

Supermarket Profitability Investigation

John Thanassoulis¹

University of Oxford

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Executive Summary

This is a statistical investigation into the profitability and growth of UK supermarkets over a period spanning the last 30 years. In compiling this research I have made use of the following data sources. Firstly two sources of company financial data. The first is collected by Thompson's DataStream and runs from 1980 to the present. The second is collected by Orbis and runs from 1998 to the present. In addition I have used the Competition Commission reports into the UK grocery sector from 2008 and also from 2000. Finally Office of National Statistics (ONS) data were also employed to place grocery sales into a national context. The data will be introduced in detail at the appropriate points of the analysis.

The research is ordered according to the original question numbers requested by Channel 4.

The headline results of the analysis are as follows:

- a) Over the last 30 years supermarket profit margins have been broadly flat at around 5%. They have not been growing as a result of increased consolidation. Thus more money is not being made per product sold.
- b) The last 30 years has seen the largest supermarkets grow to represent a huge fraction of the industry. As a proportion of grocery spending the largest 3 supermarkets have expanded their share from under 20% in the early 80s to over 70% now according to initial estimates allowed by the available data. This is against a backdrop of declining total spending on groceries – yet total spend at the largest supermarkets is growing. So overall, as the UK consumer spends less on groceries, they are spending more (in absolute levels) at Tesco, Asda and Sainsbury.
- c) Allowing for food price inflation the main three supermarkets have seen growing profits over the last 30 years: of the order of 2 to 3 times for Sainsbury and Asda. Yet Tesco has been in a different league with real profits growing nearly 9 times in 20 years since 1987. The timing of Tesco's pulling away dates to the mid 1990s. At this time two decisions were taken by Tesco which seemingly led to this success:

¹ I am very grateful to Howard Smith for very detailed comments on a first draft. I am also very grateful to Jouni Sohkanen for excellent research assistance. My gratitude goes to Wall-to-Wall Media, on behalf of Channel 4, for financial support for this research project. All errors and views are my own.

- i. A continued focus on UK expansion even as the planning regime for out of town stores was being tightened. At the same time Sainsbury's opted for US expansion and Asda was trying to deal with a financial crisis.
 - ii. The introduction of a loyalty card scheme (clubcard) whose data was analysed in detail to help refine the offer in store and target promotions at individual consumers.
- d) Size has granted the large supermarkets some buyer power against their suppliers – but only for secondary branded and own label goods. An increasing move to own label goods has thus allowed costs to be kept down and contributed to the supermarkets being able to fight off the arrival of the deep discounters (Lidl, Aldi etc). For some of these goods the supermarkets' share of revenues has increased markedly (milk, fruit).
- e) In recent years the largest supermarkets have been growing by expanding into the convenience food sector. The major losers of market share have been small grocers – the major winner has been Tesco. Others have been holding their own.

Summary of results by original question number

1. To what extent have the supermarkets managed to protect their margins when it comes to food sales over the last 10-20 years?

Over the last 30 years supermarket operating margins have held broadly steady: in particular margins have not been rising as consolidation has taken hold. There have however been increases in market share over that time. Tesco in particular has been singularly successful here and has grown her market share of the grocery market substantially without compromising profit margin. Concurrently small grocery stores have been the recent losers.

Market shares have not grown uniformly across localities, so that consumers in some localities face more competition than in others. There is evidence to show that stores facing less local competition have higher profit margins.

2. To what extent have supermarkets, for example, forced supply prices down to ensure "bargains" at the point of sale while still protecting their profit levels?

Suppliers claim in questionnaires that their margins have been declining. However on average, financial data suggests that supplier margins have been steady, and perhaps less volatile, in recent years. There is therefore little evidence from margins of a widespread supplier squeeze.

Analysis from the Competition Commission suggests however that the big four supermarket firms do pay lower prices to suppliers than smaller retailers. Further, they find that the extent to which large supermarkets can force supplier prices down depends on the nature of the supplier. If it is a large primary brand then the size of the retailer has no significant effect. It is when the supplier faces competition - e.g. is a private label or secondary brand supplier - that large supermarkets can force supply prices down.

For individual agricultural products (beef, lamb, milk, fruit), supermarkets have been able to grow their share of revenues without sharing this growth with the suppliers. However in some cases (lamb and beef) suppliers regain their original share of the revenues. In other cases (milk and fruit), suppliers' margins are held steady while retail margins have risen.

3. How much of the average British family's weekly shop is spent at supermarkets - how has this changed over the last 10, 20, 30 years?

The total spend on groceries has been declining consistently for nearly 50 years. Around 17% of the national spend was on food in the mid 60s, whereas the figure is closer to 9% now. This declining trend in food spending only very recently appears to be reversing. Over this same time period the largest supermarkets have captured an expanding share of the national spend. This is up from around 3% in the early 80s to over 7% of the national spend by the turn of the millennium.

4. To what extent have supermarkets been able to maintain their margins and profits in harsh economic climates, even before the current one?

Supermarkets have seen relatively steady profit margins, and some even profit growth during recessions. The advent of own-label produce has allowed supermarkets to compete more effectively with the price discounters (Aldi, Lidl, Netto). In harsh economic times the low-price discounters present a real challenge as consumers become more price sensitive and start to shop around; the big four supermarkets have successfully fought this challenge by introducing low-price own-label goods on a number of key product lines.

5. How, given that we spend less of our annual incomes on food now than we did (say) 10 years ago, are the supermarkets nonetheless able to continue profit growth?

There are 4 main strategies used by supermarkets to increase their profitability with the British consumer. These are (a) the introduction of own label ranges which can be sourced at lower input prices; (b) the expansion of sales area either through acquisition or organic growth; (c) the expansion into the convenience food market; and (d) the expansion into non-food product categories.

6. What proportion of UK food retailing do the supermarkets account for?

Over nearly 20 years from 1981 UK consumers lowered their spending on groceries. However at the same time they transferred the spending they were making on groceries to the big 3 supermarkets. I estimate that these supermarkets grew their share of this grocery spending from under 20% to over 70% over the same time horizon. These figures are slightly overstated as they include spending on petrol, alcohol and other non-food – though they are compatible with other recent estimates. This large expansion in share of grocery spend has been achieved at constant margins. This has translated into huge profit growth for the supermarkets.

Tesco has been especially successful here with real profits (that is deflated for food inflation) growing nearly 9 times in 20 years since 1987. Tesco's profits have outstripped any of their rivals from the mid 1990s. This seems due to two very successful decisions made by Tesco at

this time. The first is a continued focus on UK expansion while Sainsbury's opted for US expansion and Asda was trying to deal with a financial crisis. The second was the introduction of a loyalty card scheme whose data was analysed in detail to help refine the offer in store and target promotions at individual consumers.

7. What are the changing profit margins of the main British supermarkets?

Supermarkets are not a group of companies whose margins are growing. They have, in general shown flat profit margins over the recent past. In addition they have been experiencing some increased volatility in their margins recently.

1. To what extent have the supermarkets managed to protect their margins when it comes to food sales over the last 10-20 years?

To address this question I make use of the DataStream financial time series data. This data set offers operating profit margin data on a yearly basis. These data are drawn from the shareholder financial reports issued by the companies. I make use of the data relating to the three largest supermarkets over the period of study: Tesco, Sainsbury's and Asda. The data can be described as follows:

Table 1: Operating Profit Margins – DataStream data

	Tesco	Sainsbury's	Asda
Dates	1980-2008	1981-2008	1980-1998
Number of observations	29	28	19
Minimum	2.58	2.21	1.5
Maximum	7.28	7.5	7.36
Mean	5.08	5.16	4.60
Standard Deviation	1.321	1.573	1.444
Mean 95% confidence interval	0.502	0.610	0.696

The operating profit margins for these supermarkets are given in Figure 1 below. To aid interpretation I have added in the annual GDP growth rate as provided by the Office of National Statistics:

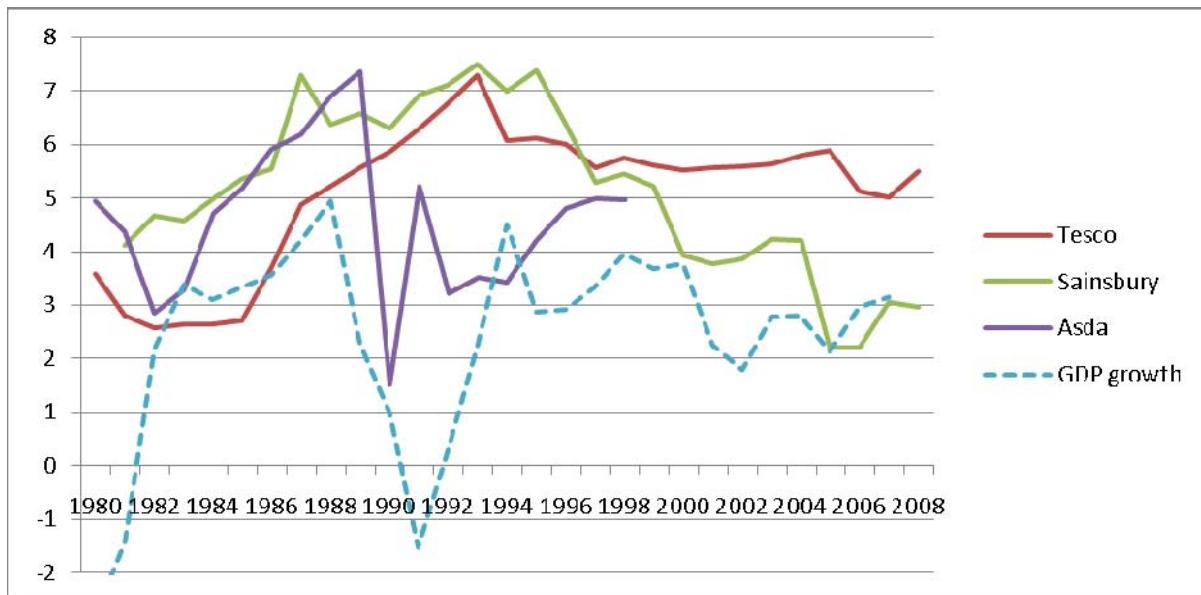


Figure 1 - The Operating Profit Margins of the three largest UK supermarkets.

Source: DataStream and ONS.

Asda is alone amongst the big 3 in appearing to have mildly pro-cyclic profit margins (Table 2). That is Asda's profit margins were pulled down around periods of recession. This pro-cyclicality of ASDA profit is however most likely coincidental: ASDA tried to follow Tesco in a strategy of trying to move upmarket in the late 1980s, but this strategy was not successful and resulted in lower profits. Procyclicality is not true of Tesco and Sainsbury's who may actually grow their profit margins slightly during recessions. Sainsbury's and Tesco enjoy mildly positive correlated profit margins. This suggests that Tesco and Sainsbury are successful under similar macroeconomic conditions. Consistent with this, food retailers are regarded by stockbrokers as a defensive stock.

Table 2: Correlations Between Operating Profit Margins

	<i>Tesco</i>	<i>Sainsbury</i>	<i>Asda</i>	<i>GDP growth</i>
Tesco	1			
Sainsbury	0.2757	1		
Asda	-0.0417	0.0953	1	
GDP growth	0.0756	-0.0033	0.2176	1

The operating margins of all three big players have averaged between 4.60% (Asda) and 5.16% (Sainsbury's) over the period. However, the most striking feature of the operating profit margins is that there is no clear upwards trend. The margins, if anything, are flat – they are not growing.

This is perhaps surprising. In recent years supermarkets have been much in the news as consolidation has gripped the industry. One might have therefore expected this to translate into

increasing profit margins for the supermarkets. This is not however the case according to the DataStream data.

Using directly sourced data this lack of margin growth is confirmed by the Competition Commission grocery investigation 2008. See Figure 2. This figure shows that the operating margins of the big four supermarkets have been flat or declining in the recent past. In particular Asda and Tesco have enjoyed flat operating margins this decade, whilst Sainsbury's have been declining.

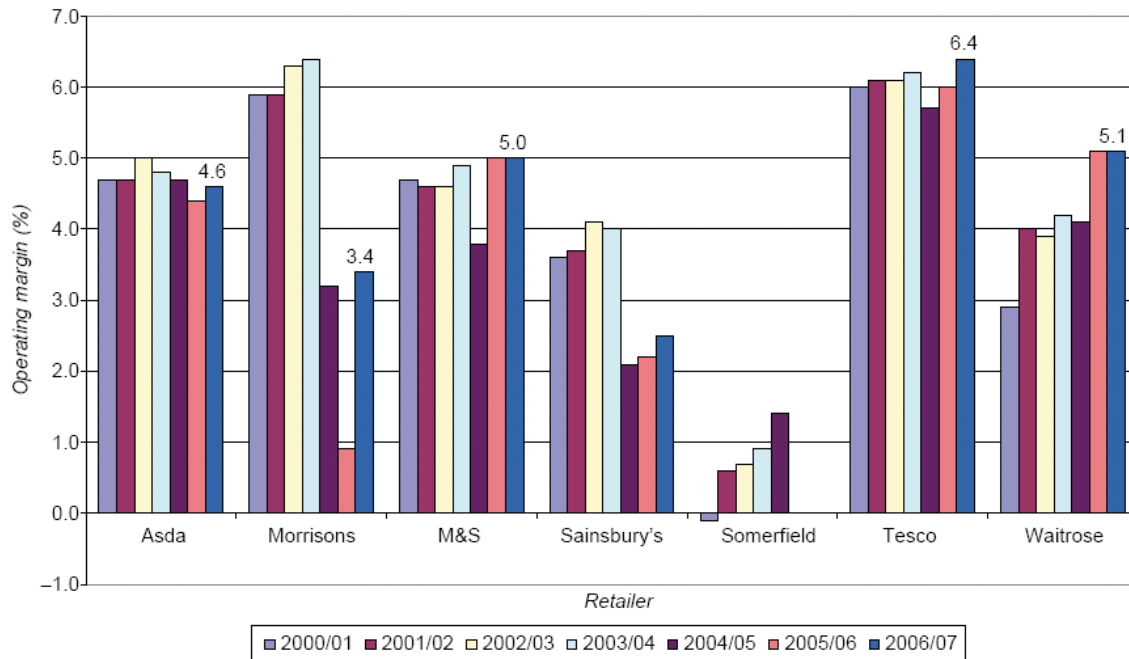


Figure 2 – Operating Margins of UK supermarkets
 Source: Competition Commission 2008 (Figure 3.3)

How has consolidation affected market share? To assess this we explore the evolution of grocery market shares by supermarket in Figure 3:

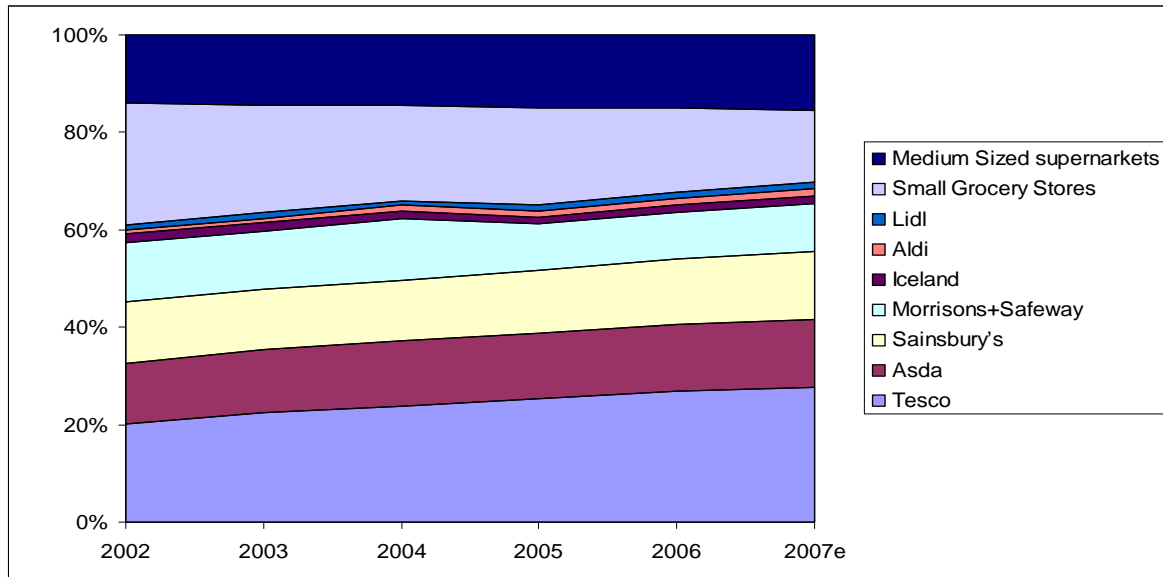


Figure 3 – Grocery Market Shares By Retailer Over Time

Medium Sized Supermarkets = Somerfield, Marks and Spencer, Cooperative Group, Waitrose, Netto, Kwik Save

Source: Competition Commission 2008 data plus own analysis.

Figure 3 is striking. The recent past has seen a runaway increase in the market share of just one supermarket: Tesco. Over the 5 year period Tesco has seen its market share grow by 7.4% of the market from 20.2% to 27.6%.

The major loser has been smaller grocery stores. Their market share has collapsed over the 5 year period by 10% of the market from nearly a quarter in 2002 (24.9%) to a 2007 estimate of 14.9%.

Aldi, Sainsbury's and medium sized grocery stores have seen some very modest growth over the period which makes up the difference between the gain to Tesco and the loss to small supermarkets:

Table 3: Market Share data 2002-2007. Source Competition Commission 2008

	Tesco	Asda	Sainsbury's	Morrisons + Safeway	Iceland	Aldi	Lidl	Small Grocery Stores	Medium Sized supermarkets
Number of Observations	6	6	6	6	6	6	6	6	6
Mean	24.37	13.28	12.98	10.98	1.52	1.20	1.13	19.82	14.70
Minimum	20.2	12.3	12.5	9.6	1.4	0.9	1	14.9	14
Maximum	27.6	14.1	13.8	12.7	1.7	1.5	1.3	24.9	15.4

Differences at a local level

The above discussion notes that at a national level profit margins have not been rising, while Tesco's has been the major beneficiary of consolidation in terms of its market share. There is however substantial variation in profit margins within each of the supermarkets at a local level.

Consolidation in the supermarket sector has been at differing rates across localities. The phenomenon of the "Tesco town" has been covered in the media but a lack of local choice is not just caused by Tesco, other firms such as Sainsbury also often operate several stores in the same town. There therefore remain a significant proportion of the population who only have access to one fascia of supermarket within a reasonable drive time (often interpreted as 10 or 15 minutes).

The Competition Commission 2008 explore what proportion of the population have access to 1, 2, 3 or 4 supermarkets within any given drive time. They first consider the whole population yielding the result presented in Figure 4. This figure notes that about 15% of the population have exactly one large supermarket fascia to choose from (greater than 1,400 sq metres) within a 10 minute drive time: (The difference between the blue and red lines at the 10 minute point)

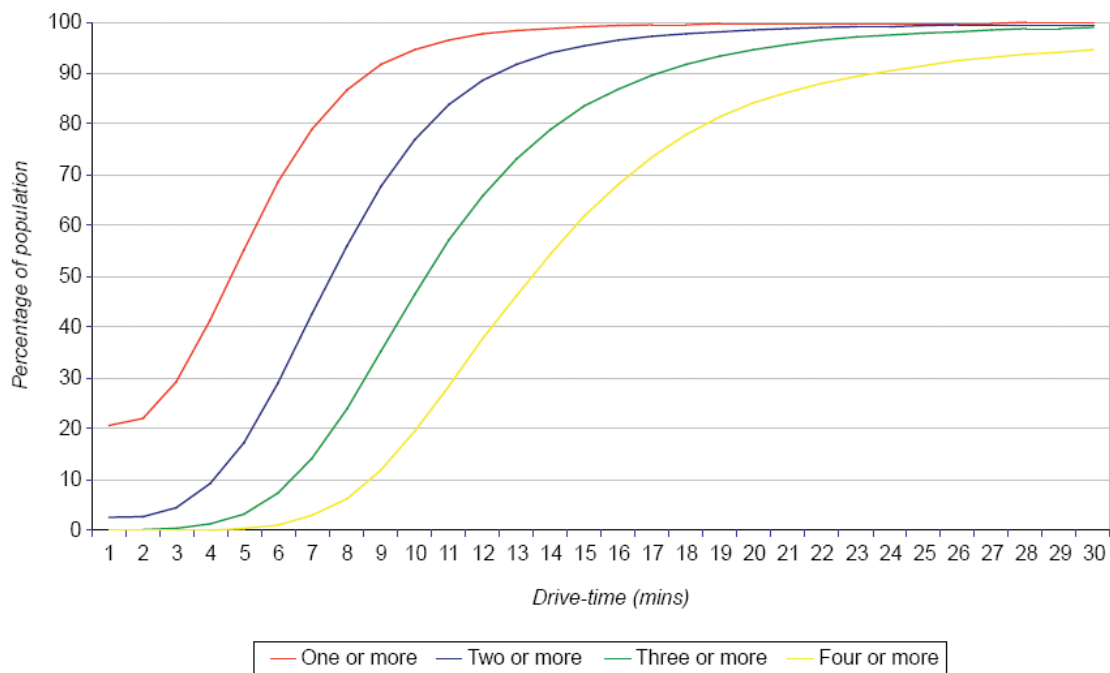


Figure 4: Proportion of the UK urban population with a choice of one, two, three or four grocery stores each with a different fascia and larger than 1,400 sq metres

Source: Competition Commission 2008

In rural areas this roughly doubles to about 30% of the rural population having access to exactly one supermarket within a 10 minute drive time (see Figure 5).

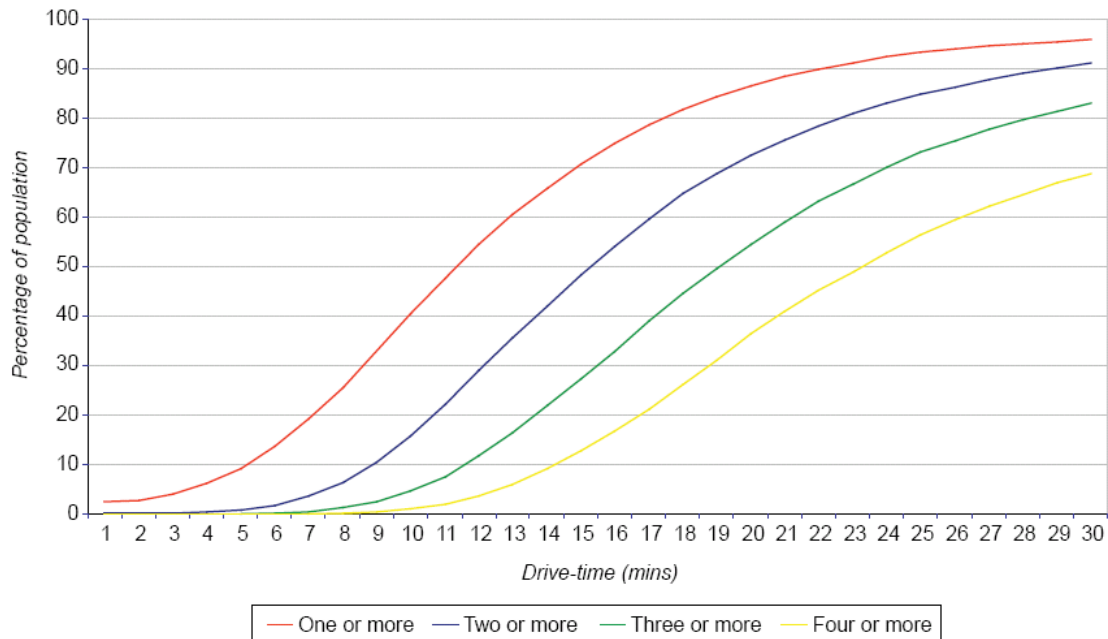


Figure 5: Proportion of the UK rural population with a choice of one, two, three or four grocery stores each with a different fascia and larger than 1,400 sq metres

Source: Competition Commission 2008

The Competition Commission report shows that the extent of local competition does matter for local profit levels. The lack of local competition resulting from the current market structure for large stores is estimated by the Competition Commission to result in an increase of around 3% in the combined profits of the four largest retailers.²

The Competition Commission concluded that this increase in profit levels in some local markets occurs by retailers altering the local store-specific offer in the following ways: (i) offering a lower quality of service via a reduction in labour costs (ii) reducing local marketing efforts and (iii) lowering the level of investment in store upgrades such as extra fresh food counters.

Therefore in conclusion:

- Over the last 30 years supermarket operating margins have held broadly steady. Margins have not been rising as consolidation has taken hold.
- The major supermarkets have been able to continue profit growth through periods of recession. In fact these may be times of absolute margin growth for some markets.
- Consolidation has led to a substantial increase of market share for just one supermarket: Tesco. Concurrently small grocery stores have been the recent losers

² See Competition Commission 2008, paragraphs 6.52-6.93.

- All other grocery retailers (not Tesco or the smallest grocery stores) are broadly holding their own. Market shares have been changing only slowly. In particular the hard discounters have not been experiencing huge growth at others' expense.
- Consolidation has progressed unevenly across localities. Local market shares vary considerably with some consumers having much less choice than others. There is some evidence that stores with lower local competition have higher profit margins through adjustments in quality of service and marketing expenditure.

2. To what extent have supermarkets, for example, forced supply prices down to ensure "bargains" at the point of sale while still protecting their profit levels?

To address this question we first explore the profitability of supermarket suppliers. If supermarkets have been turning the screws on their suppliers then supplier profit margins should be declining.

The Suppliers Report 2007 carried out by market research firm GfK sent a questionnaire to supermarket suppliers asking them to declare how their margins on supermarket business have altered in the 5 years from 2000 to 2005. The answer is presented in Figure 6. The figure shows that suppliers, by and large, claim their margins have been forced down over a period when supermarket consolidation has been active.

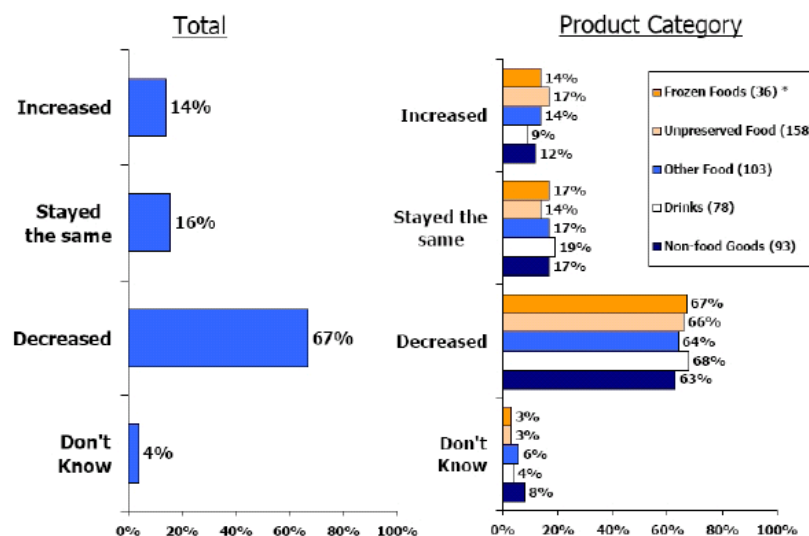


Figure 6 – Change in Gross Margins On Supermarket Business
 Source: GfK 2007 "Research on Suppliers to the UK Grocery Market"

To deliver a little more objective detail consider Figure 7 and Figure 8. These figures give the profit, revenue and margin figures for suppliers of food and drink products to UK supermarkets. The data is based on a representative sample of 45 grocery suppliers. These figures are seemingly in contradiction to the claim from suppliers that margins to supermarkets have declined. On the contrary these figures show suppliers to have flat or slightly increasing operating margins over the period.

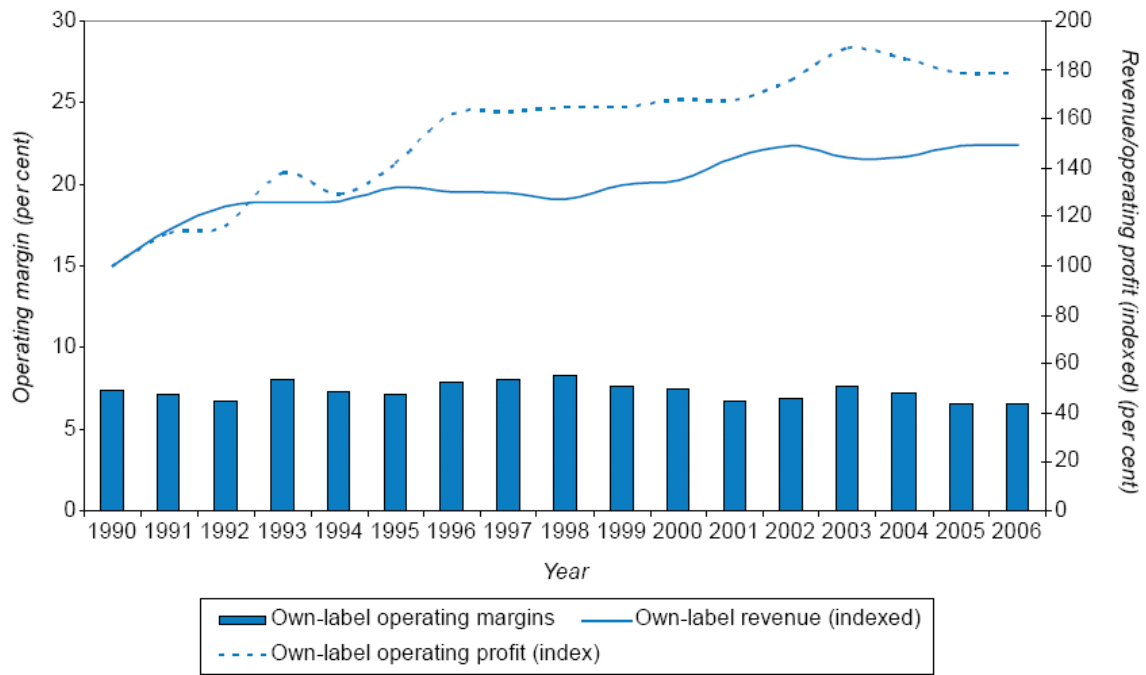


Figure 7 – Revenue, margins and profits for own-label food and drink manufacturers

Source: Competition Commission 2008

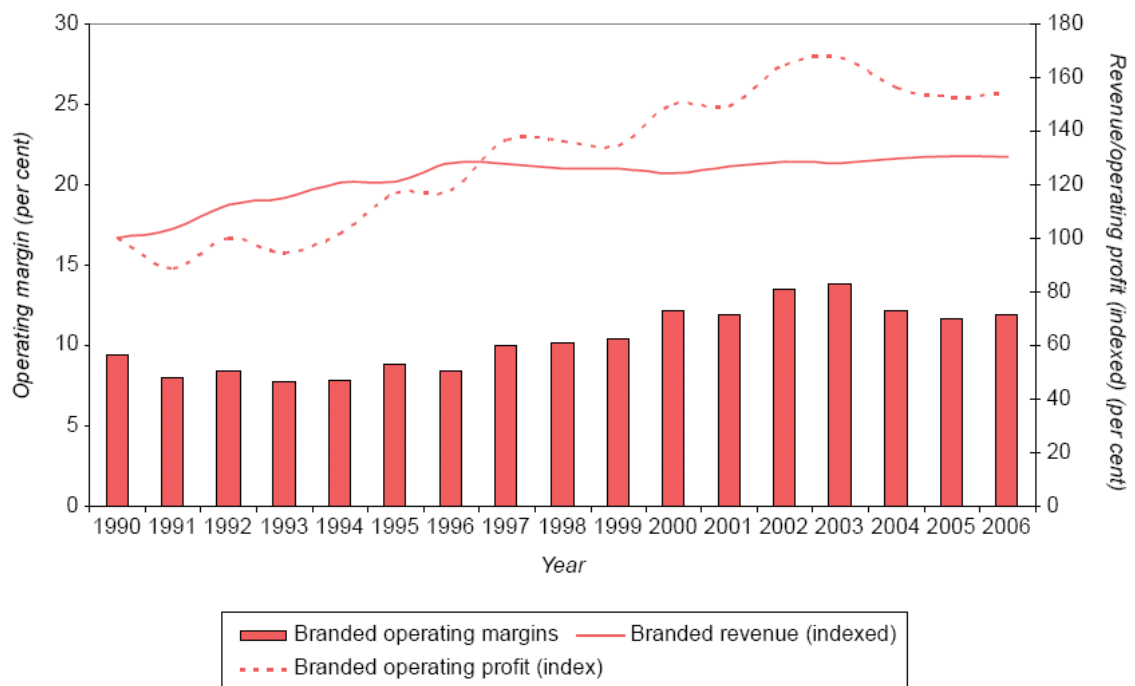


Figure 8 - Revenue, margins and profits for branded food and drink manufacturers

Source: Competition Commission 2008

The preceding three figures offer something of a conundrum. It does not appear that some sort of selection bias is behind the discrepancy in the above three figures: The Competition Commission went to some lengths to ensure a representative sample. And the GfK sourced data (Figure 6), which

claims margins are declining, is from suppliers who have been successful enough to remain active in supplying the supermarkets.

To attempt to shed a little more light on the discrepancy we consider the profit margins of a number of specific suppliers to UK supermarkets. The suppliers chosen are all ones who submitted evidence to the UK Competition Commission 2008 Grocery inquiry for whom data was available via the Orbis database. This analysis is contained in Figure 9:

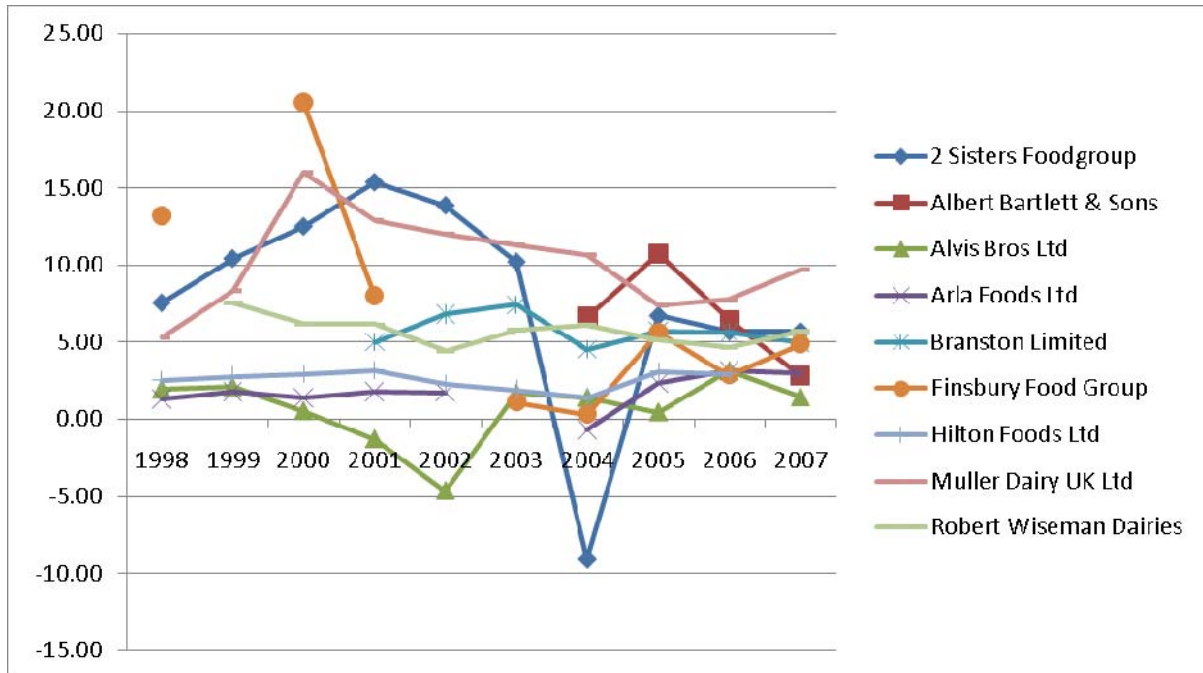


Figure 9 – Profit Margins for Specific Supermarket Suppliers

Source: Orbis data

Individual suppliers show a lot of idiosyncratic variation. However there is no clear downwards trend in these data. Rather this subset of suppliers appear to be enjoying less volatile profit margins in recent years at a level comparable to that of the major supermarkets themselves. To investigate this further consider Figure 10 below. This figure depicts the mean, median and standard deviation of the profits of the suppliers in the sample given in Figure 9. It depicts a broadly flat average (mean or median) profit margin plus a shrinking variance.

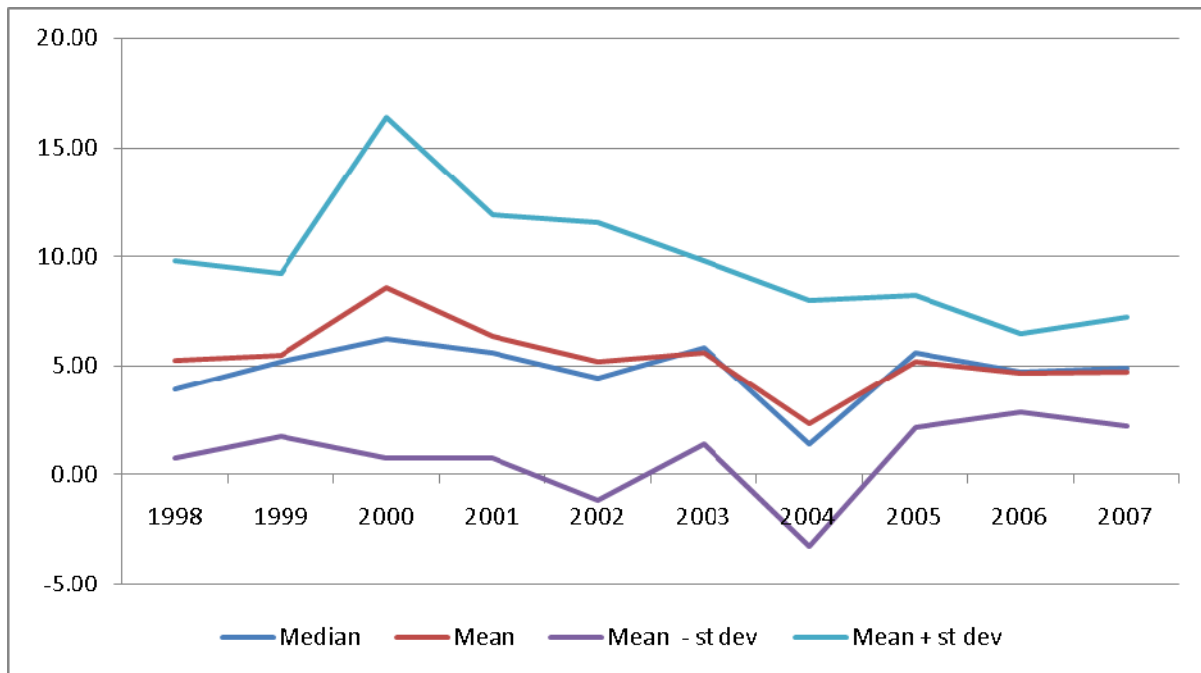


Figure 10: The Mean, Median and Standard Deviation of suppliers' profit margins from Figure 9
 Source: Own analysis

Data on prices paid to suppliers is generally not available to researchers. The Competition Commission, however, has the power to request such data. In a study contained in Competition Commission 2008, it was found that retailer size does result in lower prices being paid to suppliers. On average, the big four pay suppliers prices that are 4%-6% less than average, whereas smaller supermarkets (and other buyers) pay higher prices. This could be a result of the exercise of "buyer power" by large supermarkets. When the results are disaggregated by type of supplier, the Competition Commission find that this "buyer power" effect is not present for deals with suppliers of primary brands³, it is however very strong with regards to suppliers of secondary brands and own label goods where the supermarkets can wield buyer power.

At a time when supermarket consolidation has been increasing, one might have expected supermarkets to force suppliers' margins down. So why does Figure 7 suggest little evidence that supermarkets have squeezed suppliers across the board? Thanassoulis (2008) argues that the buyer power is present – but only over a small part of the total profits in the chain and so one should not expect it to be large. On the input side suppliers and supermarkets bargain over the profits which would be lost to the supermarket if she had to source from a different geographic area, or use a less good substitute product. For many products this bargained gap might in fact be quite small. And so the impact of any buyer power might also be quite small.⁴

³ The *primary* brand is the main brand for any product line, e.g. Heinz baked beans etc.

⁴ A general analysis of how industry structure affects the profit splits in the supply chain is available from Smith and Thanassoulis (forthcoming).

To shed light on how supermarkets might be altering margins for individual products we offer details of a number of case studies.

Case Studies Of Individual Products

Good data on the evolving revenue shares within agricultural supply chains are available in the case of milk, lamb, fruit and beef products. I reproduce these data below before discussing the implications:

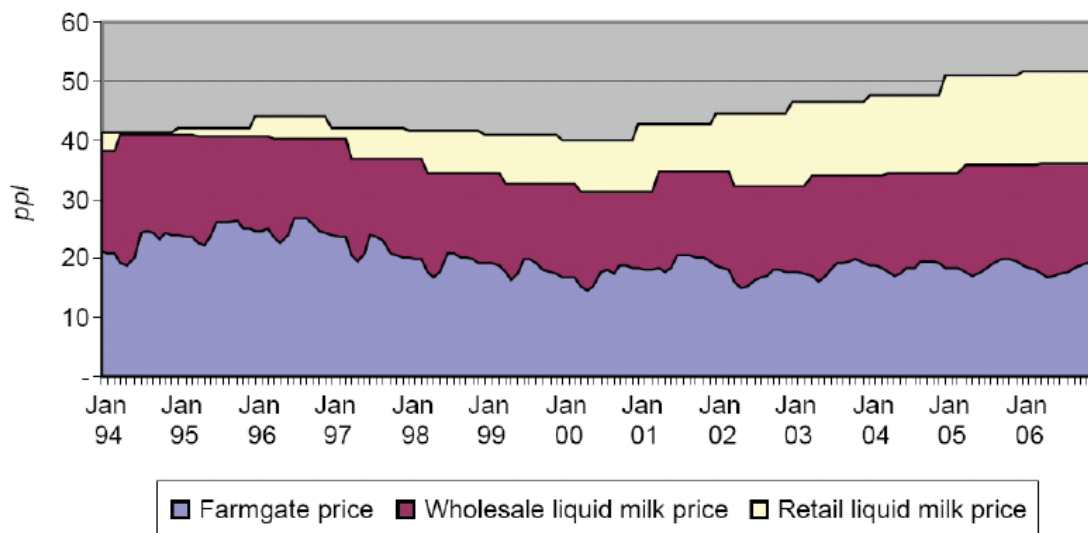


Figure 11 – Average Revenue Shares in the UK Dairy Supply Chain
Source: Milk Development Council

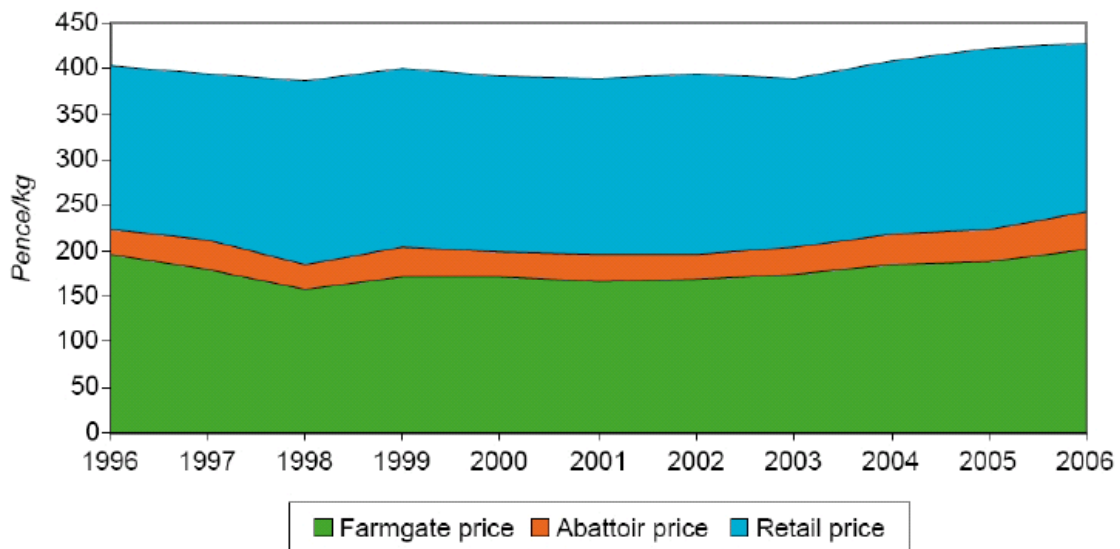


Figure 12 – Average Revenue Shares in the UK Beef Supply Chain
Source: Competition Commission 2008

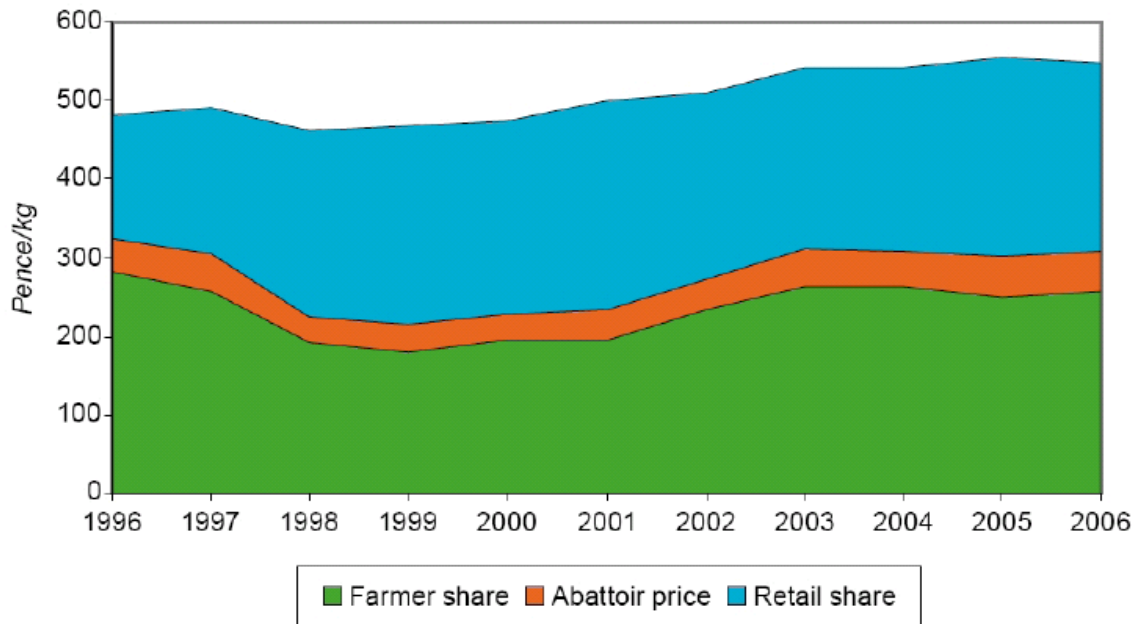


Figure 13 - Average Revenue Shares in the UK Lamb Supply Chain

Source: Competition Commission 2008

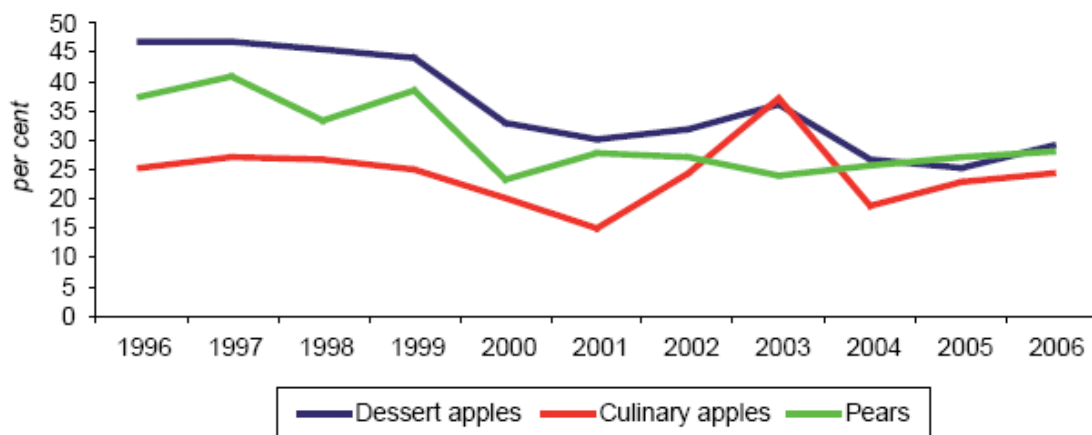


Figure 14: Producer share of the retail price for fruit

Source: Competition Commission 2008

The figures show supermarket margins on these agricultural food stuffs (milk, beef, fruit and lamb) have been growing. The most pronounced growth being the cases of milk and fruit. This process appears to have begun in the late 90s when retail prices for these items were steady or rising, whilst farm revenue capture began falling.

In the case of lamb and beef the farmers did, after a few years, claw back their original share of the supply chain revenue. The same is not true of milk or fruit however. Here farmer revenue shares have been falling over time.

The data above, by focusing just on revenues and ignoring production costs, may offer a biased picture of where profits actually lie. The Milk Supply Chain Project (2008) explored the actual costs of production to establish not just the revenue shares, but also the profit shares available to the

constituent parts of the chain. The project established the marginal costs of production of milk from publicly available milk commodity price data and the costs of bottling, pasteurisation and so on. The retail prices were extracted from scanner data and the commercially sensitive input prices between supermarkets and suppliers were calculated using data available in financial statements. The results of the operating margins are given in the figure below:

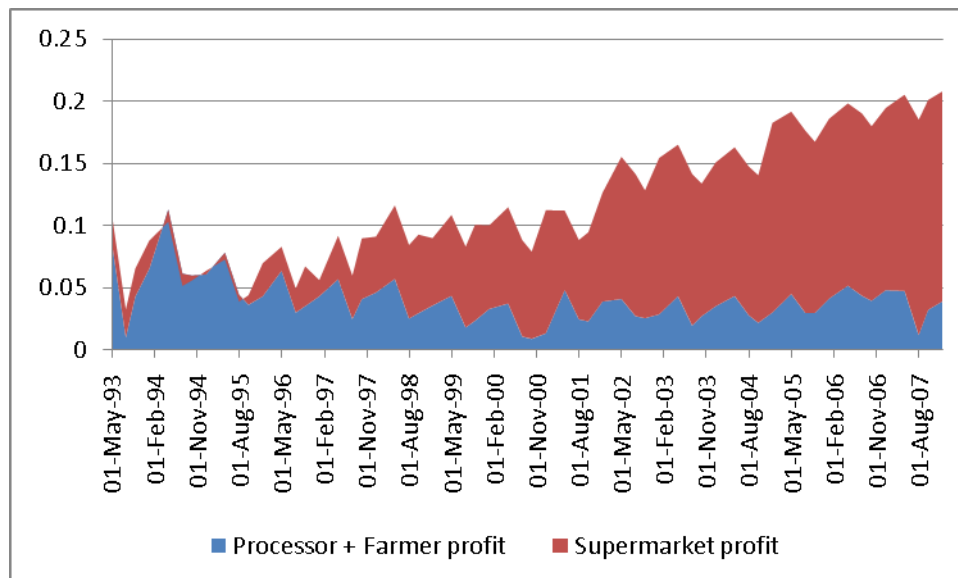


Figure 15: Liquid milk profits in pounds per litre to supermarkets and to their suppliers.

Source: Milk Supply Chain Project (2008) plus own analysis.

Figure 15 shows that supermarket margins have been growing for milk, while those for suppliers have not. This corroborates the revenue data provided in Figure 11. Therefore margins for milk suppliers have been held down, while the retail prices have not been held down to the same extent. This does not however necessarily imply that supermarkets have been extracting greater concessions from suppliers.

The Milk Supply Chain Project (2008) argues that milk suppliers cannot hope to secure more than a supermarket would have to pay to source milk from abroad. Hence we can separate out the industry profit margin into two sections. The first section is profit which the supermarket would make even if she sourced her product (milk) from a substitute market (abroad). This part of the profit is beyond the reach of the supplier. The second part of the industry profit is to be split between the supplier and retailer. The amount the supermarket can secure at a supplier's expense will depend upon domestic competition, the nature of the technology and other such things. The figure below splits out the industry profit for the milk supply chain in this way:

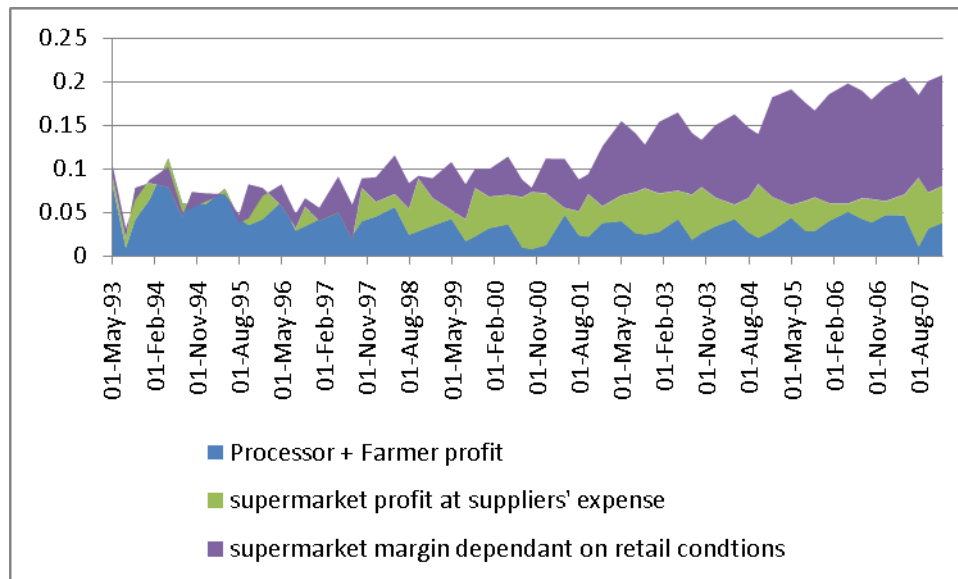


Figure 16: Liquid milk profits in pounds per litre to supermarkets and to their suppliers: disaggregated.
Source: Milk Supply Chain Project (2008) plus own analysis.

Figure 16 shows that suppliers have not seen declining margins as a share of the profits over and above sourcing from abroad. Retail margins have been rising due to changes in retail conditions – that is the extra value is being generated by the supermarkets and not by the milk suppliers. Therefore, for milk, supermarkets have seen healthy margin growth. But (Figure 1) notes that this margin growth has not been a feature of all supermarket products.

Therefore in conclusion:

- Suppliers claim in questionnaires that their margins have been declining
- However on average, financial data suggests that supplier margins have been steady, and perhaps less volatile, in recent years.
- Competition Commission 2008 in a study of prices paid to suppliers shows that large supermarkets pay lower prices than small and medium sized supermarkets do, except to suppliers of primary brands.
- Supermarkets have been able to push down the supply chain revenue shares to individual product categories at some periods in time. Examples are beef, lamb, milk and fruit in the late 90s.
- In some cases (beef and lamb) the suppliers recover. In others (milk and fruit) they do not. For these products supermarket margins have been rising while suppliers have not been sharing in the gains.

3. How much of the average British family's weekly shop is spent at supermarkets - how has this changed over the last 10, 20, 30 years?

Even as GDP growth has oscillated, the share of total spending dedicated to groceries has been falling over the years. This claim is the implication of time series data from the Office of National Statistics depicted in Figure 17. The figure depicts the ONS data series "Proportion of spend on food and non-alcoholic beverages, Constant 2003 prices seasonally adjusted (out of domestic consumer expenditure)" which runs quarterly from 1964 to the present. In addition the variable "Gross Domestic Product: Quarter on Quarter growth: Constant 2003 prices seasonally adjusted" is also plotted.

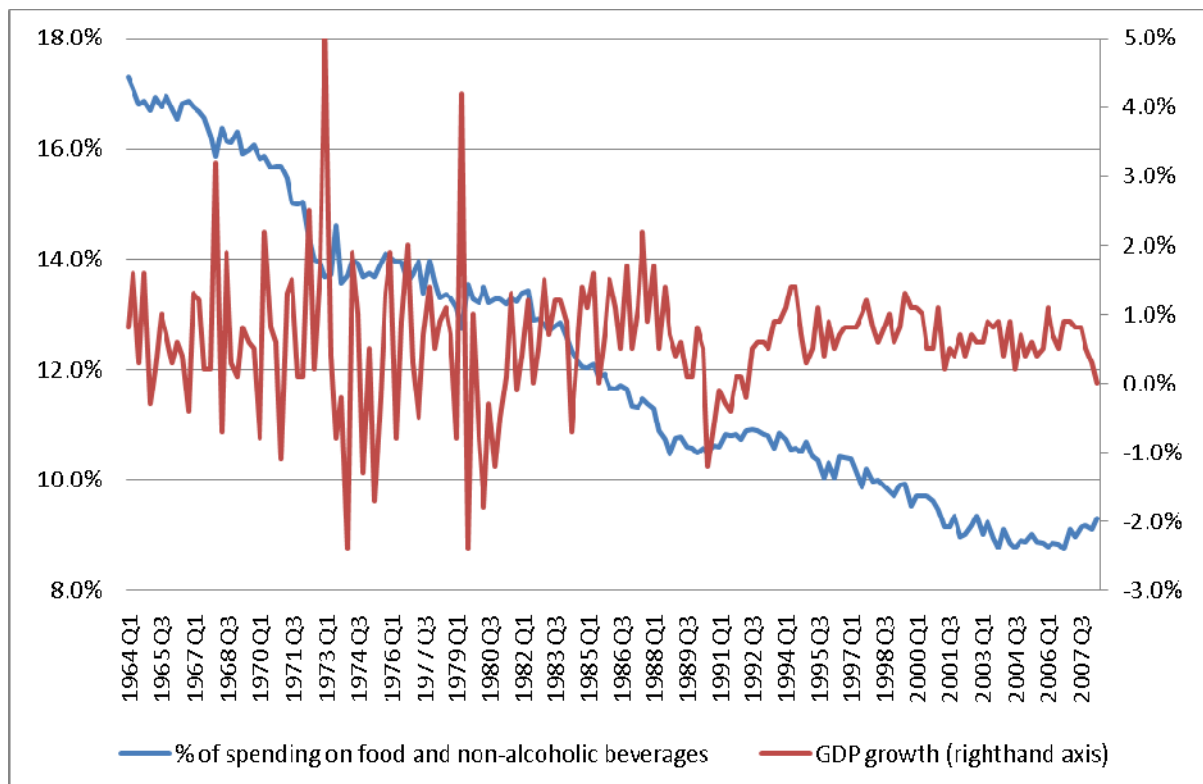


Figure 17 - Proportion of consumer spending on food and the growth rate of GDP, seasonally adjusted, constant 2003 prices
Source: ONS data

Figure 17 indicates that in the late 1960s British families were spending over 16% of their total consumption budget on groceries. By the turn of the millennium this had dropped to under 10%. This decline in spending share on food has been steady and not particularly correlated with GDP growth.

This reduction in relative consumer spending has not translated into a reduction in revenues for the largest supermarkets. Financial data for the three largest supermarkets (Tesco, Sainsbury's, and Asda) exists which can be used to catalogue how the total revenues of these firms have been holding up during the period of reduced consumer spend share on food. The financial data are not directly comparable as they also contain revenues from non-food and petrol. However food was the major revenue driver of these supermarkets over the 20 year period from 1980.

Figure 18 conducts this analysis by totalling up the revenues of Asda, Tesco and Sainsbury's and expressing it as a percentage of total domestic spending in that year. This analysis is conducted over a nearly 20 year period from 1981. It is evident from this figure that far from declining, these supermarkets, in aggregate, have enjoyed an increased share of consumer spending. This is likely to be driven by a mixture of investing in new stores and acquisitions of rival firms' store portfolios.

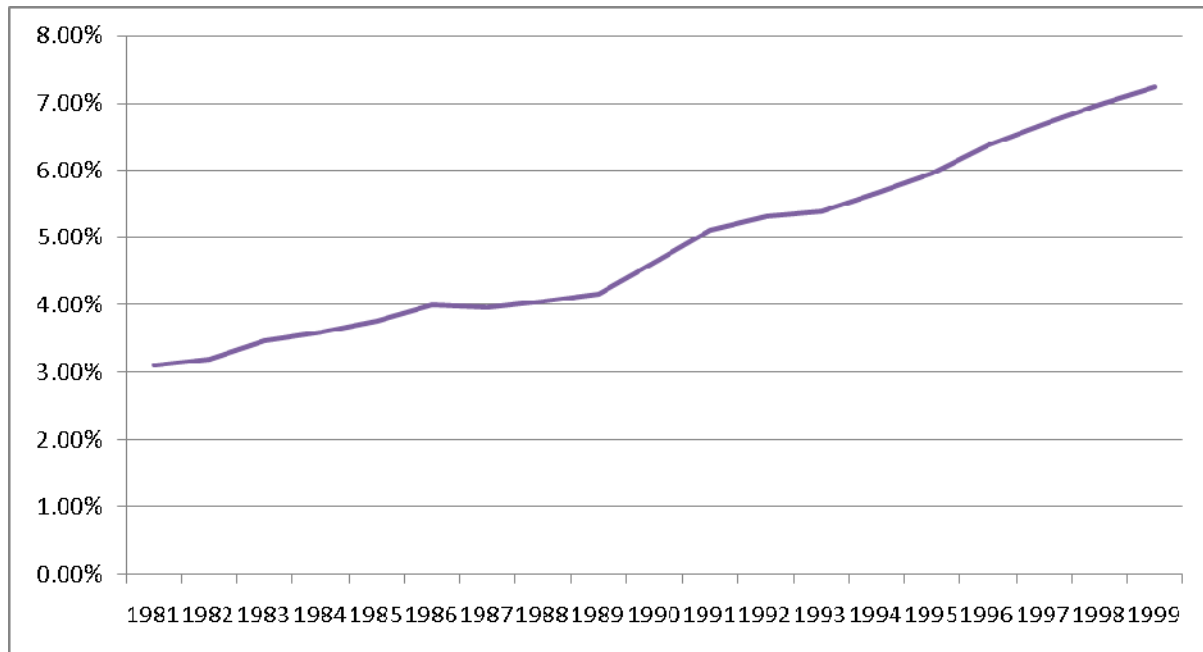


Figure 18 – Total sales to Tesco, Sainsbury's and Asda as a proportion of national expenditure that year
 Source: DataStream, ONS and own analysis

Recalling the evolution of market shares (Figure 3), we are in a position to offer the following conclusions:

- The total spend on groceries has been declining consistently for nearly 50 years. A trend which only very recently appears to be reversing.
- Over this same time period the largest supermarkets have captured an expanding share of the national spend. This is up above 7% at the turn of the millennium up from around 3% 20 years earlier.

4. To what extent have supermarkets been able to maintain their margins and profits in harsh economic climates, even before the current one?

The operating profit margins of the largest UK supermarkets over a nearly 30 year time horizon have been explored in Figure 1. Over that time period profit margins have been very healthy for Tesco, good but worsening for Sainsbury's and considerably more volatile for Asda. In the very recent past operating profits have remained broadly level (Figure 2). Asda's volatility is largely due to a failed strategy of moving up-market in the late 1980s, a strategy that was successfully reversed in the early 1990s. This caused a dip in ASDA's profits that coincided with but was not necessarily caused by the downturn of the early 1990s.

The supermarkets therefore have shown themselves to be broadly recession proof.

The main method by which they have maintained their position in recessions is by a clever positioning of own labels products. In downturns, the main supermarkets experience strong competition from the discounters--Aldi, Lidl, and Netto--which sell a small range of non-branded products at discounted prices. In harsh economic times, consumers find the retail offer of the discounters attractive, often visiting the discounters in a secondary trip after their main supermarket trip. To fight back against the discounters the supermarkets introduced, on a number of key product lines alongside their regular own-label product, a second "value" own-label product that is of lower quality and is sold at a much lower price. (e.g. Tesco offer two own label products for a number of lines: Tesco Value Orange Juice as well as regular Tesco Orange Juice, etc).

By following this strategy, the big supermarkets retained their value-conscious consumers, who did not have to make a trip to Aldi (etc) to obtain cheap basic grocery staples.

The introduction of these extra own-label products for value conscious consumers made the supermarkets less vulnerable to a challenge from the discounters (Aldi, Lidl and Netto). This strategy was adopted in the recession of the early 1990s when the discounters first appeared on the British retailing arena. Although in recent years these discounters have succeeded in increasing their share of the grocery market, they still represent a very small part, and their combined growth is still many multiples smaller than that of Tesco over the same period (Figure 19).

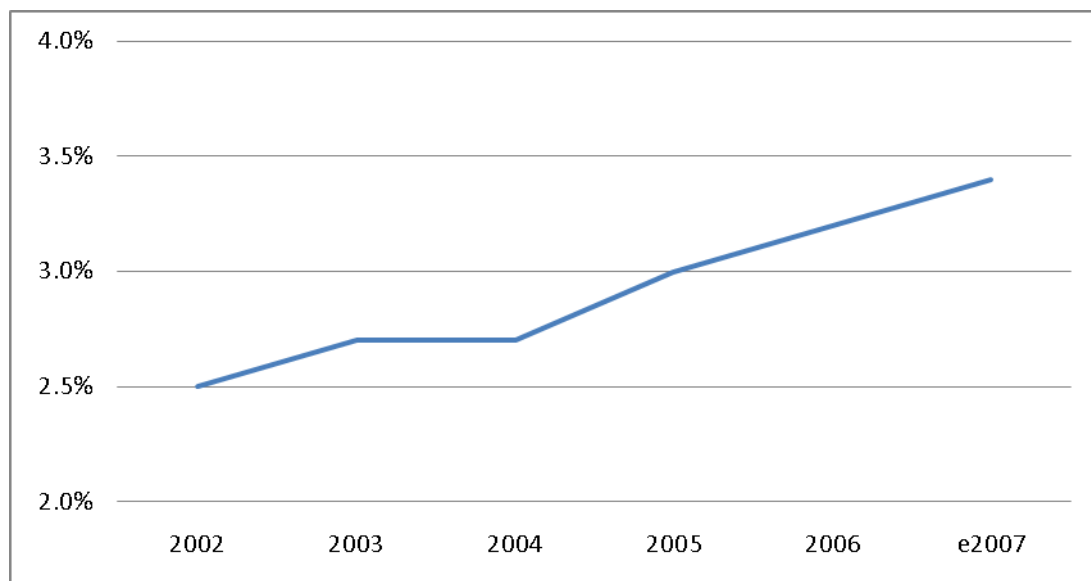


Figure 19: The combined grocery market share of the discounters (Aldi, Lidl and Netto)

Source: Competition Commission 2008.

A further profit motive for introducing own label goods is of course the higher profit margins that supermarkets can enjoy on these goods. It is apparent from Figure 7 that profit margins for own-label suppliers are a little over 5%. Whereas the same margins for branded-good suppliers are (Figure 8) just over 10%.

Where there is competition amongst suppliers for own-label contracts, this allows supplier margins to be kept down, and this can be translated into either increased profitability for the supermarket,

or the ability to keep prices competitive and growth positive even during recessions. This effect is more pronounced for product categories which have seen more own-label coverage:

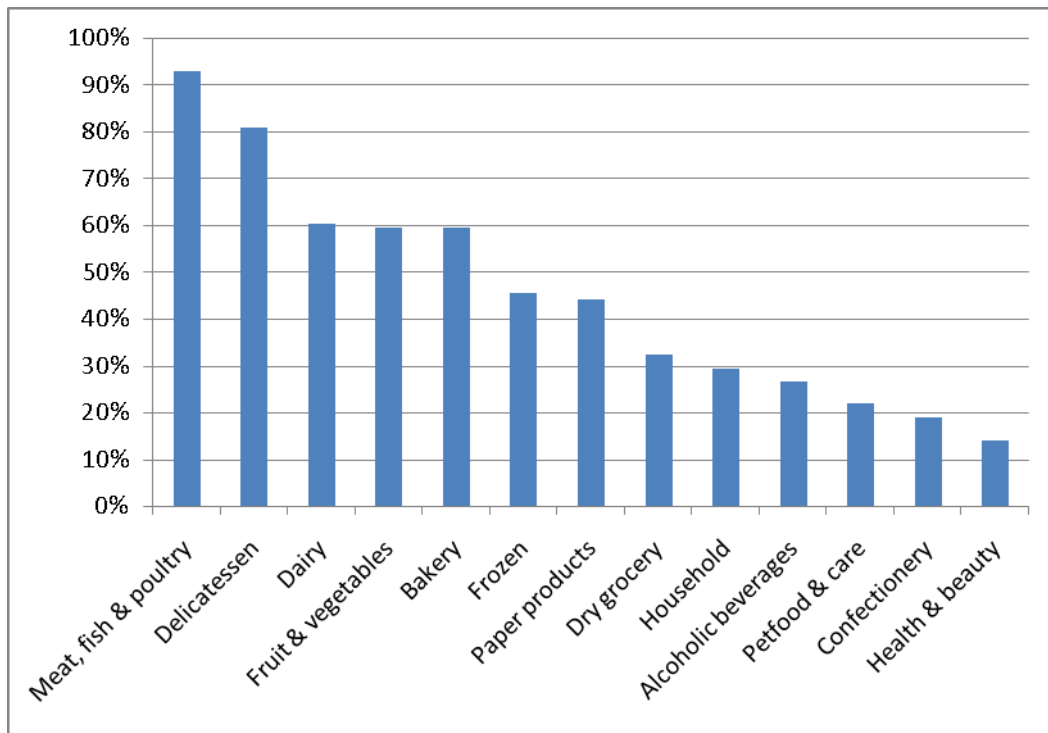


Figure 20 – Own Label Market Share By Product Category in 2005

Source: “Own Label in Grocery Retailing – UK”, Mintel.

Agricultural produce is one area where suppliers claim that their revenue shares are especially squeezed – and evidence exists to support this for milk and fruit, and less strongly for lamb and beef (Figure 11 - Figure 14). It is therefore instructive to note that these items are also most heavily represented by own-label products.

Therefore in conclusion:

- Supermarkets have seen relatively steady profit margins, and some even profit growth during recessions
- The main threat to the big supermarkets in recessions is the loss of customers to the discounters (Aldi, Lidl and Netto). The introduction of special low-price own label products (alongside the supermarket's regular price own label) for a range of grocery staples has been successful in limiting the threat from the discounters.
- Own-label produce has also allowed supermarkets to lower their costs and so keep prices low. Own-label products are most heavily represented in agricultural items.

5. How, given that we spend less of our annual incomes on food now than we did (say) 10 years ago, are the supermarkets nonetheless able to continue profit growth?

The supermarkets have a number of strategies which they have used to ensure continued profit growth. These are:

- a) An increasing move into own label products.

We have already noted above that (Figure 7 and Figure 8) profit margins for own-label suppliers are around half those earned by branded good manufactures. As supermarkets increase their range of own-label products they can both keep prices down and ensure their own profit margins stay healthy.

Own label penetration is not constant across product types (Figure 20) and ranges from a low of 13.9% for Health and Beauty products and a high of 92.9% for meat, fish and poultry. Hence there remains room for own label growth in many product categories.

In recent years supermarkets have delisted secondary brands and replaced them with secondary private labels. In addition to the value private labels mentioned above, the supermarkets have "premium" brands (such as Tesco's "Finest" range) which aim to compete against M&S and Waitrose for high-income consumers.

- b) Expansion of sales area by organic growth and acquisition.

Figure 21 provides the total sales area of a number of the largest supermarkets. These data are sourced from the Competition Commission (2008) report into the Grocery Sector. In the figure it is apparent that all the major supermarkets have been actively pursuing a policy of growth. Only Iceland, amongst the major supermarkets, has not conformed in this regard.

Figure 21 combines both organic growth and also mergers. For example, in 2004 the data series for Safeways comes to an end and Morrisons jumps up in size: this is due to the high profile acquisition by Morrisons of Safeway at that time.

Tesco's growth was assisted by two acquisitions. In 1994 Tesco expanded in Scotland with the acquisition of the William Low chain, and in 1997 into Northern Ireland with the acquisition of Stewarts supermarket chain. In contrast, Sainsbury and ASDA have grown organically into these regions.

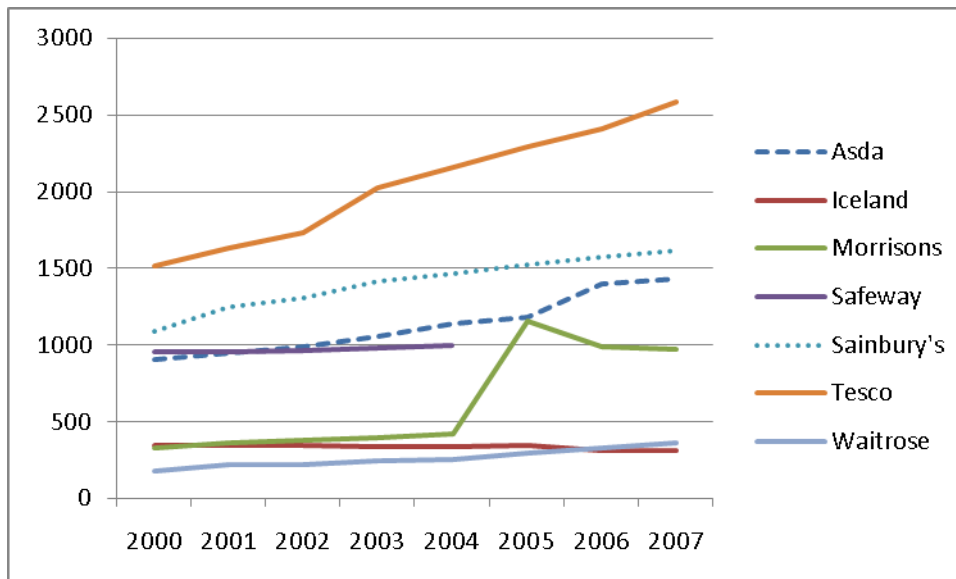


Figure 21 – Retailer Total Sales Area ('000 sq metres)

Source: Competition Commission 2008

c) Expansion into the Convenience Sector

The rush to greater expansion has not meant more ever larger stores. Quite the opposite – the major supermarkets have been expanding by growing into the convenience food market. In part, this has been a consequence of the tightened planning policies of the 1990s that have reduced the opportunity to grow via building large stores.⁵ Much of the recent expansion has therefore been driven by the building of smaller size stores. This trend is evident from Figure 22.

⁵ In 1996 the planning rules changed to a town centre first approach. This was captured by PPS6: (Planning Policy Statement set at the national level). To get permission for a large out of town store one had to show there were no other centrally-located sites which could be developed. Also one had to demonstrate a need for that development. (Competition Commission 2008, para 11, App 7.2)

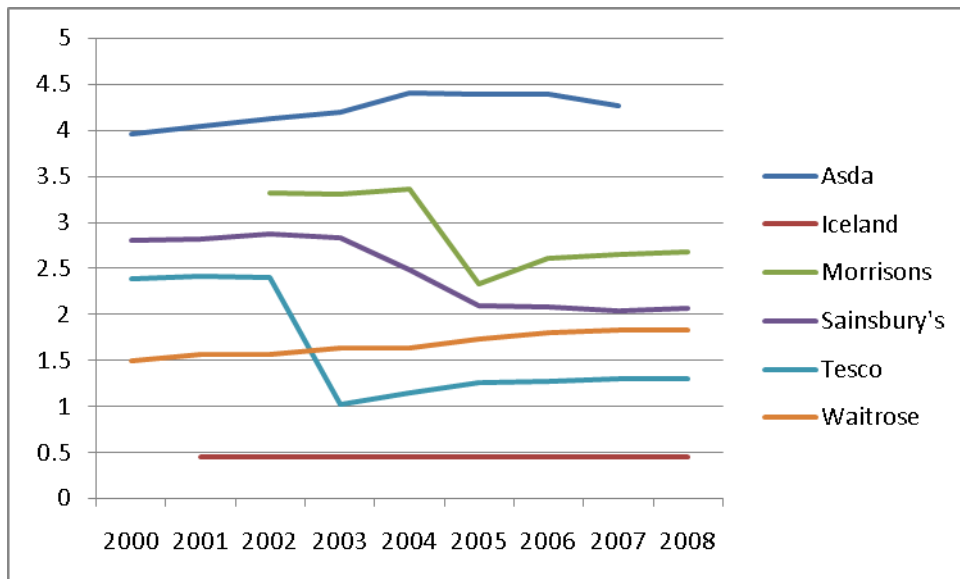


Figure 22 – Average Supermarket Size ('000 sq metres)

Source: Competition Commission 2008

Over the 5 years of the data contained in Figure 22 Tesco, Sainsbury's and Morrisons have shrunk their average store size, while growing the total sales area at the same time. This has been achieved by a move into convenience retailing. In particular Tesco and Sainsbury's have created 2 new brands to spearhead this expansion: Tesco Metro and Sainsbury Local.⁶

The sudden drop in average store size for Tesco is a consequence of its acquisition in 2002 of 450 convenience stores from the convenience chain T&S, and their subsequent conversion to Tesco format.

ASDA however did not follow Tesco and Sainsbury into the convenience sector. As evidence of this consider that in 2006 only 32% of Tesco stores were greater than 1,000 sq metres in area. This compared with 99% of all Asda stores being above this threshold. (Competition Commission 2008, Table 3.1)

d) Expansion into non-food items

Finally the supermarkets have encouraged profit growth by increasing the scope of their activities beyond traditional groceries. This is a feature of all the big 4 supermarkets: Tesco, Asda, Sainsbury's and Morrisons (Figure 23). In each of the big 4 supermarkets around a quarter of all its sales are non-food items.

⁶ The reduction in average store size for Morrisons is fully explained by the purchase of smaller Safeway stores.

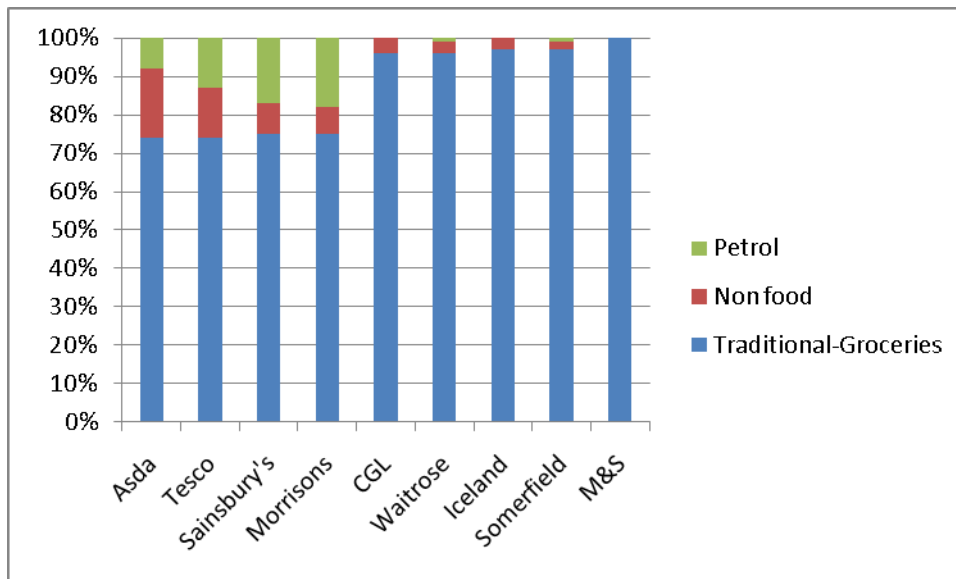


Figure 23 – Percentage of products sold in 2008
 Source: Verdict research reported in Competition Commission 2008.

Not included in this list is the fact that corporate growth can, of course, be effected through expansion outside of the UK. Recently Tesco has been successful in this regard and has launched a US venture under the *Fresh & Easy* brand. Analysis of overseas expansion is beyond the remit of this research as the service is provided abroad, and not to the British consumer.

Therefore in conclusion, the 4 main strategies used by supermarkets to increase their profitability with the British consumer are:

- a) Introduction of own label ranges which can be sourced at lower input prices.
- b) Expansion of sales area either through acquisition or organic growth.
- c) Expansion into the convenience food market; and
- d) Expansion into non-food product categories.

6. What proportion of UK food retailing do the supermarkets account for?

In question 3 we explored the relationship between consumer expenditure on food and consumer expenditure at the big 3 supermarkets. In the research documented there we noted that over a period of 40 years starting in the early 1960s the proportion of national expenditure spent on food has been declining. However, the revenues of supermarkets have been rising, as a proportion of national expenditure, for the 19 year span starting in 1981.

If spend on groceries is declining, but the spend on groceries at the largest supermarkets (Sainsbury's, Asda, Tesco) is rising, it follows that other grocery stores must be losing business. We can assess the extent of this loss by considering the proportion of all grocery spending which accrued to the largest supermarkets over a long period. We therefore construct the following two data series:

- a. Total sales to Tesco, Sainsbury's and Asda: the sum of gross revenues less discounts, returns and allowances in each year from 1981-1999.⁷
- b. Total national expenditure on food in the given year. This is given by ONS data and is the product of Household final consumption expenditure at constant prices multiplied by the proportion of spend on food and non-alcoholic beverages at constant prices

We can then take the proportion of total spending at the big 3 supermarkets (a) as a proportion of the total spending on food in the same year (b). This gives an estimate of the proportion of each food pound which is spent at one of the three major supermarkets:

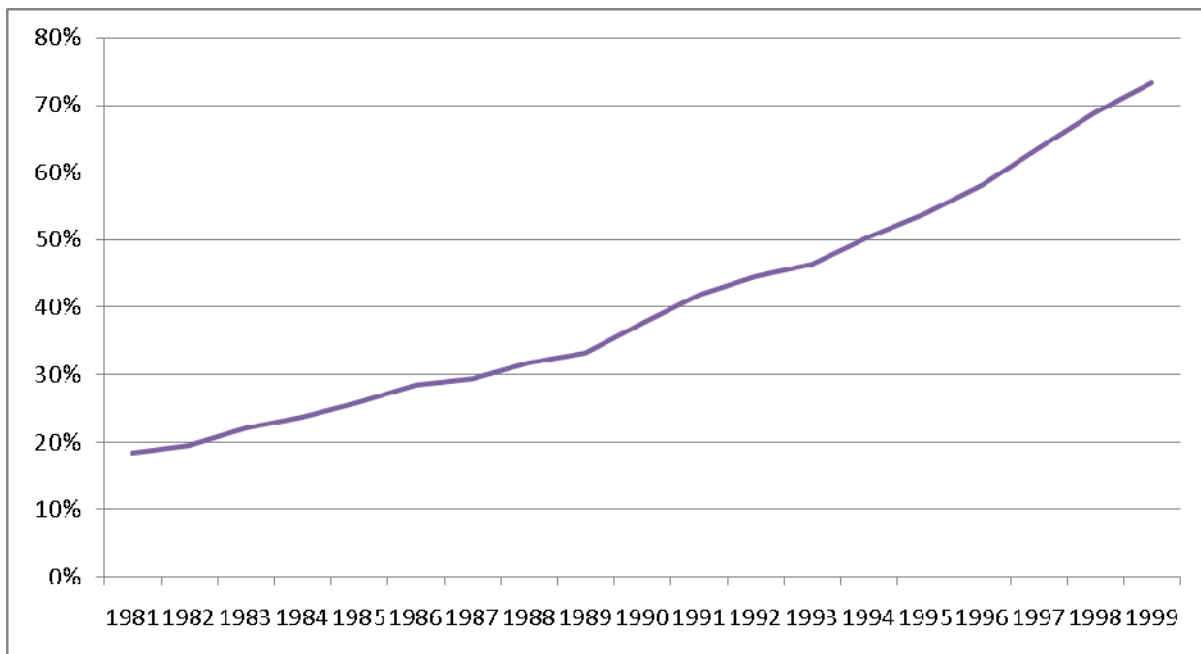


Figure 24 - Total sales to Tesco, Sainsbury's and Asda as a proportion of national expenditure on food and non-alcoholic beverages that year

Source: DataStream, ONS and own analysis

The construction of Figure 24 is not perfect as the revenues for the 3 supermarkets over the 20 year period starting from 1980 include alcoholic drinks as well as petrol.

The results however are striking. The analysis implies that the grocery market share enjoyed by the three largest supermarkets more than trebled over a 20 year period from the early 1980s.

⁷ Note that this includes petrol and non-food revenues as these cannot be split out of the revenue data available.

Anecdotal evidence suggests that this 20 year period is the major period of supermarket expansion. In 2008 TNS Worldpanel estimate that the (now) big 4 supermarkets account for 76.2% of the grocery market. This is clearly a figure in the same ball park as the 1999 estimates provided in Figure 24 above.^{8,9}

Figure 24 is a picture of supermarket success – British consumers were electing to transfer their grocery spending to the supermarkets as they were perceived as offering the consumer what they wanted most. For some of course this may have meant lower prices, for others possibly convenience, quality or service.

We recall from Figure 1 that over this 20 year period profit margins for the big 3 supermarkets were not rising. Therefore it is not the case that the supermarkets were winning all this business whilst also raising prices.

However, neither is it the case that retail margins have been falling over the period. In other words it appears that supermarkets have been able to grow their total share of consumer expenditure while maintaining their profit margin levels. One would expect therefore to see substantially increasing profits over the period.

To assess this hypothesis we construct an index of real supermarket profits over the 30 year period of analysis. This is achieved by subtracting the cost of goods sold from the gross revenues to capture a measure of economic profit¹⁰. This is then scaled by the food retail price index of inflation which is available from the ONS from 1987 onwards. The resultant real profits are then formed into an index starting from 1987.

⁸ The TNS estimate is reported by the BBC in “Supermarket powers to be curbed”, 15 February, 2008.

⁹ Different estimates for the size and division of the grocery market exist. Verdict research, quoted in Competition Commission (2008) put the share of the 4 largest supermarkets at a lower 65%. The differences arise from different definitions as to what counts as a grocery item.

¹⁰ Using DataStream this is variable WC01001 less WC01051

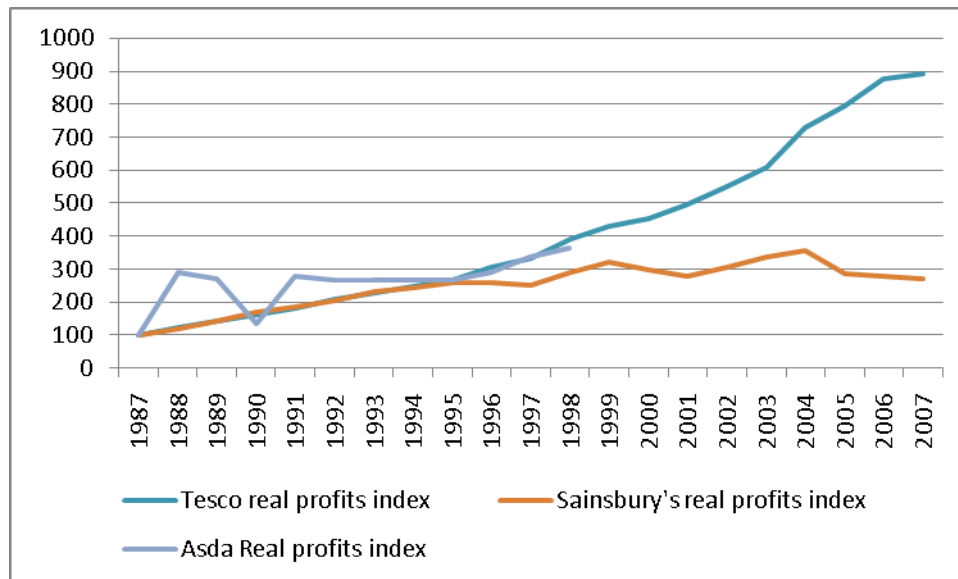


Figure 25: Real Profit Indices for the Largest 3 UK Supermarkets

Source: ONS, DataStream and own analysis.

Figure 25 shows that all three major supermarkets have converted increasing market share into increasing total profits. This has occurred without compromising profit margins (Figure 1). However Tesco's performance in the last 15 years has been spectacular in this regard with real profits growing nearly 9 times in 20 years.

There are two notable changes Tesco made to the competitive landscape in the mid 1990s which are likely to explain their success in pushing their profits from the grocery sector beyond those of any of their rivals: increased store openings and the use of customer shopping data.

Tesco enhanced store openings

The Competition Commission 2000 report explores the cumulative store openings for the big 3 supermarkets. Collecting these data yields the following graph:

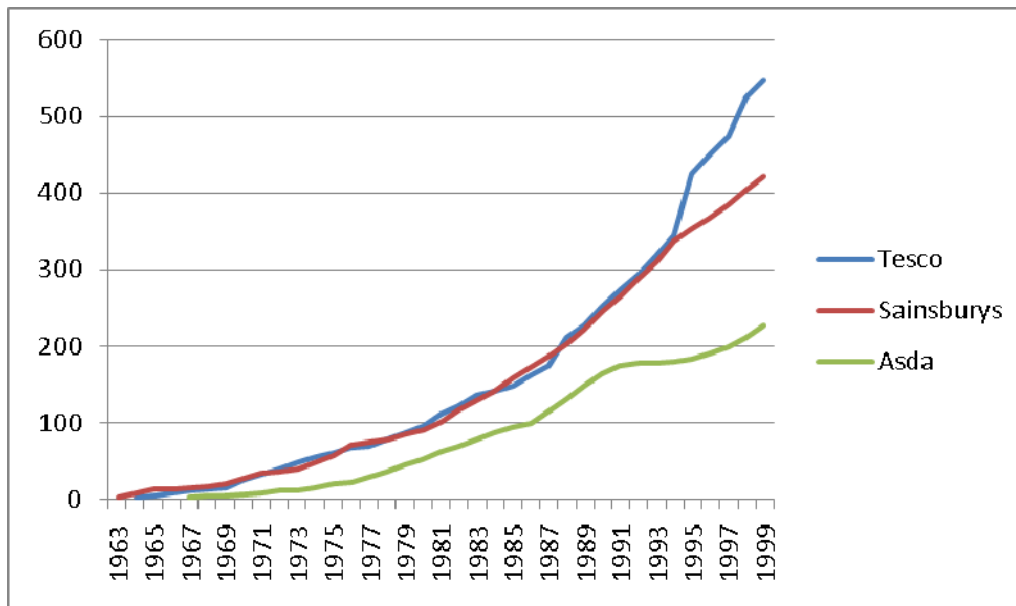


Figure 26: Cumulative store openings

Source: Competition Commission 2000 (Tables 5.7, 5.10 and 5.14)

Figure 26 indicates that Tesco and Sainsbury's were running neck and neck in terms of store openings prior to 1994. The stores counted are Competition Commission designated reference stores. These are supermarkets with 600 sq metres or more of grocery sales area, where the space devoted to the retail sale of food and non-alcoholic drinks exceeds 300 sq metres. In other words, these are substantial sized stores.¹¹

From 1995 Tesco began to pull ahead. In that year the Competition Commission note that Tesco opened 41 new stores (and acquired 41 stores from William Low) while Sainsbury built only 17. From 1995 through to 1999, Tesco opened 204 stores, including acquisitions, compared with Sainsbury's 85. Hence Tesco was better able to expand in the UK after the planning restrictions came into effect.¹²

For particular reasons Sainsbury's and Asda were unable to match this store expansion program. At the time Tesco was growing in the UK, Sainsbury's had decided to invest in US expansion. In the late 1980s Asda attempted to raise its prices to the level of the market leaders (Tesco and Sainsbury's). But customers started to desert the supermarket which led to a financial crisis, a rescue rights issue and the replacement of senior management. This prevented Asda expanding its stores during the 90s. When finances were healthier again it first focused on developing its existing stores before moving on to new stores.¹³

¹¹ The Tesco figures do not take account of any store closures – though Tesco says they are very few. The Sainsbury's figures do take account of store closures.

¹² See footnote 5.

¹³ See Competition Commission 2000, especially paragraphs 5.43 and 5.59.

Use of Customer Shopping Data

Tesco was the first of the five multiples to offer a loyalty card (Clubcard) which it launched in February 1995. Sainsbury first offered a loyalty card in June 1996 in response to the perceived effectiveness of the Tesco scheme. Asda introduced a limited loyalty card scheme in 1994 but discontinued it in mid-1999. Hence Tesco was a first mover in exploiting the potential of the information created by a loyalty card – and this introduction coincided with Tesco’s profits pulling away from its rivals.¹⁴

Tesco have received a very positive press regarding their use of customer data. The data collected by the loyalty card is analysed by a marketing data specialist called Dunnhumby (of which Tesco owns 83%). Some have argued that this is the reason behind Tesco’s particular success. For example, reported in the Financial Times¹⁵ a retail analyst at Cazenove the Investment Banking group says “Contrary to popular belief, Tesco’s most significant competitive advantage in the UK is not its scale. We believe that Clubcard, which conveys an array of material benefits across virtually every discipline of its business, is Tesco’s most potent weapon in the ongoing battle for market share.”

Tesco use the clubcard information to (a) determine what items should be stocked in a store given the local demographic and shopping habits; (b) target individuals with promotions designed to just stretch their relationship with Tesco. For example an upsell to a new brand, or money off if spend grows by just a little bit. And (c) to identify items which an individual is not buying from Tesco and seek to either improve the stock of this item, or provide promotions to attract this customer back.

The actual effectiveness of the customer loyalty information is impossible to verify. It has been reported that the use of the clubcard data allowed revenues in the Tesco’s Amersham store to increase by 12%.¹⁶ It is unclear how representative this figure is across all supermarkets.

In conclusion therefore:

- Over nearly 20 years from 1981 UK consumers lowered their spending on groceries. However at the same time they transferred the spending they were making to the big 3 supermarkets.
- We estimate that these supermarkets grew their market share from under 20% to over 70% over the same time horizon.
- The last 20 years have seen supermarket expansion at constant margins.
- This has translated into huge profit growth for the supermarkets. Tesco has been especially successful here.

¹⁴ See Competition Commission 2000, appendix 7.3. Especially paragraph 8.

¹⁵ <http://www.ft.com/cms/s/0/7f8f5a56-6d69-11db-8725-0000779e2340.html>

¹⁶ See footnote 15.

- Tesco began to pull away from their nearest rivals in the mid 1990s. This seems due to a focus on UK expansion and the introduction of a loyalty card scheme allowing detailed customer shopping data analysis.

7. What are the changing profit margins of the main British supermarkets?

In question 1 we explored the profit margins of the three largest UK supermarkets and noted that margins did not show any clear trend. Tesco and Sainsbury's were reasonably steady and healthy for the majority of the sample. While Asda's experience was more mixed.

Here we make use of an alternative data set¹⁷ of more recent financial company data to drill down to the more recent financial performance of the main UK supermarkets. This data set is not directly comparable with the DataStream data set due to different accounting treatments of some of the company subsidiaries.¹⁸ Nevertheless, trends over time are still instructive. We first introduce the available data:

Table 4: Profit Margins – Orbis data

	<i>Tesco</i>	<i>Sainsbury's</i>	<i>Asda</i>	<i>Morrisons</i>	<i>Iceland</i>	<i>Aldi</i>	<i>Lidl</i>
Dates	1998-2007	1999-2008. Not 2002	1998-2007	1999-2008	1998-2008. Not 2000	1998-2007	1998-2007
Number of observations	10	9	10	10	10	10	10
Minimum	3.38	-2.2	-1.09	-2.58	-5.22	-0.42	1.1
Maximum	8.84	7.04	5.16	6.67	6.38	5.96	8.3
Mean	4.78	2.86	3.92	4.51	1.20	2.44	4.88
Standard Deviation	1.501	2.678	1.876	3.035	3.590	2.198	2.450

Supermarkets as a group have enjoyed mixed fortunes in terms of their profit margins. But this does not appear to conform to type of business: discounter, value or premium outlet. Rather the popular press has suggested that management issues may have hindered the more recent performance of

¹⁷ We use the Orbis dataset containing financial data back for 10 years.

¹⁸ In particular whereas DataStream uses consolidated shareholder accounts, Orbis allows the accounts to be more finely disaggregated amongst component businesses. Therefore the Tesco accounts in Orbis do not include the profits of Tesco Mobile Ltd. for example.

some of the supermarkets.¹⁹ While all the supermarkets have experienced some profit variance (Figure 27 below).

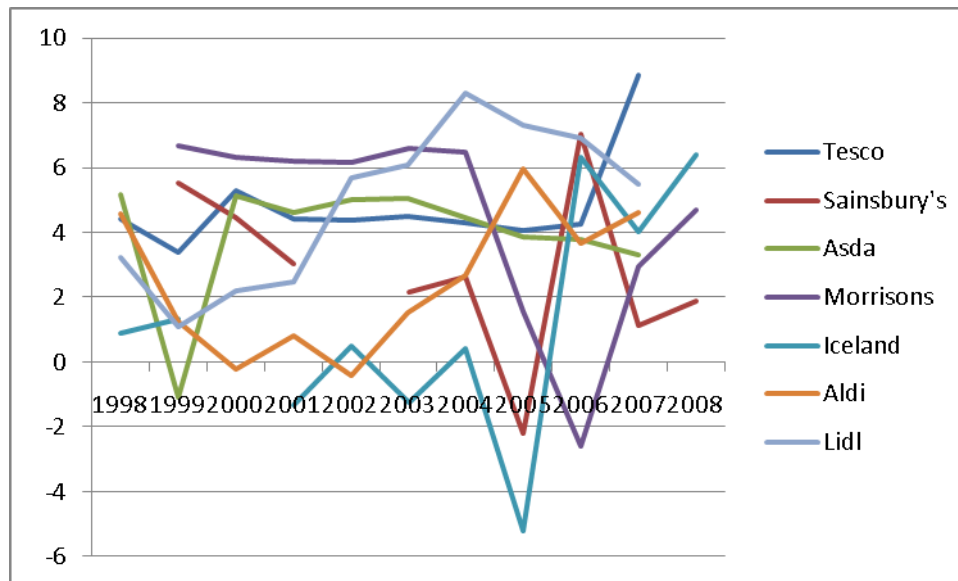


Figure 27 – Profit Margins of UK Supermarkets
 Source: Orbis Data

To make sense of the data we consider the profits of these seven supermarkets together as a group in Figure 28. This figure shows that profit margins have been broadly flat over the recent past. A finding which is entirely consistent with the data contained in Figure 2. Further there has been some increase in the variance of profit margins: Sainsbury's, Morrisons and Iceland have all made losses in the last few years. Some of this can be explained by the difficulties that Morrisons had in digesting the acquisition of Safeways.

¹⁹ For example the Financial Times refer to "Sir Peter Davis's [former CEO of Sainsbury's] bungled £3bn investment programme" in Sainsbury's hit by forecasting glitch, January 6, 2005.

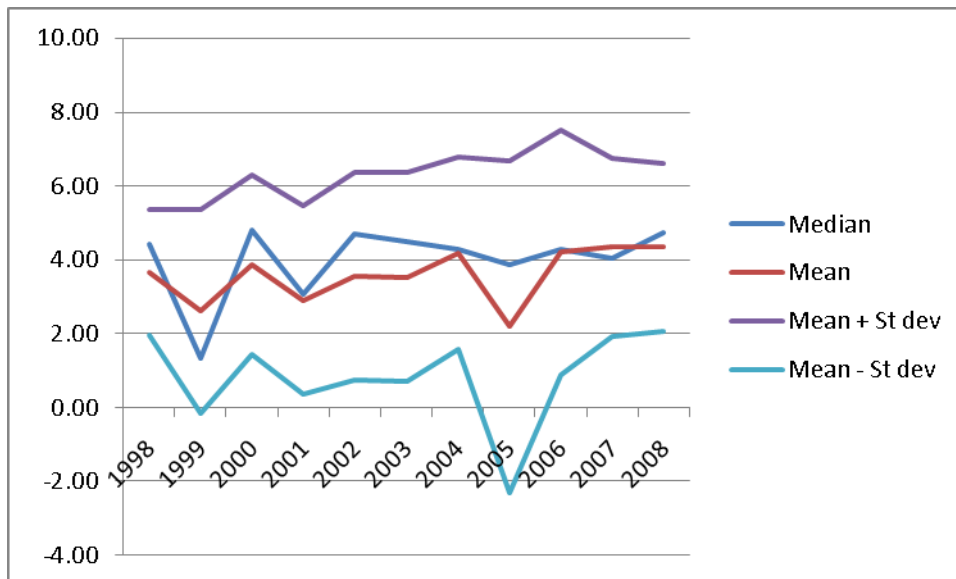


Figure 28 – Average profit margins of the supermarkets Tesco, Asda, Sainsbury, Morrisons, Lidl, Iceland, Aldi
 Source: Orbis data and own analysis

In conclusion therefore supermarkets are not a group of companies whose margins are growing. They have, in general shown flat profit margins over the recent past. In addition they have been experiencing some increased volatility in their margins recently.

We finally note that evidence of the supermarkets selling products at a loss (loss leading) is limited. The Competition Commission 2008 report explores this and concludes that it is a limited phenomenon concerning around 3% of revenues (representing just two or three product groups - dry groceries and alcohol). They did not conclude that it was predatory or misleading to consumers. Thus there is little evidence of supermarkets lowering their profits by lowering prices below cost.²⁰

²⁰ Competition Commission 2008, paragraphs 5.53 and 5.54

Conclusions

This investigation has looked at the statistics regarding the supermarkets' growth, profitability and penetration. We have considered a 30 year time series of profit margins for the largest supermarkets, we have then augmented the analysis by considering average store sizes, total grocery spending, own label penetration and other factors.

The last 30 years are notable in seeing a huge increase in the share of spending at the largest three supermarkets, both as a proportion of the spending on food, and as a proportion of domestic spending overall. The largest 3 supermarkets have grown their share of total grocery spending from under 20% to over 70% in the last 30 years (Figure 24).

This increase in the share of the total grocery spending has not been bought at the expense of falling margins. Profit margins have been reasonably steady over a long – 30 years – period of time. These profit margins have been at the healthy level of around 5%. These margins are on a par with the profit margins earned by suppliers of secondary branded and own label goods, and less than the average profit margins of branded good suppliers to supermarkets.

Thus supermarkets have seen flat profit margins but a hugely increasing share of the total spending on groceries.

This period of increased supermarket penetration with stable profit margins has meant that supermarket total profits, in real terms, have been rising steadily. The growth in real profits has been 2 to 3 times for Sainsbury's and Asda in the last 20 years. Tesco however is head and shoulders ahead here with real profit growth of the order of 9 times in the last 20 years.

Tesco began to leave all its rivals behind in the mid 1990s. The two specific game changing moves made by Tesco are to continue to focus on UK expansion even as planning was restricted from the mid 1990s onwards. And to establish a loyalty card scheme which allowed the retail offer to be fine tuned at the consumer level. Other strategies were employed by all supermarkets: use of own label products to counter the hard discounters; expansion into non food markets and (for some) convenience markets.

The major recent loser as Tesco continues its expansion in this millennium has been rivals in the small grocery sector. However much of the very recent growth of Tesco can be explained by a move into convenience retailing. Thus it does not follow that there is less local food retailing.

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