THE ROLE OF CONSUMERS IN COMPETITION AND COMPETITION POLICY

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Abstract

This paper develops the idea that consumers' behaviour matters significantly from the viewpoint of industry performance. This is examined through some theoretical propositions, but then at greater length by means of some case study examples. These examples demonstrate how, even in potentially competitive industries, reluctance on the part of consumers to search or to switch suppliers can lead to a sub-competitive outcome. The significance of non-traditional competition policy remedies in changing the outcome is drawn out.

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1. Introduction

When we think of competition policy, the natural thought (now) is of Articles 81 and 82 of the EC Treaty and their national equivalents, that is of handling collusive agreements and abuse of a dominant position through policy instruments. In terms of remedies, we think of fines as a deterrent, together with prohibitions of particular types of conduct and, possibly, structural solutions in some cases. My main point is to argue that in some important types of industry, these policies will not suffice to render the industry competitive because of the behaviour of consumers and that in such cases, quite different policy measures may well be more effective in enhancing competition.

Moreover, I would argue that as a result of the opening up of markets such as the supply of domestic energy and telecommunications to competition, policies to encourage consumers to make an active choice between suppliers are demonstrably required in order that such markets do indeed become competitive. Thus, the types of actions I am envisaging are likely to come into increasing prominence. When regulators are enjoined to develop, encourage or facilitate competition, how should they act? For example, should they create the conditions under which a large number of companies engage in supply? Should they deliberately cripple the incumbent in order to give new competitors a chance? How much information should they give consumers and how actively and in what ways should regulators be in encouraging consumers to switch suppliers?

The structure of the paper is as follows. I first outline some theoretical considerations that bear upon the problem. I then consider some extended case study examples to demonstrate the crucial importance in practice of the role of consumers and policy related to consumers. Finally, I conclude with implications for research and for policy of this proposed change in direction. Given the nature of the paper, the presentation of ideas is relatively informal.

2. Theory and a Framework

There are two features of consumers which impact directly on competition: (i) the nature of their search behaviour- how much do they search and how many players do they search amongst? (ii) how do they respond to differences in prices between players in the industry?

In turn, there is a pair of public policy questions: (i) can/ should policy influence search behaviour? And (ii) is there a role for the emphasis of similarities between products?

Linked with this set of questions is a paradox about competition: If everyone thinks the competitive process works well, it doesn't work. Let us take an example to illustrate the point. If everyone believes the replacement tyre industry is competitive, there is no point phoning around for quotes for replacing your car tyres. You may as well go to the first outlet you see, or the most convenient outlet, in order to get the job done. A possible equilibrium exists in which everyone does this. But then prices can differ substantially across different sellers of exactly the same product. To a very rough approximation, this is what happens in the UK.

To illustrate this latter point, consider the following figures. According to a commercial study performed for a tyre retail chain, 71% of consumers wanting to buy tyres contact no other outlet apart from the one at which they buy. According to a survey carried out by the Consumers' Association, a specific (and quite common) type of tyre, namely a Michelin Classic 175/70 R 13 T, fitted including balancing, was £40 at "Just Tyres", £56 (i.e. the same product was 40% more) at "Tyreservices" in February 1996 in their outlets located approximately 500 metres apart on the Bristol Road leading out of Gloucester. This is not an isolated case; nor, incidentally, is it true that Just Tyres is always a good place to buy!

There are several reasons why consumers may not switch between similar products in response to relative price changes, so forcing the firms to behave competitively. It is notable that in Tirole's (1989) first chapter on price competition, his three solutions to the Bertrand Paradox all place firms in a central position (capacity constraints, collusion and product differentiation). This in turn leads, most directly, to the idea that in an attempt to move markets nearer to competition, the relevant authority should focus first on tackling collusion.

By contrast, I want to point out that there is an (almost) entirely different set of reasons why consumers do not switch, which are related to the behaviour of consumers themselves. Specifically, they are consumers' search and switching behaviour. Both are relevant to repeat and ongoing purchases, so there is some overlap, whilst search behaviour concerns in addition one-off purchases. But they are also conditioned by the actions of firms, as I point out later. In turn, policy can influence the costs to consumers and the actions firms can take.

Let me develop the theory somewhat in terms of some propositions. First, I want to set out a proposition which is obvious (at least in retrospect):

P1. Subject to some mild restrictions, if each consumer searches only one firm prior to the purchase decision, the pricing outcome is at the monopoly level, regardless of the number of firms in the market.

Moving on, suppose now that some consumers engage in exhaustive search, others (a proportion ρ) engage in no search at all. Then, using a model similar to Salop and Stiglitz' (1977) famous "tourist-native" one (but avoiding the problems of corner solutions), it is easy to show that:

P2. The higher the proportion of active searchers (1- ρ), all other things equal, the greater the proportion of low cost firms (β). The high cost firms charge monopoly price, the low cost firms charge a breakeven price equal to average cost at their full capacity.

Of course, as we recall, all searchers will find a low cost firm. But so too, will a proportion (β) of non-searchers engaging in random search. Thus, the searchers impart a positive externality to non-searchers.

Thirdly, changing the model somewhat to consider the case where all consumers face search costs, a third proposition may be derived[1]:

P3. In markets where consumers' search costs are significant, the monopoly price can be the Nash equilibrium outcome. This is the more likely, the *larger* the number of firms in the industry.

These three propositions, which are spelled out rather more formally in Waterson (2000)[2] demonstrate the importance of search costs for the outcome in a market. It is also the case that the monopoly price outcomes are welfare-inferior to the competitive outcomes. Hence, the propositions suggest a potentially very positive role for policies that reduce search costs.

[1] This may be viewed as coming indirectly from Stahl (1989)

[2] Further interesting work in the area has been done by Buchirossi, see e.g. (2000) and by Moshkin and Shachar (2000).

Turning now to switching costs, an extensive survey is provided by Klemperer (1995). The general feature of such models is that firms face two opposing incentives. One is that they want to charge low prices in order to capture customers who then find it not worthwhile to switch again. The other is that they want to capitalise on their relatively captive (i.e. relatively inelastic demand) old customers by charging them relatively high prices. Thus, from Klemperer, we have

P4. In markets where firms can discriminate between old and new customers, and switching costs are significant, prices are lower in the first (new) period and higher in the second (old) period than if there were no switching costs in the second period.

And, moving to a multi-period model,

P5. In markets where no discrimination between new and old customers is feasible then, subject to certain parameter configurations, firms' prices are higher with switching costs than in their absence. In steady state, given switching costs, prices increase as turnover of customers falls and as customers become more particular about which product they buy.

As with search costs, therefore, "the resulting welfare losses may be substantial: switching costs generally raise prices and create deadweight losses of the usual kind…" (Klemperer, 1995, p.536).

Search behaviour may be thought to be a characteristic of individual consumers and therefore not something that may be influenced by public policy, unlike the actions of firms. However, this is untrue since consumers' search costs are manipulable by those who supply the good in question. Firms' strategy-making is likely to encompass this manipulation of consumer behaviour. Therefore, by enforcing or prohibiting particular practices, public agencies may influence search costs. For example, a policy that states all prices must be clearly marked on or adjacent to the point of sale reduces costs compared with a situation where suppliers do not mark prices[3].

Similarly, and perhaps more obviously, switching costs are altered by various means by the suppliers in their own interest. Classic examples include "frequent flyer" programmes and

[3] Lest the absence of marking be thought fanciful, a number of examples where prices have been or are not clearly marked can be listed. Examples include prices of drinks in pubs, prices of hotel rooms, prices of car repair and prices of accountancy and veterinary services.

Table 1: Codifying search and switching behaviour

Search Behaviour relatively weak				
Categorisation of Problem	Distress purchase	High relative search costs	Consumer ignorance of search possibilities	
Nature of problem	Immediacy rules out search	Consumer aware can search but not worthwhile	Consumer not fully aware of dimensions of search	
			Particular product price alternatives	Choice of similar products or alternative outlets
Product Examples	Plumbing services; tyres	Impulse ice cream; matches	Tyres; holiday packages	Types of loan; condoms
Firm exacerbatory behaviour examples	False reassurance, e.g "competitive pricing"	Exclusive selling	Restricted low price guarantee	Partial information provision
				Excessive compartmentalisation
Linking proposition	**P1**	**P3**	**P2**	
Reluctance to Switch				
Categorisation of problem		High relative switching costs	Consumer ignorance of switching possibilities	
Nature of problem		Consumer aware can switch but not worthwhile	Consumer not fully aware of dimensions of switching	
			Low level of switching costs relative to price differences	Characteristics of similar products
Product examples		Banking services; pensions	Energy supplies; mortgages	Generic pharmaceuticals; groceries
Firm exacerbatory behaviour examples		Reluctance to provide information required	Creating fear regarding new suppliers	Advertising of branded product characteristics
Linking proposition		**P4**	**P5**	
		Correct perception	**Misperception**	

supply of equipment (e.g. coffee making facilities) along with goods (coffee). Again there are situations in which an appropriate policy may reduce these costs. A useful example is the (enforcement of an) agreement between bus service providers to honour a local system of travel cards ensuring inter-availability. Here the policy might simply be to exempt such limited agreements from antitrust action.

Table 1 provides a framework within which to consider the various types of search and switching costs, including illustrations of the various types and examples of firm actions manipulating consumer behaviours. It also creates an approximate link between the Propositions and the various manifestations of search and switching costs that occur in practice. The distinction made at the foot of the table is between cases where the consumer is correct in their perception that it is not worthwhile searching/ switching, given the prevailing magnitudes of these costs (which might, of course, have been manipulated by firms) and cases where the consumer has a misperception, not recognising that switching/ search is worthwhile, given existing cost levels. The table does not encompass policy responses targeted at broad categories, but these feature later in the paper in the context of specific examples. With this framework in mind, we move to some specific illustrations.

3. Some Illustrative Examples

What I want to do now is to consider some examples to illustrate my point that consumers' behaviour matters in terms of both outcomes and policy. The first example, comparing banking and insurance and relating essentially to switching costs, illustrates the way in which very different behaviour across two relatively similar industries leads to markedly different outcomes from the viewpoint of performance. Second, I consider an industry of significant current importance, electricity supply, and discuss the role of consumer behaviour encompassing both search and switching costs in the development of competition. The final example moves towards policy issues, examining the failure of competition policy to have an effect upon an industry, contraceptive sheaths, until consumer attitudes changed. Search costs are highlighted here. This last example also contains a brief contrast with another industry, petrol, in which consumer search is especially easy. All the examples, I am sorry to say, draw on UK experience rather than more general European experience, although the cases and analyses are certainly relevant to Europe more generally.

Current Account Banking versus Motor Insurance.

First, as a backcloth both to this case and the later one on electricity, consider Table 2, coming from a recent study carried out by the Department of Trade and Industry. It concerns switching behaviour between suppliers. It may be seen from this table that there is a considerable divergence in behaviour of consumers across these industries. In some cases, people commonly consider their options, whilst in others, changing suppliers is something rarely done.

Table 2

Percent switched/ considering switching across markets in a five year period

Product	Switched	Considered it	Neither
Gas	37	15	48
Electricity	26	13	61
Fixed-line telecom	11	18	71
Home insurance	30	23	47
Car insurance	53	21	26
Bank current acc.	6	15	79
Mortgage	12	32	56

Source: DTI (2000)

Table 3 explores in a little more detail the implications of the very different experience as between car insurance and current account banking, which provide the greatest contrast in Table 2 in terms of switching behaviour. It shows how both industries are fairly concentrated, though banking is clearly the more so. The outcome in terms of profitability is also remarkably different. Don Cruickshank's (2000) report on *Competition in UK banking* finds that "over the period of 1987 to 1999 the weighted average annual internal rate of return for shareholders of the big four banks was 5 per cent a year more than an equivalent risk investment in the UK stock market." (p. 124). He denotes these returns "abnormal", since they substantially exceed nearly all other sectors of the UK stock market. By contrast, recent experience in the "domestic motor revenue account" of UK insurers shows outgoings substantially in excess of income.

Table 3.

Current Account Banking versus Motor Insurance

	HHI	CR4	Switched	Profitability	Return
Personal Banking	1330	68%	6%	high/excessive	5% above market
Motor Insurance	853	51%	53%	low/ negative	-8.95%

Sources: DTI (2000), Cruickshank (2000), Insurance Statistics Yearbook (2000)
(Return in banking is Cruickshank's estimate of return on equity; in insurance it is the price-cost margin for 1993-99)

Thus we have two industries in financial services, in one of which transfer between suppliers is commonplace, in the other of which, it is both unusual and difficult. In the former, returns are very low (competitive or sub-competitive) by any reckoning[4], whilst in the other they are very high. I would argue that a proximate explanation of this markedly different performance is the very different consumer behaviour across the markets- of course this begs the question of why consumers behave so differently in these two cases.

Here, one interesting feature worth exploring is the relative ease with which a consumer may change their motor insurer by comparison with changing their bank account. To change motor insurer, it is necessary only to telephone a potential supplier and provide them with answers to a list of questions, which takes perhaps 10 or 15 minutes. Alternatively, you can provide answers to an insurance broker, who then passes them on to a number of potential suppliers. One of the factors which facilitates changing supplier is that there is a large degree of commonality between suppliers in their view of your vehicle and the factors which influence claims expectations. More importantly, there is a general procedure in the industry (which extends across borders) of accepting a claims history from another insurer as evidence of discount which may be claimed from a new insurer. Hence, in switching supplier, you do not lose goodwill built up with another supplier.

By contrast, changing bank is a cumbersome procedure embarked upon only by the very determined consumer. Here it is by no means certain that evidence of good behaviour with one banker will be treated as evidence of good behaviour with another (for example in

[4] Here I appreciate that insurers aim roughly only to break even on this account on average, making money through investment of premiums. However, over the last 7 years, the average excess of outgoings over income is nearly 9% (i.e. the price cost margin is –9%), probably an amount beyond that which might be covered by investment income.

obtaining credit). One major problem relates to the transfer of periodic payments (e.g. direct debits), where UK banks have shown a very considerable reluctance to make transfers easy; if anything, they have made it difficult and have placed the onus firmly on the customer to ensure things run smoothly. They now (very recently) do have a voluntary code which contains a 10 day (!) deadline for swapping current account details. However, they are putting up a strong resistance to any government attempt to impose penalties for non-compliance with this deadline.

Hence at one level we may say that consumer behaviour is only the proximate cause of the marked difference in performance between the two industries. The underlying factor is the different attitudes of the firms involved. However, the question then comes of why consumers tolerate such different behaviour as between the players. To put it another way, why is it so difficult for a new player, who provides different and better performance, to capture a significant fraction of the current account banking market (as happened in motor insurance)? It seems clear to me that any policy designed to render banking (for domestic and small business customers) more competitive will need to address both the ease of switching and the opacity of their charging structures[5].

Switching Electricity Supplier[6]

All UK consumers now have a choice of electricity supplier- this was gradually rolled out around the UK, but all have had the opportunity since May 1999 to choose their supplier. The supplier purchases transmission/ distribution services at regulated prices and purchases electricity in the wholesale market, charging the customer on the basis of a tariff for the whole package. Previously, the retail market was regional, so that each customer has an incumbent supplier depending upon where they live. These incumbents have entered most if not all other UK areas, usually with regionally differentiated prices. In addition, other

[5] There are websites providing some comparative information on banking charges, including one provided by the British Bankers' Association, www.bba.org.uk. However, the information is not provided in a very user-friendly manner.

[6] In this section I have drawn on work conducted on Leverhulme project award F215/AX to the University of Warwick on Consumer and Producer Responses to Gas and Electricity Competition; in particular I would like to thank Monica Giulietti for some of the data manipulation. Some work on consumers' switching behaviour in relation to gas is reported in Giulietti et al. (2000).

companies not known for electricity supply have entered the market. New suppliers have attempted to capture business by means of postal, telephone and doorstep sales techniques.

Larger consumers (e.g. businesses) have had opportunities for some time to purchase electricity from other suppliers and they do regularly switch supplier. Their tariffs are more complex, reflecting cost elements more completely (e.g. charges for maximum demand over a period- obviously, metering of such customers is more sophisticated). Indeed, this market bears the hallmarks of being competitive in operation.

How is competition at the domestic level developing? First, not everyone is aware they are able to change supplier if they wish. However, 92% of a sample taken in September 2000 were aware they could switch electricity supplier (a higher degree of awareness than other categories, such as gas or telephone). Some consumer groups are less aware than others- there is some evidence of disadvantaged people being less aware. The likelihood, however, is that awareness is increasing and will get close to 100%. Second, most consumers can make significant savings by switching. Table 4 illustrates this point with savings available in a particular region. However it also shows that it is very difficult for Prepayment customers to make a saving by moving to another tariff. Prepayment meters are comparatively common in electricity; 15.6% of consumers had them in March 1999, coming predominantly from the "lower" social classes (OFGEM, 1999). Only a minority of consumers has switched, even amongst those for whom it would be worthwhile. OFGEM's (2001) figures, though a little out of date, are authoritative- they say that someone other than their former monopoly supplier was supplying 18% of consumers by July 2000.

Table 4

POTENTIAL SAVINGS (STANDARD RATE ELECTRICITY), £									
Payment Method	**Standard Credit**			**Direct Debit**			**Prepayment**		
Electricity Usage	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Bill with Powergen	136	236	336	125	226	326	144	244	345
Amerada / Amerada.co.uk	3-4	11-14	18-25	1-6	16-21	30-36	-38	-58	-77
Atlantic Electric and Gas	7	24	41	7	24	41	-7	-7	-7
British Gas	-1	15	32	-1	15	32	0	5	10
Eastern Energy	3	5	7	3	5	8	-7	-8	-7
Energy Supplies UK	2	2	2	5	10	15	-30	-43	-56
London Electricity / SWEB	7	12	17	0-7	8-12	16-17	-41 -(-79)	-62 - (-113)	-83 - (-147)
Northern Electric & Gas	6	18	30	6	18	30	-16	-20	-25
Norweb Energi	-1	9	18	-6	6	18	-7	-7	-7
npower	8	26	44	2	22	42	-47	-37	-28
Scottish & Southern	14	15	17	7	13	19	-22	-29	-37
ScottishPower	2	18	34	1	21	42	-7	-7	-7
Seeboard Energy	0	9	18	-2	7	16	-7	-7	-7
Swalec	14	15	17	7	13	19	-7	-7	-7
Utility Link	-4	18	40	-15	8	30	-18	2	22
Yorkshire Electricity	-6	2	10	-2	6	15	-29	-21	-12

Source: OFGEM website

Currently, there are 20 listed electricity suppliers to final consumers, though not all operate in any one area. With so many firms competing to sell an essentially homogeneous product, all incurring fixed costs, economic theory teaches us not to expect them to engage in Bertrand competition. Rather, they will aim to differentiate the product in some way, either by adding on services to create product differentiation in order to relax price competition, or by seeking out particular market niches. This is indeed how the market is developing, as Table A1, which illustrates the tariff structure available in a particular region of the country, shows. Various tariff structures are emerging, not all cost reflective, for example several companies have issued zero standing charge tariffs.

Thus, it is not a matter of there being a single "best buy". Table 5 illustrates this point in relation to a large user such as myself (!) and my next door neighbour, a rather small consumer of electricity. We are both better off switching away from our current supplier, but her three "best buys" have no common member with mine[7]. It is also amusing to note that I

[7] These are culled from the website www.buy.co.uk. Tariff structures for this particular region of the UK as at April 2001 are listed in Table A1.

am better off buying my electricity from British Gas and also, although not illustrated in the Table, buying my gas from my former incumbent electricity supplier.

Table 5

Switching Electricity	**Incumbent's Ann. charge**	**Best three £**		
"Me" (large user, direct debit)	576	500	512	529
"My neighbour" (small user, standard tariff)	136	122	122	127
"Another neighbour" (small user, prepayment tariff)	144	na	na	na
My best buys		Atlantic	Basic Power	British Gas
My first neighbour's best buys		Southern	SWALEC	Virgin

(source: www.buy.co.uk")
Total number of suppliers: Up to 15

Table 6 illustrates the degree of price discrimination between incumbent and entrant areas. It lists annual bills for three levels of consumption as of April 2001. Powergen is the incumbent in the East Midlands area, whilst npower is the (successor to the) incumbent in the adjacent Midlands area. It can be seen that each is relatively expensive in its own region. We may infer from their tariff structures that each is keen to capture higher consuming customers from the other, except that npower seems not at all keen to capture Prepayment meter customers from Powergen.

Table 6

Comparative Prices Across Regions

Supplier/	April 2001 charge per		**Standard Credit user**			**Direct Debit user**			**Prepayment user**		
Area	100 kwh £	Standing £	small	med	large	small	med	large	small	med	large
npower eme	5	45.02	127.52	210.02	292.52	123.69	203.72	283.74	190.75	281.50	372.25
p'gen eme	6.08	35.41	135.73	236.05	336.37	125.23	225.55	325.87	144.13	244.45	344.77
npower mids	6.72	21.59	132.47	243.35	354.23	128.50	236.05	343.60	148.22	259.10	369.98
p'gen mids	5.99	35.41	134.25	233.08	331.92	123.75	222.58	321.42	150.00	248.83	347.67

("Small", "medium" and "large" consumers as defined in the OFGEM website). Regular tariff only listed.

Moreover, it is clear that price movements over time are not generally in the direction of rapid convergence to a low level. If we compare Table 6 with the equivalent table for October 1999, 18 months earlier, the same general features are evident. If anything, the price differentials for switching have widened over the intervening period and the marked inter-regional price discrimination persists.

The fact that relatively few people have switched supplier reflects two things. First, consumers view the search costs as potentially high, second they view the switching cost as high. The former may be gauged by responses to the question "How long do you think it would take to switch electricity supplier?" The results for the sample we surveyed for our project are given in Table 7.

Table 7

How long would it take to switch electricity supplier?

Less than 1 hour	17%
A morning or afternoon	8%
A full day or more	32%
Don't know	43%

"Correct" answer is Less than 1 hour
Source- survey carried out for Leverhulme project- see footnote 6
Sample: 863 consumers

On the latter, Table 8 shows how people are reluctant to switch supplier even if there is a very clear financial advantage. Thus, taking our results at face value, there is scope for an incumbent to charge over £8 per month, i.e. up to around £100 per year more than an entrant, without this higher charge causing enough people to switch supplier to make the incumbent reduce price. The marginal benefits of raising price are positive up to this level but this is a greater difference than exists in practice.

Table 8

Showing the benefits versus costs of keeping price above competitors

Monthly Saving, £	Would switch away	Additional switchers	Gain from raising price	loss from raising price	Net gain from raising price
1	22				above previous level
2	57	35	806	35	771
4	175	118	1376	236	1140
6	325	150	1076	600	476
8	376	51	974	306	668
10	580	204	566	1632	-1066
12	597	17	532	170	362
14	617	20	492	240	252
16	645	28	436	392	44
20	679	34	736	544	192

Sample: 863 obs.

In other words, the market seems to be potentially competitive, in that the product is amenable to competition, but it is clearly not competitive in operation at present. Largely, this is a result of the behaviour of consumers. Here there is a contrast with the market for supply of electricity to business customers, where consumers switch suppliers regularly, and components are very cost reflective (so that it is difficult to get companies to quote for new business). In domestic supply, many companies at present co-exist happily in the market, each with a relatively small share of non-incumbent customers. All the suppliers expect some degree of shakeout to take place, resulting in a smaller group of survivors, but this has happened only to a limited extent to date[8]. The fact that many suppliers continue to operate indeed implies the market is not very competitive. This is despite the presence of a website provided by OFGEM[9] that provides a clear display of tariffs, and despite the presence of two intermediaries who offer an online switching service. There is clearly still a question of what actions the regulator or others might take in order to render the market more competitive.

Contraceptive Sheaths

This industry has the distinction of being one of the very few to have been investigated three times by the UK Monopolies and Mergers Commission (MMC), reports being produced in 1975, 1982 and 1994. The fact that two reports were produced in such a short space of time as seven years is indicative of the seriousness with which the industry was viewed. Yet, it is only a rather small industry in terms of significance of purchases as a proportion of expenditure, compared for example with Petrol, the only other industry to my knowledge that has been investigated three times. To illustrate, annual consumption of the product is put at just over 2.5 per person in the UK in 1992.

Indeed, this industry has the distinction of being regulated by a form of RPI-x index following the 1982 report. (More specifically, prices were not allowed to rise by more than 1.5 percentage points less than the percentage rise in a special cost index reflective of the industry's costs.) Previously, following the first report, prices were ordered to be reduced sharply.

[8] One large supplier has left the market in August 2000, having failed to make money. There have also been some mergers between former regional electricity companies, e.g. Scottish Hydro and Southern, Scottish Power and Manweb.

Why was the industry so profitable, and why was it viewed as such a problem? Here, there is a combination of three factors. The first is the extensive economies of scale in the industry, making a single machine (or rather, a bank of machines working together) capable of producing the entire UK demand for the product. That is, there is a degree of natural monopoly. Indeed, for much of the UK's recent history, a single player, with the brand name of Durex has dominated the market. However, this cannot be the entire answer, since the product has a high value to weight ratio, meaning that transport across borders is straightforward and, perhaps with minor differences, the product suits people in many nations.

The second element is the degree of trust or mistrust placed in the product. Each country tended to have its own standard for testing the quality of the product. With a single manufacturer dominant in the product in the UK, the UK standard was in effect set by the dominant manufacturer as a British Standard. This made it relatively difficult for other manufacturers to demonstrate that their product was of satisfactory quality, in a market where quality concerns are clearly paramount. At the time of the second report, only one other company had satisfied the British Standard, this being an American company that was one of the world's largest manufacturers of sheaths. The third element, the one most directly related to consumers, is the question of consumer attitudes and retailers' responses to those attitudes.

It is salutary to examine the parts of the earlier reports concerned specifically with consumer attitudes, since these are central to the diagnosis of the problem. In the first report, we read:

> "Distaste for the product on the part of many of those who might otherwise have been expected to play an active part in the industry- or fear of the effects on their other business of such distaste on the part of customers- is likely to have been a significant factor in deterring many potential producers and distributors from participating. The product could not be openly advertised or promoted. The rather furtive nature of the trade helped to make possible the charging of prices which bore little or no relation to cost; the buying public probably exerted less pressure upon the retail prices of sheaths than upon those of most consumer goods. The practice developed of offering retailers very high margins as an inducement to handle the product. Factors such as these created a situation in which even such potential producers or suppliers as were not put

[9] Available at www.ofgem.gov.uk/prices/priceframe.htm

> off by distaste were likely to be deterred from entering the industry by the impossibility of using normal marketing techniques." (MMC, 1975, p.60 para. 186).

However, things move on, and in the 1982 report is written:

> "The 1974 report noted that a more liberal public attitude towards contraception had made the trade in sheaths more visible than it had been in the past. Chemists, for example, had become free to display contraceptives and promotional material in their shops (under the rules of the Pharmaceutical Society they could not do this before 1970). This process has continued since 1974. Chemists are generally much more interested in the whole field of family planning and the display and sale of all products in this area have become more open. An important factor has been the use of display in the shop which facilitates self-selection by the customer." (MMC, 1982, p.8 para. 2.17).

Clearly, a market in which purchasers are somewhat furtive in their purchase of a product of an "under the counter" nature, price is not paramount in purchase of the product, nor is exploration of alternative brands. It certainly restricts search!

The third report provided a marked contrast in policy to the previous two, in revoking the previous restraints on pricing and proposing only a minor restraint on the dominant manufacturer, namely to desist from entering into exclusive agreements with its customers, requiring them not to stock competitors' products. What had changed?

One change was the expansion of the market, brought on by concern over AIDS. However, the impact of this on the size of the market can be exaggerated. Whereas the market had been in decline as a result of the "pill", it grew somewhat in the late 1980s through concern about AIDS, but estimates suggest a growth of just over 25% in an 8 year period over the 1982/83 figure. A second change, presaged in the third report, was the introduction of a European standard in 1996, enabling consumers to have confidence in products of suppliers they may not previously have encountered.

The third change, one I would argue is of most significance, is the change in consumer attitudes and the attendant change in the behaviour of suppliers. There were a number of changes in the advertising regime between the second and third reports. This was largely not

a change in the regulations concerning advertising (though there was indeed some easing of regulations), but rather a change in attitude or interpretation making advertising far more acceptable. For example, there are and were no restrictions on press and poster advertising apart from a general rule concerning indecency. Therefore, if condoms change from being viewed as indecent, poster advertising becomes acceptable. Similarly, TV advertising must be "restrained and in good taste" and "not appear to promote promiscuity". If tastes and or views about promiscuity change, condoms may be advertised (albeit only after 9pm). Thus whilst in the 1970s the product had been "furtive", it gradually became much more open.

As a result of this, certain suppliers began a policy of open display and indeed promotion of condoms in retail outlets. Significantly, a chain chemist, Superdrug, initiated the first condom price war by cutting 1/3 off the price of all its condom lines in May 1993. Consumers found it much easier to shop around and obtain the products from a variety of outlets, so such promotions made sense from the individual retailer's viewpoint- search costs were much reduced. Consumers could also see more easily the range of products available and so were able to experiment with new varieties and brands.

Therefore I would argue that the main reason for the monopoly problems identified in the first and to some extent second of the MMC reports arose from consumer attitudes (maybe abetted by the major supplier). The remedies proposed in the earlier reports were only partially successful, because they prompted responses from the supplier which were not clearly in consumer interests, for example the price control on particular brands encouraged the introduction of new varieties not subject to the price control. The market ceased being a problem only when consumer attitudes and consumer confidence changed enough for price competition to become worthwhile and for entrants to exert a pro-competitive impact. In other words, the main policy impact was not through the profit and price control regime, but rather through the introduction of a European standard and a positive attitude towards promotion of the product (including NHS- sponsored generic advertising of condoms as a measure to promote safer sex). Policy changes did have an impact, but not policy changes of a kind which impact behaviourally or structurally on the dominant supplier.

We may make a contrast here with the petrol retailing industry in the UK. Petrol is branded and several of the brands are household names; the major companies control large parts of the market. The Monopolies and Mergers Commission's third report into petrol (MMC, 1990,

Table 3.12, p.31) quotes an HHI of 1069 and a CR5 of 65.6 in terms of market shares in wholesale supply in 1988. Yet, drive down any road leading out of a major town and it would be unusual to see prices of a particular product (say, regular unleaded) differing by more than 1p per litre, i.e. a price differential of under 1.5%[10]. But are prices near to competitive? Arguably, yes. Each of the three MMC reports into petrol retailing has in essence declared the industry competitive. For example, the Competition Commission website states of the final report: "This is the third report on petrol by the Commission in the last 25 years. The reference reflects both the industry's importance and public concern over some of its features, in particular the extent of vertical control. We have examined the industry carefully and found that much of the concern is misplaced. In sum, this is a competitive market." Competition Commission (1999).

I would argue that there are two very important factors making for price transparency and so ease of search in this industry. These may well be the unsung factors making for a relatively competitive operation of the petrol retail market. There is first the very limited extent of non-price competition. Here the following passage from the 1979 MMC report is germane:

> "…competition between wholesalers on matters other than price was probably more active before 1974 than afterwards. The major suppliers made considerable use of advertising to promote their brands of petrol and to emphasise the differences between their brands and those of competing suppliers. These efforts to associate brands of petrol with some aspect of technical superiority were greatly weakened in 1971 when it became mandatory to sell petrol by the "star" octane grading (for which a British Standard had been introduced in 1967). Since then the petrol supplier, grade for grade, has for all practical purposes been an homogeneous product and has been so regarded by the majority of consumers." (MMC, 1979, para. 43 at p. 20.)

The second factor is The Price Marking (Petrol) Order 1980 (Statutory Instrument 1980/1121), and subsequent amendments. It sets out that unit prices of all major fuel products must be prominently displayed on a sign at the front of the petrol station. Clearly, this facilitates search whilst on the move a great deal.

[10] This casual impression was formalised in a data collection exercise undertaken for MMC (1990), where Appendix 4.7 reports on a multivariate regression exercise on retail prices in which most explanatory variables had a very small influence on prices.

4. Implications for modelling and for policy

The markets I have examined show clearly how important is the role of consumers in determining the outcome in terms of competitive behaviour. In turn, this leads to questions relating to the implications for modelling and for public policy.

Industrial economists concern themselves largely with firm behaviour, and commonly assume in developing models that consumers significantly change allegiance in response to price changes. Thus, it is common to assume Bertrand-type outcomes in markets where a product seems to be essentially homogeneous. However I argue, on the basis of this investigation, that industrial economists need to consider much more closely the behaviour of consumers in modelling particular cases and not just the behaviour of firms. Often, frictions in markets, barriers to entry and the like, are created by consumer behaviour. This is not a new insight, but we have not been good or systematic in looking for regularities in consumer behaviour. We have not, for example, much looked into how advertising works, or why consumers engage in more search for some goods than others. We do not take account of relative cross elasticities of demand, except by assumption. We have not incorporated into the general body of industrial economic theory the work of search theorists. Nor have we been consistent in considering firms' impacts on consumer behaviour.

There is also a considerable challenge for policy. I have argued that in some cases, the most efficacious policy measures in terms of developing competitive outcomes have been through standard-setting and through making pricing behaviour more transparent, and that the alternative actions of competition authorities in seeking behavioural remedies have not been particularly useful. Competition authorities also need to embrace the idea that consumers may need substantial assistance in challenging established players. Thus, the role of competition authorities might usefully be extended to encompass actions designed to spur consumers into forcing industries to operate more effectively.

Having made this point, I should enter two caveats. First, this type of action will only be useful in particular types of industry. Roughly speaking, I would say that action to stimulate consumers is best employed in relatively mature industries where performance is habitually a long way short of competitive, so that there has been continuing dominance by indifferent players. A particular instance is where the industry has traditionally been in state hands, so

that consumers are not very used to exercising choice, industries such as electricity and telephone service. It is unlikely to be useful in dynamic industries, where consumers and suppliers are both experimenting with new forms of product and product delivery.

The second caveat is that it is certainly possible to get things wrong. A good example is illustrated in the paper by Albaek et al. (1997). This concerns the concrete industry in Denmark. Concrete is an interesting example of an industry where problems arise very frequently in relation to allegations or actual instances of collusion between firms. The Competition authority determined to provide consumers with pricing information in order (presumably) to reduce their search costs. However, the effect appears to have been to solidify a tacitly collusive arrangement regarding the supply of concrete. This illustrates an important dilemma concerning the provision of information. On the one hand, if search costs are too high, consumers may not find it worthwhile to search. Thus, centralised provision of information acts to increase transparency. On the other hand, if firms are small in number, information on prices (or sales) can assist them in acting collusively. Thus centralised provision of information assists collusion. The fact that both these forces exist can easily be seen through models such as that behind proposition 2 of section 2. It suggests that information provision is most safely practised as a policy in relatively unconcentrated industries.

As a final remark, it is commonly said that the internet will reduce consumer search costs to such an extent that markets will become much more competitive. Thus, it might be argued, the activity I have proposed will be obsolete once the internet becomes sufficiently well used. I am not sanguine about this prospect, for several reasons. The common view is that the internet will, by dramatically reducing search costs, lead to far greater price transparency and increased price sensitivity and therefore significantly lower margins and enhance competition. But of course, existing suppliers are not going to simply accept a large increase in competition that may drive them out of business. Lynch and Ariely (2000) show through an experimental methodology how internet provision can enhance search for quality as well as search for price and they find that lowering search costs on quality leads to decreased price sensitivity. Therefore, developing a site that provides significant information on quality can be profitable. More generally, in any case in which commoditisation becomes a threat to suppliers, they have an incentive to reduce this threat by increasing differentiation between their offering and that of other suppliers. In other words, if search costs fall, they have an

incentive to increase switching costs. Moreover, to the extent that we may extrapolate from a relatively short period of experience, the UK electricity supply market to date does not suggest consumers are price sensitive enough for provision of prices over the internet to make the industry competitive, either in terms of pricing or in terms of significantly shifting consumer allegiance towards low price firms.

Appendix

Table A1

CHARGES FOR STANDARD RATE ELECTRICITY								
Payment Method	**Standard Credit**			**Direct Debit**			**Prepayment**	
Electricity Charges	Price per kWh (p)	Annual Standing Charge (£)	Prompt Payment Discount	Price per kWh (p)	Annual Standing Charge (£)	Direct Debit Discount	Price per kWh (p)	Annu Charg
Amerada	5.41	43.31		5.20	38.14		7.28	61.93
Amerada.co.uk	5.65	38.85		5.17	33.60		7.28	61.93
Atlantic Electric and Gas	5.04	45.99		5.04	35.49		6.08	51.16
British Gas								
first 900kWh	10.97	none		9.81	none		11.18	none
over 900kWh	5.08			5.08			5.78	
Eastern Energy								
first 2,392kWh	6.03	33.31		6.03	22.39		6.08	51.32
over 2,392kWh	5.92			5.92			6.08	
Energy Supplies UK	6.07	34.07		5.79	24.69		6.88	60.51
London Electricity	5.78	33.80		5.78	33.80	3% or £10.50	8.12	89.72
Northern Electric & Gas								
first 1,092kWh	9.14	none		8.19	none		6.36	54.80
over 1,092kWh	5.34			5.34			6.36	
Norweb Energi	5.51	45.40		5.36	42.63		6.08	51.16
npower	5.00	45.02		5.00	45.02	3%	5.50	100.0
Powergen	6.08	35.41		6.08	24.91		6.08	43.81
Scottish & Southern	5.97	23.48		5.97	23.48	4%	6.55	57.62
Scottish Power	5.08	50.40		4.82	45.15		6.08	51.16
Seeboard Energy								
first 728kWh	11.55	none		10.40	none		6.07	51.17
over 728kWh	5.55			5.55			6.07	
Swalec	5.97	23.48		5.97	23.48	4%	6.07	51.16
SWEB	5.78	33.80		5.78	33.80	3%	7.37	63.43
Utility Link	4.73	62.04		4.73	62.04		4.86	62.04
Yorkshire Electricity	5.59	49.55	£8.40	5.59	49.55	£14.70	5.59	80.64
Tariff for East Midlands area at April 2001.								
Source: Ofgem website								

References

Albaek, S., Mollgaard, P. and Overgaard, P.B. (1997) "Government-assisted oligopoly coordination? A *concrete* case." *Journal of Industrial Economics*, 45, 429-443.

Buccirossi, P. (2000) "Demand Rigidity with Search or Switching Costs. Some Unpleasant Results". Mimeo, LEAR, Rome, September.

Competition Commission (1999) Summary of *The Supply of Petrol*, www.competition-commission.org.uk/reports/265.htm#The State of Competition.

Cruickshank, D. (2000) *Competition in UK Banking: A report to the Chancellor of the Exchequer*. London, The Stationery Office.

Department of Trade and Industry (2000), *Switching Suppliers; a research study commissioned by the Consumer Affairs Directorate.* London, November.

Giulietti, M., Waddams Price, C. and Waterson, M., (2000) "Redundant regulation? Competition and consumer choices in the residential energy markets", Centre for Management under Regulation Research Paper 00/4, University of Warwick, November.

Insurance Statistics Yearbook, (2000) 1989-1999. London, Association of British Insurers.

Klemperer, P. (1995) "Competition when consumers have switching costs: An overview with applications to industrial organization, macroeconomics and international trade." *Review of Economic Studies*, 62, 515-539.

Lynch, J.G. and Ariely, D. (2000) "Wine Online: Search Costs Affect Competition on Price, Quality,and Distribution" *Marketing Science* 19, 83-103.

Monopolies and Mergers Commission (1975) *Contraceptive Sheaths.* HC135, 1974-75, London, HMSO.

Monopolies and Mergers Commission (1982) *Contraceptive Sheaths*. Cmnd 8689, London HMSO.

Monopolies and Mergers Commission (1990) *The Supply of Petrol*. Cm972, London HMSO.

Monopolies and Mergers Commission (1994) *Contraceptive Sheaths*. Cm2529, London HMSO.

Moshin, N. and Shachar, R. (2000) "Switching costs or search costs?" Mimeo, Eitan Berglas School of Economics, Tel Aviv, January.

OFGEM (1999) "Prepayment meters: a consultation document", OFGEM October.

OFGEM (2001) "How many people are changing supplier?" available at www.ofgem.gov.uk/prices/switching.htm

Salop, S. and Stiglitz, J. (1977) “Bargains and ripoffs: A model of monopolistically competitive price dispersion” *Review of Economic Studies*, 44, 493-510.

Stahl, D.O. (1989) “Oligopolistic pricing with sequential consumer search”, *American Economic Review*, 79, 700-712.

Tirole, J. (1989) *The Theory of Industrial Organization*. MIT press.

Waterson, M. (2000) “The role of consumers in competition” Mimeo, University of Warwick, August.