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Choice of Organisational Form in Petrol Retailing: An Economic Analysis

Gary Cook[1]

Abstract
This paper is concerned with the reasons for vertical integration. It specifically addresses the questions of why vertical integration and close contractual equivalents have arisen in the petrol sector of the U.K. and what influences the particular pattern of integration and contracts found. The paper reports the results of a case study based on 17 semi-structured interviews. The main conclusions of the paper are as follows. The recent history of vertical integration is better accounted for by efficiency rationales. The explanation of the nature of contracts used emerges as being a mixture of agency factors and those emphasised by transaction cost economics. It is argued that the mix of contracts used is principally explained by agency theory.

1. Introduction

This paper discusses the factors that have influenced the types of arrangements established by firms in the UK petrol industry in order to manage the chain between production and retail distribution. This chain has a high degree of vertical integration, although many of the retail sites owned by petrol companies are not run by them. The paper compares the traditional market power explanation for vertical integration with the transaction cost explanation. The latter, which has recently come to dominate the analysis of vertical integration and close contractual equivalents, suggests that vertical industry structures are primarily driven by the pursuit of efficiency. The paper subsequently considers why vertical integration is characterised in the main by a variety of different types of contract at the retail level. Evidence from 17 semi-structured interviews is examined along with secondary research.

2. The structure of the industry

This paper is concerned with the supply of petrol for retail in the U.K. in the downstream sector of the industry. There are broadly three stages in the downstream: refining, wholesale distribution and retail. The wholesale stage will not be considered separately, since independent wholesalers accounted for only 14.5 per cent of industry sales in 1988. The basic division of retailers is between those who operate on premises owned by the wholesaler and those which are independent. There are four types of relationship for wholesaler-owned sites.

1. *Direct management.*
2. *Licence.* This grants permission to carry on a business on the premises. Licences spell out in some detail how the business is to be carried on, including the requirement for exclusive supply.
3. *Tenancy.* A tenancy agreement grants exclusive possession of the premises. Agreements also provide for exclusive supply by the wholesaler and stipulate some

Figure 1 % Share of Sales by Outlet Type

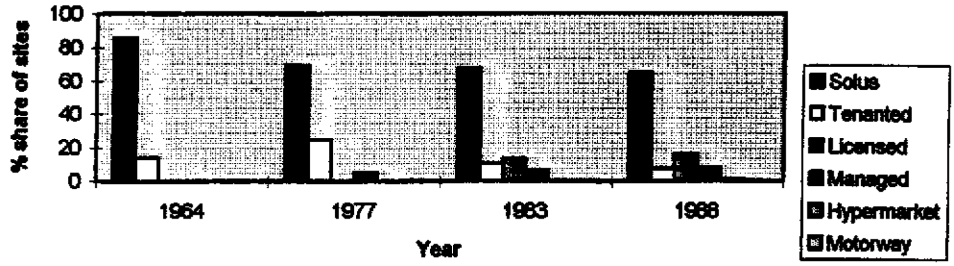
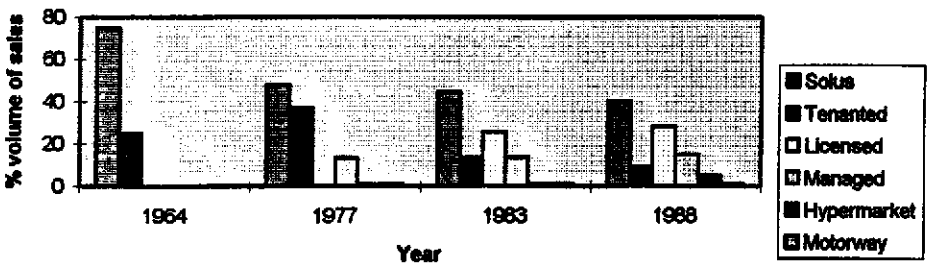


Figure 2 % Share of Sites by Volume of Sales



aspects of how the business should operate.

4. *Commission Agency.* This lays down how the agent must conduct the business but differs from a licence in that the commission agent does not take title to the petrol.

Independent dealers are those who either have freehold title to their property or have leasehold rights with a third party not connected with the fuel supplier. These dealers can be segmented into three broad types.

1. *Solus dealers* who enter into exclusive supply contracts (solus contracts) with wholesalers for up to five years.
2. *Hypermarkets and supermarkets* which also enter into solus arrangements, but are distinguished by their greater size.
3. *Motorway service areas*, which may have agreements with one wholesaler (occasionally more) which can be up to 10 years' duration.

The central feature of the solus contract is a rebate in return for an exclusive supply agreement.

Diagrams 1 and 2 show respectively the share of outlets and of final product sales accounted for by each of these main types of vertical relationship. What is immediately apparent is that integration becomes less strongly based on ownership and direct management at the retail end compared to the degree of integration between production and wholesale. Only half the sales by volume pass through outlets owned by wholesalers. Also evident is the great extent to which wholesalers have forged closer links with retail outlets by bringing a much greater proportion of outlets and product sales under ownership over the period 1964 to 1988, a trend which is continuing. Moreover, since 1983 there is a clear trend away from tenancies toward licences, commission agencies and direct management (shown together under direct management in the table) which represent tighter forms of control.

3. Vertical integration and contracts

The emphasis in this paper is on explaining the variety and types of contracts used by petrol companies for their retail sites. In the first place this requires discussion of whether the primary motive for integration, either by ownership or contract, is to seek or exploit market power or, as the transaction cost approach argues, to pursue efficiency. Either motive could be consistent with the same set of vertical arrangements.

Regarding the transaction cost perspective, Williamson (1979) has identified asset specificity as a critical factor making straightforward market exchange difficult. Asset specificity arises where an asset has a much higher value in a particular use compared to other alternative uses. The significance of asset specificity lies in the fact that a transaction-specific asset earns a quasi-rent which can become the object of expropriation by an opportunistic contracting partner (Klein, Crawford and Alchian, 1978). Transaction costs arise because of the need to write, monitor and enforce contracts to protect these quasi-rents. Williamson suggests that the choice of market or vertical integration, hierarchy in his terms, is a trade-off between the transaction and production costs of each mode. Markets are seen as having a clear production cost advantage, being superior in terms of incentives to be efficient and in the ability to aggregate demand to exploit economies of scale and scope. Hierarchy is seen as being superior at avoiding expropriation of quasi-rents, thus having an advantage in terms of transaction costs when asset specificity is high and problems of opportunism correspondingly large. Williamson suggests that the combined effect of these cost relationships implies that at low levels of asset specificity the market is preferred, while beyond some level of asset specificity hierarchy is superior. Where neither the market nor vertical integration are clearly superior, firms will use non-standard contracts. Thus, the extent of vertical integration can be explained by the interplay of the degree of asset specificity and the extent of managerial diseconomies of integration.

Williamson's theory is based on the assumption that competition forces firms to be efficient. It is therefore necessary to ask whether or not firms in this market possess market power. It is also important to ask whether there is any link between vertical integration and market power, particularly barriers to entry, which, as discussed below, is the most obvious alternative explanation of the exclusive supply contracts which typify this market.

There are two bodies of literature relating to contracts which crudely correspond to the market power versus efficiency schools of vertical integration. The first is the vertical restraints literature, according to which contracts perform three basic roles (Katz, 1989): they must create an incentive to maximise joint profit; they must allocate joint profit; and they must allocate risk. Thus the restraints literature appeals heavily to agency theory and views contracts which emerge as efficient solutions to a particular principal-agent problem.

By contrast, the perspective in transaction cost economics is that contracts provide a framework for an ongoing relationship (so-called relational contracting) as well as including terms aimed at protecting specific investments. Examples of the latter would be take-or-pay provisions to secure sales volumes and hence protect long-lived investments with sunk costs, or specific requirements to undertake promotional activities to protect brand-name capital. Herein lies an important difference between the two schools. It is the failure to deal with the ex post relationship in the agency literature to which Williamson (1985) takes such strong exception. He argues that the agency approach fails to deal with the reality of bounded rationality in assuming that all potential problems can be envisaged and resolved ex ante. An important concept in the transaction cost approach is the exchange of hostages (Williamson, 1983). The basic idea is that each party will commit a valuable asset which will be forfeited if they act opportunistically in the face of some unknowable and uncontractable future contingency. This hostage exchange helps maintain the relationship by making opportunistic behaviour less likely. Examples appear in the following section. Other important differences are that the agency literature deals much more fully with the creation of incentives and efficient risk bearing.

Despite their differences, the vertical restraints and transaction cost literatures have substantial overlap in their analysis of the importance of brand-name capital in franchise systems, of which petrol retailing may be seen as an example. The value of the brand-name capital is in part determined by the services provided by the franchisee. However, each franchisee has an incentive to free ride on the quality of other franchisees, attracting custom while avoiding the cost of providing certain services. This is called horizontal free-riding. There is also a problem of vertical free-riding, where the franchisee reduces effort and exploits the investment in brand-name capital made by the franchiser. An important function of contracts is to minimise such free-riding. Given that petrol retailing may be seen as a franchise system, petrol companies will be referred to as franchisers and parties with whom they have contracts as franchisees.

3.1 Specific contract terms

The general differences in emphasis between the vertical restraints and transaction cost approaches to contracts are brought out further by considering how they explain various terms which appear in contracts.

Exclusive dealing, a definitive feature of contracts in this market, has typically been explained in the restraints literature as a means of raising barriers to entry (Blair and Kaserman, 1983). This view has been challenged by Marvel (1982) on the grounds that exclusive-dealing contracts do not normally constitute an effective barrier since entrants have an opportunity to compete for outlets at contract renewal. A rebuttal has come from Comanor and Frech (1985). They suggest that where companies face cost disadvantages because of failure to exploit economies of scope when excluded from the best channel of distribution, an incumbent can use exclusive dealing to raise limit prices and construct an entry deterrence strategy. Katz (1989) suggests that even where entry can be staggered as exclusive dealing contracts successively come up for renewal, high initial fixed entry costs can be sufficient to forestall entry.

Most franchise contracts typically combine an entry fee with royalties. The entry fee is a non-returnable lump sum payable by the franchisee in order to enter the franchise contract. The royalty is a fixed percentage of sales revenue. In the transaction cost approach, Klein (1980) has characterised the entry fee as a collateral bond posted to give a credible assurance that the franchisee will not free ride. The logic is that if the franchisee cheats then he or she will forfeit the franchise fee. The weakness of this approach is that it fails to consider efficient risk bearing. In the vertical restraints literature (Blair and Kaserman, 1983) the fee is viewed as a technique for extracting monopoly profit while overcoming potential double mark-up problems by supplying at marginal cost. Capitalising all future profits, which are uncertain, in a lump sum payment made in advance places all the risk on the franchisee. In this case, the franchise fee is lowered and a sales royalty levied in order to shift risk from the franchisee to the franchiser. The transaction cost approach, by contrast, views the royalty as a bonding device by the franchiser to ensure maintenance of support. This works because the reward to the franchiser depends on future sales on which the royalty is levied. It is also argued that reputational constraints exist on franchiser cheating, particularly when new franchises will be sold, because a franchiser with a poor reputation will find it hard to attract new franchisees (Klein, 1980).

3.2 Mix of contract types

One area where both the transaction cost and vertical restraints literatures are weak is in the explanation of the widespread phenomenon of manufacturers using a mix of both directly managed and franchised distribution outlets. The vertical restraints literature discusses a number of contractual forms which are formally equivalent to vertical integration, without detailed explanation of why one type should be chosen over another. Williamson (1991) simply presents markets, hierarchies and contracts as discrete choices. However, there is a small literature, lying somewhere between the restraints and transaction-cost literatures, which has addressed this question. The major predictions of this small literature, clearly emphasising agency considerations, can be summarised as follows. Managed operations are favoured where:

1. the clientele is mobile, since the franchisee has more incentive to free ride the less reliant he is on repeat business (Caves and Murphy, 1976, Rubin, 1978, Brickley and Dark, 1987, Norton, 1988);

2. sites are large, since the profit available to the manufacturer is greater (Caves and Murphy, 1976) and it is difficult to capitalise this profit in the franchise fee;

3. outlets are concentrated geographically, which lowers monitoring costs (Rubin, 1978).

Conversely, franchising is favoured where:

1. outlets are dispersed, increasing monitoring costs (Norton, 1988);

2. random variability in demand makes it difficult to detect shirking by directly employed managers (Norton, 1988).

4. The empirical research

The main sources of evidence for this case study were 17 semi-structured interviews together with a variety of secondary sources. There were three main reasons for the interviews. Firstly, the choice of ownership versus contract is likely to involve difficult trade-offs between control and efficiency and it is interesting to enquire how managers view those trade-offs in practice. Secondly, little direct evidence is available about how managers think about these issues. Thirdly, the differences in interpretation of various contractual features between the two schools are often subtle and primary evidence is valuable in overcoming what would otherwise be an 'observational equivalence' problem. Appendix A gives brief details of the interviewees selected. Some interviewees were better placed than others to comment on particular aspects of integration and contracts, therefore not all interviewees responded to every specific point. Companies were selected to obtain a cross-section of views representing the main types of operator in the market. These comprise: the fully integrated oil majors such as Esso, Shell and BP; the smaller scale fully-integrated operators such as Gulf, JET and Fina; the non-integrated operators such as Burmah; and the independent retail chains such as the hypermarkets and Heron. Interviews, undertaken during the early 1990s, were semi-structured, based around an interview schedule covering the main areas of theoretical interest. The interviews ranged in length from 45 minutes to 3 hours. The interview evidence was analyzed by investigating whether replies provided any evidence for or against either theoretical viewpoint. The categories used in the tables presented below were derived from this analysis rather than being imposed on the data.

5. An assessment of the alternative explanations of integration

This section provides a brief analysis of the reasons for integration which were put forward by the interview respondents. This analysis suggests that economising on transaction costs provides the more compelling explanation for the presence of vertical integration. Table 1 summarises the main reasons given for being integrated. The pluses and minuses give a crude indication of the strength of agreement or disagreement and question marks indicate a respondent was of two minds. Details of the respondents are given in Appendix A. The main reason for integration appears to be the pursuit of a better profit margin. Following the first and second oil crises, the profitability of oil companies was adversely affected which made them look much more critically at the contribution of each of their activities (respondent D). Petrol is of central importance in refinery economics from both a profit margin and a sales volume perspective (respondents A1, A4, B1 and D). Hence, there is considerable emphasis on making this sector profitable.

The emphasis on vertical integration to protect brand-name capital is connected with the desire to meet return-on-capital objectives. The critical importance of a strong brand is that it pulls output through the refinery and the distribution system. Moreover, the brand-name capital itself is a substantial specific investment. The need for vertical integration or a contractual alternative to protect it has already been discussed in the literature review. Many respondents recognised the potential problems of quality shading. Among the major concerns mentioned were: lack of cleanliness (respondents A3, B1, B2, F and I); poor customer service (respondents A2, A3, A4, B1, B2, C, F, G and I); lack of consistency of image (respondents A2, A3, B1, B2 and E); and failure to maintain facilities in a good state of repair (respondents A2, A3 and B2). A question-mark against the need for integration by ownership was raised by respondent A3 who claimed adequate control can be and is secured by contractual means. The major companies place the greater emphasis on the importance of the brand

Table 1: Reasons for Vertical Integration

Respondent	High fixed costs	Sunk cost of refining	Need to maintain throughput	Capture profit margin	Brand name capital
A1				++	+
A2			+		
A3				++	?
A4	+	+	+	+	+
B1	++	++	+	+	++
D	+	+		+	
F				+	
G				-	
I			++		+

name because they have committed greater absolute amounts of investment to establish their brands.

The need to avoid any interruption to the flow of product into and out of the refinery is clearly emphasised, particularly by respondents A4 and B1 who saw keeping up capacity utilisation as of paramount importance. This is an example of a potential hold-up problem associated with what Williamson calls 'temporal specificity'. Any interruption to the flow of product means a failure to spread fixed costs which cannot subsequently be made up, since the final consumer cannot be made to forestall purchases. The alternative strategy of stockpiling buffer inventories is ruled out on grounds of cost.

5.1. Transaction costs.

These broad reasons for integration are understandable within a transaction cost framework. A major impulse for integration is the large quasi-rents which are exposed at the refining stage. A modern conversion refinery, a highly specific asset, would cost around \$5bn, virtually all sunk cost. In addition there are annual upgrading and maintenance costs of over \$200m per annum (respondent B1). There are also substantial sunk costs in specific assets, terminals and pipelines, at the distribution stage. The influence of substantial quasi-rents at the refining stage carries forward to the analysis of integration of both production and distribution with retail. Indeed, the need to protect large refinery investments through achieving security of outlet has been advanced by the industry as a reason for forward integration into retail ever since the wave of investment in UK refining following the Second World War. This was virtually synchronous with the establishment of the 'solus' system in the early 1950s.

5.2 Market power

While there appears to be a strong case for the transaction cost interpretation, the possibility that monopoly power might be equally important merits discussion. The post-war trend in the United Kingdom has been towards reduction of seller concentration

Table 2: Trends in Concentration in Petrol Supply at Wholesale in the UK

	1964	1977	1983	1988
Cr5	89.5	69.6	65.8	65.6
Herfindahl index	0.2958	0.1181	0.1049	0.1069

Source: MMC (1990)

Table 3: Percentage Return on Capital Employed for the Thirteen Major Wholesalers (historic cost basis)

	1983	1984	1985	1986	1987	1988
Five majors	-1.4	-0.2	4.1	4.7	3.2	3.3
Other five refiners	0.3	-10.5	10.4	-5.7	11.6	4.3
Three non-refiners	2.5	-1.6	0.1	-1.0	5.8	10.2
Total	-1.0	-2.2	5.2	2.8	4.7	3.7
Bank of England reported returns for ICCs	16.4	17.6	18.4	20.2	22.8	22.5

Source: MMC (1990)

at the level of the wholesale supply of petrol. Not only has seller concentration declined since 1960, but there has been a corresponding rise in buyer concentration through the rise of independent retail chains, such as hypermarket and supermarket retailers.

Monopoly profits have been conspicuous by their absence in the U.K. petrol market as shown by table 3.

Regarding entry, the evidence is that new small-scale entry has not been precluded at the wholesale and retail levels (see table 4), notwithstanding the fact that by 1960 approximately 95 per cent of retail outlets were covered by exclusive dealing arrangements(Monopolies Commission 1965). Entrants into refining in the 1960s were able to avoid large initial overheads by importing petrol and using independent storage, only investing in their own facilities when they had built up sufficient sales volume. This is evidence against Katz' (1989) condition for an effective barrier. Contrary to Comanor and Frech's (1985) condition, many firms have exploited economies of scope to enter the market. This has particularly been the case for hypermarkets for whom the marginal cost of adding a petrol forecourt is substantially below the full cost of developing a service station.

The evidence for a monopoly power explanation of the persistence of vertical integration in the industry appears equivocal. There has always been some degree of power in the market, yet it has clearly diminished,

Table 4: Number of Wholesalers and Major Retail Chains in the UK Market

1970	1975	1980	1985	1990	1995
43	36	35	57	64	73

Source: Institute of Petroleum Annual Marketing Survey

which has been counter to the closer contractual integration forged at the retail level. By contrast, as transaction specific investments in petrol refining capacity and brand-name capital have increased, so the degree of integration has increased.

6. An explanation of the variety and structure of vertical relations at the retail level

As argued above, the transaction-cost explanation for integration of retail appears strong, yet full integration in terms of ownership and operation involves only 8.5 per cent of sites. This section analyses the evidence regarding why contracts are preferred and why a mix of contracts is used. This is achieved by first examining the reasons why some sites are owned and why a subset of these owned sites is managed. The main factors limiting the extent of direct management are discussed. Attention then turns to the explanations offered for some key terms in contracts. Finally, the nature of the contractual relationship is briefly analyzed.

The most important consideration in deciding both which sites to own and which to manage was revealed in the interviews to be volume sold (see tables 5 and 6). Differences in site size by class of outlet are illustrated in table 7 and the pattern is consistent with a variety of agency factors. These include: the difficulty of creating feasible agency contracts to motivate the agent both to create and surrender profits; the risk associated with investments in such large sites for a single agent; and the risk associated with the larger absolute variance in sales at a larger site (Yarrow, 1991). The risk-related problems are mitigated in the case of licensed sites by a substantial internalisation of risk by the wholesaler, who bears the major part of fixed costs. Considerable importance was given by interviewees to the issue of control. Interview evidence clearly indicated that managed and licensed outlets are subject to the most intensive monitoring. The chief additional expenses identified for licensed sites were control and monitoring, routine maintenance and rates. Avoidance of these costs, along with personnel administration, were stated by respondents D,E and G as having a strong bearing on deciding which mode of contracting to use.

Another important reason for site ownership appears to be control over the brand. At first it seems curious that security of outlet was not mentioned specifically in this context. Part of the reason is that branding is now viewed as the key way in which to secure sales volume. Control over the brand is linked with the two other important criteria for ownership: position and sales volume. All three combine to pull output through the integrated refining and distribution system. Respondent A2 emphasised that site ownership gave more control over standards of customer service, which are the most difficult components of brand image to ensure at dealer sites. An important consideration here is that where the

Table 5: Criteria for Site Ownership

Respondent	Sales volume	Position	Offered site by dealer	Control over brand
A2	+	++	+	++
A3	+	+	+	-
B1			+	++
B2	+	+		++
C	+			
D	+			
E	+			

Table 6: Criteria for Sites for Direct Management

Respondent	Sales volume	Geographical cluster	Profit	Fashion
A2	+	++	+	+
A3	++	+	+	+
B1	+	?	+	+
B2	+			
D	+		+	
E	+			
F	++		++	
G	++			
J1	+			
J2	+			+

Table 7: Site Sizes by Type of Outlet

	Petrol sold (mn litres per annum)
Directly managed	2.805
Licensed	2.743
Tenanted	1.878
Solus	0.987
Hypermarket	5.912
Motorway service area	5.475

Source: MMC (1990)

oil company owns the site they have a more powerful sanction of dismissal, since they can exclude the operator from working with a necessary complementary asset (Grossman and Hart, 1986). There is a clear connection between the stated reasons for site ownership and the transaction-cost considerations of protecting specific investments in refineries and brand name capital.

Regarding the criteria for the choice of sites to directly manage, the larger sites tend to be the most profitable, indicating that sales volume and profit are related, not least because the larger sites support a range of facilities such as shops and car washes which are important to site profitability. Secondly, the larger sites can support the administrative overhead of personnel and monitoring and control costs which are a concomitant of management. While only four respondents overtly claimed it was a matter of fashion, the sentiment that there is a good deal of ambiguity about what constitutes the ideal portfolio of contractual arrangements was widely shared among the respondents.

One of the main factors which increases monitoring costs is geographic dispersion. Managed sites, requiring more intensive monitoring to ensure that standards of service and efficiency are maintained, tend to be in a geographically compact area and accessible to the regional management network (respondents A3 and B1). Respondent A3 added that as sites tend to become fewer and larger, then more 'clusters' of sites suitable for management might emerge. Similar considerations apply to licensed sites which are also subject to intensive monitoring. Against this, respondent B1 suggested that a major company needed to operate a range of sites, including some smaller and more isolated sites, in order to understand the particular nature of each type of site, yet agreed that in the main his company preferred to manage the larger sites.

The reasons given for the management of sites are something of an assortment (see table 8). The need to have sites for test marketing reveals that the relationship between oil companies and their non-salaried operators is not as one-sided as might be supposed. This is because the companies believe it is not acceptable to test new ideas at licensee or dealer stations until they are confident that the operator's business will not be affected adversely. This view was most strongly emphasised by respondent F, whose company relied very heavily on dealer-operated outlets. He gave the example of the company's failed experiment with note acceptors which were used for providing 24 hour service without the need for staff to be present. A company acquiring a reputation for damaging the interests of site operators would lose current and potential operators. This indicates that reputational constraints operate on franchisers.

The desire for information on both the true state of the market and the cost of operation are indicative of agency problems caused by imperfectly aligned objectives and information asymmetries. Direct management is a more plausible response than relying purely on elaborate mechanism designs to elicit truthful revelation of such information, such as those proposed in Mathewson and Winter (1985). The importance of market intelligence is that it feeds back into production planning at the refinery stage. Respondent A4 described how much more difficult such planning was in an export refinery not coupled to a specific market. Respondent B1 saw a benefit of integration into retail in terms of identifying changes in customer preferences more quickly, which informed development of the mix of goods, services and physical amenities offered at each petrol station. Respondent H

Table 8: Reasons for Direct Management of Sites

Respondent	Capture profit margin	Test market	Demand information to help planning	Demand information to help negotiation	Cost information to help negotiation	Flagship sites
A2	+		+		+	+
A3						+
A4			+			
B1		+	+	+	+	
C	+	+		+	+	
D	+					+
F	+	++		+	+	
J1	?					

remarked that the integrated oil companies' superior knowledge of all the costs in the vertical chain gave them a strong bargaining advantage, even over large and sophisticated retail chains.

Several respondents identified the desire to capture profit margin. The need for direct management to do this implies a difficulty in doing so via contracts. While the vertical restraints literature has demonstrated the possibility of agency contracts being devised which are equivalent to vertical integration, this evidence casts some doubt on the feasibility of such contracts in practice.

Several respondents emphasised that an important concern regarding dealer-owned-and-operated sites is that the company loses control over how the site is operated (A2, B1, B2, E and F). According to respondent B1, the debate about how far to pursue site ownership is key as regards the alteration of the portfolio of sites. There is a strong argument for in terms of greater control in order to protect brand image and against in terms of dulled incentives. Moreover, he claimed there was considerable thought given to how best to trade-off control and incentives within the licence agreement itself. Respondent C offered another perspective on these problems. He reported how the company had exercised too much control initially, which had dulled initiative among licensees. Subsequently the company was trying actively to rekindle a more entrepreneurial approach by offering stronger incentives, training and greater freedom of choice. The existence of this dilemma is at the heart of agency issues.

The evidence regarding the stronger motivation of the independent operator (here anyone other than a salaried manager) indicates the power of residual profit in providing incentives. Respondents D and F stated explicitly that it is very difficult to provide appropriate incentives for managers. Several respondents referred to the problem of controlling pilfering of stocks in managed operations (A2, E and G). Again, the belief was that an operator rewarded by residual profit would be much more vigilant in curbing such losses. Respondent I spoke at some length of the need to get a balance between allowing sufficient residual profit to attract high calibre licensees but that this

Table 9: Limits on Direct Management

Respondent	Administrative overhead	Bureaucratic cost	Pilfering	Skills	Dulled incentives
A1	+				
A2	+	+	+		
A3		+		++	
B1	+			+	
B2					+
C	+				+
D	+				+
E	+		+		
F	+			+	++
G	+	+	+		
J1		+			

should not be too much, since easy profits might translate into slack behaviour.

There are a number of reasons why dealer-owned sites might not be considered suitable for company ownership. The existence of economies of scope at small sites is well known. The Price Commission (1976) found that forecourt activities on almost all garages with a sales volume below 100,000 gallons per annum were loss-making and were almost always supplemented by other activities. Many of the smaller dealer-owned sites are viable only because the selling of petrol is bundled together with the provision of other services, such as mechanical servicing or car sales. These are seen as undermining the brand image which firms are trying to cultivate, where perceived cleanliness is a crucial indicator of quality. Skills and tacit knowledge are important in providing limitations to direct management and may be seen as related to the condition of bounded rationality, which assumes such importance in transaction cost economics.

The oil companies see themselves as having distinctive competencies in running licensed operations based on fuel, convenience stores and car washes; skills which have been built up over recent years. What they lack is the local knowledge and entrepreneurial flair of the licensee or the motor-trade skills of the dealer. Both of these limits are consistent with the transaction-cost explanation. On the one hand companies wish to preserve their investment in brand-name capital. On the other they face managerial diseconomies associated with their inability to deal with economies of scope.

6.1 Explaining the structure of contracts

The chief terms of contracts will now be considered, since they cast further light on which approach best explains the nature of contracts. This evidence is somewhat fragmentary due to the reluctance of companies to discuss what are regarded as commercially sensitive issues.

The entry fee, which is payable under all

Table 10: Majors' Wholesale Prices and Margins by Channel
Allowing for Notional Rent (pence per litre), 1988

	Independent retailers	Licensees/tenants	Managed sites
Net wholesale price			
Petrol	9.26	10.31	10.3
All refined products	9.6	10.49	10.59
Gross margin			
Petrol	1.96	3.01	3.08
All refined products	2.24	3.22	3.3
Net margin			
All refined products	0.08	1.32	1.5
Less notional rent		1.27	1.36
Total	0.08	0.05	0.14

Source: MMC (1990)

types of contract considered, is seen as performing a range of functions. Its most important function appears to be to provide the company with a return on capital employed, both in the development of the brand and the physical investment of the site (respondents A2, A3, B1, B2 and D). The generally low and fixed nature of the fee implies that the fee is not set to provide the full return. This is consistent with the agency argument that the efficient allocation of risk needs to be traded-off against the profit maximising level of fee which would allow the product to be supplied at marginal cost. Some respondents (A3 and E) referred to a screening function, payment of the fee indicating the franchisee's confidence in their ability to run the site. There was some evidence that the fee was seen as performing a bonding function (respondents A3, B2, D and E). Thus, the explanation of what role fees play is a mixture of agency and transaction cost reasons.

The supply price has a role in the balance of risk-sharing against incentives. Not all licence and tenancy arrangements have an explicit royalty yet it is apparent that firms use a quasi-royalty: an increase of the input supply price over marginal cost. The dispersion of supply prices to different classes of business is shown in table 10. One reason for this is the need to generate a return on the capital employed. This is consistent with the need to allocate risk efficiently by lowering the fixed entry fee and paying some of the fixed costs of the site as revenues arise. Respondent B1 also indicated that a function of the royalty was, in part, to capture an element of profit at the best sites. Even here there was evidence of opportunism with respondent E reporting that some operators try to disguise their takings to avoid paying royalties. The transaction cost tradition suggests that the royalty serves to reduce the risk of franchiser cheating. It may operate with this effect, yet no evidence was obtained that it was either designed or believed to do so.

The need to control the physical environment at sites is part of the motivation for the producer supplying the equipment to be used at the site. This avoids the possibility of the dealer not using the best quality equipment and failing to have it adequately maintained. There are also gains from economies of bulk purchasing, however these could be realised by the company on behalf of the dealer with the dealer subsequently taking direct ownership of the assets. A final reason why the payment, or at least the financing of the purchase on favourable terms, is made by the producer, is the need for efficient risk allocation. The equipping of a petrol station to high standards is beyond the means of most small entrepreneurs and even if they could afford it, it would be an extremely risky investment in that they would have an undiversified portfolio. This sharing of risk makes possible the licensing of very large sites.

Providing the physical assets is not particularly problematic, however their maintenance reveals the pervasiveness of agency problems. These problems arise as a result of the company taking responsibility for maintenance of equipment. Companies do this in order to avoid the agency problem of station operators failing to ensure that adequate maintenance is undertaken, a form of quality shading. If the company pays for maintenance, the dealer tends to make trivial call-outs. According to respondent A3, there are two possible responses. One is to have a fixed element in the remuneration of the maintenance contractor, who then has an incentive to discourage trivial call-outs. The other is to require the dealer to make a contribution towards the cost of maintenance.

6.2 The contractual relationship

There are two important questions regarding the nature of the contractual relationship. The first is whether companies view contracts as being different in kind to integrated ownership, undermining the view prevalent in the restraints literature that contracts are equivalent to integration. The second is the extent to which they are relational, as suggested by the transaction-cost literature.

According to the interview evidence, the tenant or licensee is regarded as being an independent business, although the degree of independence is constrained. Thus, companies distinguish between ownership integration and contractual relationships. The oil company provides the bulk of the assets under licences and tenancies, which can be in excess of 500,000 for a large site, in addition to the investment in the brand name. Both of these investments need to be protected. Hence contract terms are not subject to negotiation and must be stringently enforced since a brand name in franchise systems relies on consistent quality being provided at all outlets. Hadfield (1990), from a relational contracting perspective, suggests that this insistence on enforcing standards is part of the implicit contract between the franchiser and franchisees that the franchiser will ensure that the value of the brand name is not undermined. Several companies expressed a view that the strategy regarding brand standards was seen as convincing operators of the value of maintaining standards rather than relying on ever tighter monitoring (respondents A2, C and F). This again speaks more of relational contracting than mechanism design. Many of these considerations are writ