as follows: cost of purchases 80 per cent; cost of labour 10 per cent (most of which is store labour); rent and rates 4 per cent (most of which is the cost of stores); other expenses 4 per cent; net margin 2 per cent.

Several writers have stressed the cost advantages from operating larger stores (see, for instance, Tucker, 1978). Such benefits come from higher labour and capital productivity. In recent years the 'most efficient store size' appears to have increased.[10] But this change cannot have 'caused' increases in concentration as even the largest stores (35,000 square feet) account for no more than 0.2 per cent of national grocery sales.

At the firm level, the benefits traditionally associated with scale have been improved reporting and control systems, reduced training costs and lowered warehousing costs. Training costs are not a large expense for grocery retailing as most of the labour is unskilled; reporting and control costs are not large either; in these areas benefits of scale can be small at most. Centralised warehousing used to be an important benefit of scale; however, not only do the newer large stores usually have a warehouse as an integral part of the premises eliminating the need for centralised warehousing but many of the packaged grocery items such as biscuits, cake, frozen foods, bread and milk are delivered direct from supplier to the branches. In summary, the benefits of large scale do not seem to explain the dramatic increases in concentration.

The Effects of Increasing Concentration on the Role of Price

Competition in the grocery industry takes place on many fronts; these include advertising, store location, store cleanliness, opening hours, range of products stocked, quality of own label goods and last but not least price. Contrary to what might be expected the increase in concentration over the decade has been associated with greater emphasis on price. This is evidenced by the trend towards centralisation of price decisions, Tesco's decision to stop using trading stamps and changes in firms' marketing expenditures.

Most major grocery multiples make pricing decisions regarding packaged groceries centrally and frequently. Commonly the board of directors meets weekly on Monday to decide price policy and in many cases to fix the prices of key high volume items such as baked beans. After such meetings the central office will issue price lists to branches. Within any organisation there may be several different lists. Usually, the highest prices are charged in the lowest volume outlets. Asda, having only large stores, most of whose area is greater than 20,000 square feet, has one price list; Sainsbury, which has stores up to 25,000 square feet, has two (sometimes three) price lists and Tesco, which has stores of all sizes, has three price lists.

Some firms such as Tesco permit regional or branch managers to alter some prices to suit local conditions; others such as Asda allow no deviations. In Asda's case, freedom to alter price is curtailed by the policy of asking suppliers to price the goods in the factory. Trade sources suggest that the general trend of the industry has been towards fewer lists and less local latitude. The benefits of this policy are greater control over price and a focusing of the store manager's role away from price towards operations. The greater centralisation of price decisions suggests that retailers view control of price as more important than they did before.

There is also evidence that there is an increasing willingness to use price as a central competitive weapon. One of the key elements of Tesco's strategy in the late 1960s and early 1970s was its use of trading stamps. Customers could redeem the stamps for products offered by Green Shield. Because of Tesco's national position, the giving of stamps was an important form of non-price competition for the trade. Tesco was not the only store giving stamps, the cooperatives also gave stamps redeemable for cash or purchases in cooperative stores. In June 1977 Tesco stopped providing stamps, valued at 2½ per cent of sales, and cut its prices by an average of 4 per cent. Not surprisingly this provoked competitors to cut prices too. Around the same time, the cooperative movement stopped providing stamps in its large stores. These moves of dropping stamps increased the role of price in competition.

There has been a significant change in the advertising mix of grocery products over the last decade. In real terms, retailer advertising has risen and manufacturers' advertising has fallen. Between 1970 and 1980, retail advertising expenditures by grocery and other food retailers rose to eightfold from £5 millions to £41 millions in comparison to a rise in the advertising price index of four times and the overall trend in advertising expenditures by all UK firms which rose three and a quarter times. But, over the same decade, food manufacturers' advertising merely doubled from £66 millions to £137 millions. Combining the two sets of expenditures we see that the total of expenditures on grocery and other food items rose about two and a half times from £71 millions to £178 millions. The combined total considered as a proportion of all advertising or viewed in relation to the price index has fallen over the decade.

There are two reasons for supposing that this change in marketing mix has increased the role of price in retailing. First, as retailer advertising tends to focus more on price than manufacturers' advertising, the changing mix increases the role of price. Secondly, the consumer, indifferent as to who pays for what advertising, now receives fewer advertising messages than before. Unless the persuasiveness of these messages has increased, the consumer is probably viewing prices more carefully than before.

The Effects of Increasing Concentration on Collusion

The increasing emphasis by grocery retailers on price is *not* proof of increasing competition; price as a weapon could have become more recognised but less used. One of the chief arguments concerning the supposed dangers of rising concentration makes just this point. In addition to evidence on profit margins which are discussed in the next section, there are three reasons for believing that price 'collusion' has not taken place. First, new entry has been a continuous phenomenon in grocery retailing; secondly the evidence suggests that each firm faces a highly elastic short run demand curve suggesting that the incentives to cut price are high, and thirdly price coordination does not seem to have taken place for firms manifestly take differing views on price levels and price changes.

Besides the continuous stream of new entry into small single-outlet grocers from aspiring would-be entrepreneurs, during the 1970s there have been a number of occurrences of entry and expansion on a sizeable scale. Already noted was the massive expansion of Asda which increased its market share from 1.5 per cent in 1971 to 8.5 per cent in 1981, and expansion by Kwik Save from an insignificant position in 1971 to nearly 5 per cent in 1981.

If a firm faces a highly elastic demand curve, there is a greater temptation to cut price when margins are believed to be high; a highly elastic demand curve means that the gains from price cutting can be large. That grocery retailers face a highly elastic demand curve is well asserted and can be shown.

AGB has collected price data for groceries offered by major multiples and the cooperative societies. The price data have been compiled into an index based on the weighted average charged for a basket of packaged groceries (which is the same basket used for their market share statistics). These monthly price data for the period March 1977 to March 1978, together with some monthly market share data, have been made available to this researcher. Using these monthly data an estimate of demand elasticity can be computed, see Appendix 3.1.

For the data for Tesco, the major national retailer, the fits were good and the results robust, and indicate an elasticity of four. When one considers that the data are monthly, this is a high number. Relationships between price and market share were not robust for Asda, Sainsbury or the cooperative stores; this is hardly surprising as the data were computed on a national basis whereas

Sainsbury and Asda are regional companies, and the cooperatives operate a variety of stores and price lists.

The management of the four most important retailers Asda, Sainsbury, Tesco and the cooperatives have come from differing backgrounds and run firms very differently. In particular, Asda's top management was recruited from outside the grocery industry and until 1965 its parent company Associated Dairies had no significant association with grocery retailing. Sainsbury is a family firm; its board of directors controls 45 per cent of the voting stock. Tesco, formerly a family firm, is publicly owned.

In conclusion, analysis of the data provides little support for the theory that there was price collusion.

Effects of Increasing Concentration on Performance

Thus far the paper has considered the effect of increasing concentration on the conduct of firms. It has been noted that more emphasis has been placed on price competition and it has been suggested that price collusion is not taking place. The evidence also suggests that firms face a high price elasticity in the short run and that entry barriers are low (but perhaps rising). All these observations combine to suggest that grocery retailing is becoming more competitive.

The evidence also suggests that grocery retailers are exercising buying power against suppliers, forcing their profit margins down to a level on a par with the rest of UK manufacturing. Are the discounts received by multiple retailers being passed on to the public at large, or are they being kept and dissipated in unnecessary expenditures or distributed as higher profits? Executives of the food manufacturers often say that the discounts are not being passed on, and they cite the high profitability of multiples such as Sainsbury, Kwik Save and Asda. Executives of retailers say these high profits are exceptional and caused by unusual operating efficiency and that the discounts are being passed on. Theory lends support to the retailers' view, namely that consumers should benefit from discounts received being passed on in the form of lower prices.[12] The evidence goes further, it suggests that not only are discounts passed on but that increased competition has taken place forcing retailer margins down too.

The MMC (1981) examined the prices paid by grocery retailers and the prices charged to consumers in three towns in April 1979. The sample contained 170 retail outlets; one each of the top four

retailing multiples, eight of the cooperatives and 53 of other multiples. The products surveyed included 25 brands of eight packaged grocery products. On average, one-half of the variance in output prices could be explained by the variance of input prices. Simple correlations showed that a 1 per cent fall in input prices produced a 1 per cent fall in output prices; this relationship was statistically significant. These results lend *some* support to the notion that lower input prices are passed on.

It was remarked earlier that the major multiples charge different mark-ups by size of store; the MMC made no attempt to control for the variable 'size of store'; moreover its sample was strongly biased towards independents and smaller multiples. These are serious deficiencies and the MMC findings cannot be considered as conclusive; another test is needed.

Examining changes in gross and net margins of all grocery retailers over the decade provides further, stronger, support for the view that lower input prices have been passed on in the form of lower output prices, and support for the view that the industry has become more rather than less competitive.

Data on gross margins have been collected by the Office of the Census and the Institute of Grocery Distribution (IGD). For independent grocers (which include voluntary groups), the Census data reveal that margins were 20.1 per cent in 1971, falling to 15.7 per cent by 1979 (see Table 3.4). Margin trends for multiples are harder to ascertain. In 1971, the Census excluded cooperatives from its data, and included them for the data for 1976 through 1979. Further difficulty was caused by the fact that in 1976 and 1977, several large grocery retailers (such as Asda) appear to have been excluded on the basis that they sold significant amounts of non-grocery type products such as durables and clothes. Even

Table 3.4: Gross Margins of Grocers 1971 – 1979

	1971	1976	1977	1978	1979
Independent Grocers (including Voluntary Groups) (1 – 9 Outlets)	20.1	15.1	15.4	15.3	15.7
Multiple Grocers	19.9[a]	18.4[b]	17.0[b]	17.1	18.0

Notes: a. Includes cooperative stores.
b. In 1976 and 1977 large general foods retailers were excluded whose sales comprised around one third of large multiple retailers.
Source: Census of Distribution (1971); Retail Enquiries 1976–79

allowing for these changes, the Census statistics are clear: the gross margins of multiples in the late 1970s were well below the figure for 1971.

A further analysis of Table 3.4 shows that margins for multiples in 1977 and 1978 were below those of 1976 and 1979. The lower figures for 1977 and 1978 are properly interpreted as the result of the price cut initiated by Tesco in June 1977. Was the figure for 1971 typical? It seems that it was, as is shown by other margin data.

IGD have compiled estimates on gross margins for multiples. These data covering the years 1972/3 to 1978/9 confirm the declining trend in gross margins for multiples (see Table 3.5). Data for years after 1978/9 have not been released; apparently they have risen a little over 1977/8 but are nowhere near the 1972/3 levels.

Table 3.5: Gross Margins and Net Margins of Multiple Grocers 1973–1982

Year ending April	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Gross Margins	20.0	19.5	18.8	18.5	18.9	18.1	17.8	n.a.	n.a.	n.a.
Net Margins	3.5	3.5	2.5	1.7	2.1	1.8	1.7	1.9	1.8	2.1
Difference	16.5	16.0	16.3	16.8	16.8	16.3	16.1	n.a.	n.a.	n.a.

Note: n.a. not disclosable, but 'above 1979 levels and well below 1973 levels'.
Source: IGD

The IGD have also compiled estimates of net margins for multiples (see Table 3.5). These data show that from 1972/3 to 1981/2 net margins have almost halved. It is apparent therefore, that there has been a significant reduction in gross margins and net margins. (It is not possible to give any data on net margins or on returns to capital for independent grocers.)

When comparison is made between the UK experience and that of the US the trends described above become more remarkable. Marion, Mueller *et al.* (1979) report that the gross margin for US grocery multiples averaged about 18 per cent between 1965 and 1977 with almost no change between the beginning and end of the period. Likewise, net margins remained constant around 1½ per cent.

The Future

The trend towards increasing concentration has not shown any sign of reversing. If the past has no reason to cause concern, should the future be considered differently? Until now, there appear to have been low entry barriers into retailing. If these barriers were to rise then there might be cause for concern.

One future barrier to entry might be imminent changes in retailing technology involving laser checkout systems. These new systems may confer considerable advantages on larger firms in the industry especially those with larger stores. Electronic point of sale systems, of which laser scanning is a part, confer advantages in stock control as well as reducing the need for labour to price goods individually. Early users may gain advantages through learning effects that make late entry less attractive.

Members of the trade frequently point out that entry by building new stores is becoming increasingly difficult. The number of potential sites is in decline partly due to market saturation and partly because of the absence of land. Even where sites exist, local authorities appear less willing to grant planning permission — partly as a result of the opposition of the local small retailer lobbies. But this supposed entry barrier can in part be overcome by taking over existing retail sites vacated by exiting grocery or other retailers; it is doubtful whether site availability will be a serious entry barrier to new firms.

There have been two notable mergers in recent years, one between Allied Suppliers (the eighth-largest retailer) and Argyll Foods and the other between Linfood (the ninth-largest retailer) and Key Markets. In each case the market shares of the acquired firms were less than 2 per cent and the combined firms less than 6 per cent. Clearly a wave of mergers among the lead firms might give rise for concern, but these two recent mergers would not appear to be significant.

Conclusion

This paper has examined the UK grocery trade. It has revealed a substantial increase in concentration over the years 1970–1980, which trend appears to be continuing into the 1980s. The increased concentration, achieved by internal expansion of firms, was chiefly attributed to the benefits of centralised buying allowing larger retailers to purchase more cheaply than smaller ones. The increases in concentration, and buying power, appear to have had an appreciable effect on suppliers. Supplier profitability in the early

1960s was considerably higher than the average for manufacturing; by the late 1970s profitability had fallen, and had reached a level equal to that of all manufacturing.

Because of the low entry barriers and high firm price elasticities, it was suggested that increasing concentration among grocery retailers would be associated with greater price competition. The abandonment of the use of trading stamps and the changing mix of advertising expenditures point to this. As a consequence, one would expect highly competitive behaviour and this was confirmed by the evidence. Over the period 1970–1980 retailers' gross margins and net margins fell indicating that not only were lower input prices being passed on, but that retail margins were falling as well.

Appendix 3.1

To calculate the elasticity of demand for Tesco, multiple regressions were run using market share (MS) as the dependent variable and price (P), lagged price (LP) and lagged market share (LMS) as the independent variables. In the model given below, the relationship between price and market share is dynamic:

$$MS = aP + bLP + cLMS + \text{error}.$$

The long run effect of price on market share is given by the equation $(a + b) / (1 - c)$. The model may be restricted by omitting

Table A3.1: Relationship Between Tesco's Market Share and Tesco's Price for the Period March 1977 to March 1978

	Constant	P	LP	LMS	df	Implied Elasticity
(1)	49	−0.24	−0.15	0.047	11	3.9
	(6.9)	(4.0)	(2.4)	(0.7)		
(2)	52	−0.25	−0.17		12	4.0
	(12.4)	(4.4)	(3.3)			
(3)	70	−0.62			14	5.9
	(4.7)	(4.0)				

Notes: Figures in brackets are Student 't' statistics; the mean price was 100 and mean market share 10.5.
Data Source: AGB/TCA see text.

the variables LP and LMS. It can be seen from the results shown in Table A3.1 that (statistically) equation (2) provides the best fit and the long run elasticity in this case is 4.0. This is the best equation because the 't' statistic on LMS is insignificant, unlike the 't' statistic on LP. (However regardless of the restriction imposed, all the estimates yield high elasticities.)

Notes

1. From time to time antitrust policy has been based seemingly on analysis of concentration effects alone, for example the policy of the US Federal Trade Commission towards mergers in the late 1960s.
2. Some local authorities are said to favour planning applications from existing well-established firms. If this were the case then there could be an entry barrier to new firms to retailing generally.
3. The Census figures on commodity line sales of grocery retailers confirm this; compare the 1971 *Report on Census of Distribution* with the 1979 *Retail Enquiry*.
4. The Herfindahl index is the sum of the squared market shares; in this case it is based on the shares of the largest eight firms.
5. Allied Suppliers originally rose to No. 1 position by acquiring Moores Stores.
6. Tesco acquired Cartiers Stores in 1979; Cartiers had 0.5 per cent market share. Sainsbury made no significant grocery retail acquisitions in the decade.
7. Associated Dairies, the parent company of Asda, made no acquisitions in the grocery trade in the decade.
8. Kwik Save acquired Cee-N-Cee in 1979; Cee-N-Cee had 1 per cent market share.
9. International Stores is owned by BAT.
10. Between 1974 and 1979 the average size of new stores opened by multiples rose from 11,000 square feet to 21,000 square feet and the average size of store closed rose from 1,500 square feet to 2,200 square feet.
11. For a brief description of the origins of the firms and their management see the London Business School '*Tesco*' unpublished case study.
12. In theory, the monopolist takes both cost and demand into account when setting price; a fall in cost of an input causes a profit-maximising monopolist to lower prices unless the input is not used in variable proportions.

References

Baumol, W. J. (1982) 'Contestable Markets: An Uprising in the Theory of Industry Structure', *American Economic Review, 72*, 1–16.
Caves, R. E., Porter, M. E., Spence, A. M. and Scott, J. T. (1980) '*Competition in the Open Economy*' Harvard University Press, Harvard, Conn.
Cowling, K. and Waterson, M. (1976) 'Price Cost Margins and Market Structure,' *Economica, 43*, 267–74
Fisher, F. M. and McGowan, J. J. (1983) 'On the Misuse of Accounting Rates of Return to Infer Monopoly Profits', *American Economic Review, 73*, 82–98
Hood, J. and Yamey, B. S. (1951) 'Imperfect Competition in Retail Trade'

Economica, 18, reprinted in K. A. Tucker and B. S. Yamey *Economics of Retailing*, Penguin 1973
Lustgarten, S. H. (1975) 'The Impact of Buyer Concentration in Manufacturing Industries', *Review of Economics and Statistics, 57*, 125–32
Marion, B. W., Mueller, W. F., Cotterill, R. W., Geithman, F. E. and Schmelzer, J. R. (1979) *The Food Retailing Industry*, Praeger, New York
Peltzman, S. (1977) 'The Gains and Losses from Industrial Concentration', *Journal of Law and Economics, 20*, 229–63
Scherer, F. M. (1980) *Industrial Market Structure and Economic Performance*, Rand McNally, Chicago.
Spence, M. (1977) 'Entry, Capacity, Investment and Oligopolistic Pricing' *Bell Journal of Economics, 8*, 534–44
Stigler, G. (1964) *Theory of Price*, second edn., Macmillan, London
Stigler, G. (1982) 'A Theory of Oligopoly' *Journal of Political Economy, 72*, 1–16
Tucker, K. A. (1978) *Concentration and Costs in Retailing*, Saxon House, Farnborough
UK Government, Monopolies and Mergers Commission (1981) *Report on Discount to Retailers*, London, HMSO

4 THE STRUCTURE AND BEHAVIOUR OF THE BRITISH BUILDING SOCIETY MOVEMENT

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Introduction

Building societies are non-profit organisations, subject to the 1962 Building Societies Act. All societies are registered under the Chief Registrar of Friendly Societies whose role is to ensure that societies are prudently managed and operate securely in their members' interests.[1] Societies must be financially independent, i.e. neither owning subsidiaries nor being a subsidiary of another institution. Their business is restricted to raising funds and making loans which are fully secured against property. They are required to keep certain reserve and liquid asset ratios and to limit the bulk of their loans to a maximum of £60,000. They play an important part in both the savings market, where they attract over 45 per cent of short-term personal sector savings, and the mortgage market where they have usually provided over 80 per cent of house purchase finance.

Building societies have been the subject of many studies in recent years. These have described and analysed their objectives, their method of operation in the mortgage and finance markets and, in particular, their impact on the housing market. In these discussions the behavioural assumption that building societies act as a price fixing 'cartel' has been a relevant factor. Indeed one recent work specifically analysed the benefits and particularly the costs of acting in this way (Gough and Taylor, 1979). However, there has been little examination of the reasons why this cartel exists or of why it has remained stable for so long. These are important questions both in the analysis of the way in which the housing finance market operates and in the determination of policy towards that market. They are particularly relevant at the present time because competitive pressures on building societies have increased with respect to both the inflow of funds and the provision of mortgages.

In this paper we first examine different views of the importance of the cartel. Next we look at how the cartel operated in the relatively uncompetitive environment which obtained until the late