

Switching costs

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Summary

1. Suppliers retain ownership of tanks installed at the properties of their domestic customers and, if the customer switches supplier, the tank of the outgoing supplier is removed, and replaced by one from the new supplier. The average cost of installing a tank (excluding the cost of the tank) ranges from £250 to £650 while removal costs around £200 to £250. Underground tanks, which have become more common, are more expensive to install and remove.
2. The upfront charge to a customer for tank installation and removal varies widely. Among the major suppliers (Calor, Flogas, Shell and BP) the (weighted average) standard installation charge is £100 and the standard removal charge is £135. These standard charges were applied to around half of all customers for whom a tank was installed and removed (respectively) in 2003. Over all installations and removals, the average charges were £90 and £70 respectively. We have seen no evidence that

customers who switch between suppliers pay substantially different installation and removal charges to customers who are entering or leaving the market.

3. Although the upfront switching charge is often substantial, price comparisons indicate that many customers have scope to make considerable savings by switching supplier. However, the rate of switching between suppliers is very low (each year, around one customer in 200 switches to another supplier).
4. Standard customer contracts either specify the standard removal charge, or note the customer's liability for the cost of removal without indicating what this cost will be. Minimum contract terms are common, both for new customers and for existing customers who negotiate discounts (the discount being in some cases conditional on the customer signing the new contract). As indicated above, in practice, removal and installation charges are not always levied in full, and contract terms such as notice periods and penalties for early termination of contracts are not always enforced, but the scope for avoiding such terms is not known to customers in advance, and will depend on circumstances, company policy, and negotiation between customer and supplier.
5. Each year, around 3 per cent of the major suppliers' customers end their supply arrangement. Only one in six of these (0.5 per cent of the customer base—one in every 200 customers) switch to an alternative supplier each year. The major suppliers told us that high satisfaction levels were the primary reason more customers did not switch, but we have seen little evidence that customers have a strong preference for, or loyalty to, their existing supplier. While survey evidence suggests general satisfaction with the quality of service, there is no evidence that alternative suppliers are seen as offering a poorer service and customers are less satisfied that they are getting value for money.
6. A more credible explanation for the low rate of switching appears to be that the barriers to customers of switching tanks are potentially considerable. These include the charges for installation and removal, as well as the actual inconvenience of the switching process and contractual restrictions described above. Moreover, survey evidence and customer complaints indicate that customers perceive the process of switching tanks as inconvenient, which may also discourage switching. In addition, comparative prices are not readily available.
7. Some customers negotiate discounts with their current suppliers. The exact proportion who do so is uncertain, but it appears to be around 5 per cent. Selective discounts enable suppliers to limit the number of marginal customers they lose when increasing prices, leading to higher prices to customers who do not negotiate.
8. In certain circumstances, a market with switching costs may be competitive, particularly if suppliers can offer discounts to potential customers. However, there is evidence of a lack of competition in the domestic bulk LPG market: many customers who could apparently obtain substantial savings by switching to a different supplier do not do so. The costs and inconvenience (whether actual or perceived) of switching mean that customers have a strong preference for staying with their incumbent supplier. As a result of this, the incumbent supplier has an advantage in 'price defending' via selective discounts to customers who threaten to switch. Suppliers are aware of this incumbency advantage and so have a limited incentive to attempt to win customers from one another.

Switching costs and barriers

9. We begin by considering the possible costs, or barriers, to switching suppliers.

Cost of removal and replacement of tanks

10. Costs to suppliers, and charges to domestic customers, for installation and removal of domestic bulk LPG tanks are shown in Table 1.¹ Installation costs to the supplier range from £250 to £650, while removal costs appear to be more standardized at around £200 to £250. [X] recovered charges from a majority of its customers for installation, on average covering around one-third of the cost to [X]. Its recovery of charges for tank removal followed a broadly similar pattern, except that the average charge was just over half the cost to [X].² [X] The basis on which uplift or removal charges are lowered or waived remains unclear.
11. [X]'s installation and removal charges are the highest of the major suppliers, and each is recovered from seven in ten customers. [X] charges the lowest standard charges for both installation and removal. Its rate of recovery of these charges is also low, with the result that its average installation/removal charges are generally well below those of other suppliers. On the basis of these figures, a customer paying standard charges and switching within the major suppliers could pay a total (installation/removal) cost ranging from £55 (switching from [X] to [X]) to £370 (switching from [X] to [X]). A customer paying the weighted average removal and installation charges would pay a total of £162. The total combined cost to the major suppliers of all tank installations and removals due to switching in 2003 was around £350,000.

TABLE 1 Switching costs for above-ground tanks in 2003

	Calor	Flogas*	Shell†	BP	Major suppliers
Average cost to company of installing tank‡ (£)					256–655
Standard installation charge (£)					103¶
Average installation charge (among those charged) (£)					156¶
Average installation charge (all) (£)					91¶
Number of tanks installed					2,092
Proportion paying no installation charge (%)					42
Proportion paying standard installation charge or above (%)					51
Average cost to company of removing tank (£)					192–250
Standard removal charge (£)					135¶
Average removal charge (among those charged) (£)					118¶
Average removal charge (all) (£)					71¶
Number of tanks removed					3,294
Proportion paying no removal charge (%)					39
Proportion paying standard removal charge or above (%)					48

Source: Suppliers.

*Underground tanks included in removal data.

†Removal data based on incomplete records.

‡To a site on which a tank has previously been installed; and excluding the cost of the tank: this will vary widely depending on the supplier's access to second-hand tanks.

§Depending on tank size and material requirements.

¶Weighted average.

#Including removal of gas from the tank. The cost for removal of an empty tank was £[X].

~[X]

¹Data is presented for British suppliers (ie excluding Calor NI and Flogas NI) unless otherwise stated.

²[X]

12. It has been suggested that some savings might be made on the cost of tank installation and of tank removal if a customer is switching between supplier, rather than having a tank installed for the first time or having a tank removed without its being replaced by another tank. In particular, the removal cost to the outgoing supplier is typically lower if the customer is switching to another supplier as the incoming supplier will disconnect the tank. [X] estimated the removal cost in this case at £[X] rather than its £[X] average cost. [X] estimated the combined cost to the incoming and outgoing supplier as £330 when the customer was switching between suppliers. However, estimates by [X] of installation and removal in such a scenario, at £[X] and £[X] respectively, were not much lower than its average estimates of installation and removal in Table 1.
13. Among the major suppliers, with the exception of [X],³ any such cost difference does not appear to be reflected in lower charges to customers. [X] told us that its uplift charges to customers who move to a different supplier are the same as to customers who stop using LPG. [X] provided data on average charges to both groups: in both cases the average charge to those switching within LPG were slightly lower than to those switching out (although the difference was not significant).
14. [X] told us it believed that the vast majority of instances where little or no charge had been levied for tank installation and removal related to customers switching between suppliers. However, Table 2, based on [X] data, indicates that, among customers who stopped using [X] in 2003, those who switched supplier were more likely to pay the standard charge, while those who ended their supply for another reason were more likely to pay no charge.

TABLE 2 Uplift charge for domestic customers who stopped using [X] in 2003

Charge	Switched supplier (%)	Ended supply for another reason (%)
	X	

Source: [X]

15. The major suppliers told us that they do not refund or compensate new customers for the uplift charges of their previous suppliers. However, as mentioned, installation charges may be reduced or waived, or a credit may be offered against future gas supplies: even if not specifically linked to the uplift charge, such offers will reduce the immediate net cost of switching—albeit that suppliers will expect to recoup these costs in the course of the supply arrangement (eg in the price of LPG). Customers who switched from another supplier to [X] in 2003 were twice as likely as new-to-LPG [X] customers to have their installation charges waived (39 per cent vs 17 per cent). Shell told us that such inducements were quite common.

³[X]

Charges levied by smaller suppliers

16. Charges made by smaller suppliers for tank installation and removal are shown in Table 3 (based on replies from ten firms which account for an estimated three-quarters of small-scale LPG supply by volume and customers). As can be seen, the overwhelming majority of customers did not pay for tank installation and removal.

TABLE 3 Installation and removal charges by smaller suppliers in 2003

Number charged for:

Charge £	Installation	Removal
0	547	146
50	1	0
60	1	1
80	0	1
100	3	0
120	6	0
130	12	0
150	12	0
180	0	13
200	1	1
250	9	0
Total	592	162

Source: Smaller suppliers.

Recovery of outstanding costs

17. The major suppliers told us that any under-recovered tank installation costs were recovered through the price of LPG, or through other revenue streams such as standing charges. [X] said that its standing charges covered maintenance, emergency and insurance costs and did not contribute to recovery of installation costs. Table 4 shows the estimated proportion of revenue from a new domestic customer, which represents recovery of the cost of the tank and installation.
18. [X] estimated that the cost of tank and installation would be recovered in [X], depending on [X]⁴ [X]. For a new underground tank, installation costs accounted for [X] of the initial cost. [X] told us it aimed to recoup tank and installation costs in the first three years; its estimate of installation costs was around 40 per cent of total tank and installation costs. We note that this recovery is achieved even though many customers receive introductory prices.

TABLE 4 Proportion of revenue which represents recovery of tank and installation costs

Recovery period	per cent			
	Calor	Flogas	Shell	BP
Year 1	[
Year 2			X	
Year 3				
Year 4				

Source: Suppliers.

Note: [X] commented that the above table did not account for fixed costs, overheads and profit.

⁴[X] told us that it requires five-year contract periods for underground tanks, rather than three-year contracts.

Underground tanks

19. [X] told us that underground tanks were introduced in 1992⁵ and had become more common since 2000, accounting for around [X] per cent of domestic bulk LPG installations at present. In 2003, [X] increased its base of underground tank customers by almost [X], and underground tanks accounted for [X] of tanks installed by [X], and one-quarter of tanks installed by all the major suppliers, in that year. [X] said that the extent to which this trend would continue was uncertain. [X] told us it would only supply underground tanks in exceptional circumstances and for existing customers, and had installed only three in the first half of 2005.
20. [X] told us that the costs associated with uplifting an underground tank may be as much as £[X], and consisted of the costs of excavating the tank, backfilling the hole with a suitable backfill material, with extensive compacting to prevent subsidence, and landscaping the area (which may be carried out by the customer). Most of these costs would not apply if another supplier's underground tank was to be installed in place of the one removed. [X] also told us it insisted on supervising the excavation process to ensure the tank is not damaged, and that this step was not included in the removal of an above-ground tank. A number of customers with underground tanks expressed concern that their gardens would be damaged if the tanks were switched.
21. Some of the major suppliers report underground tanks are three times as expensive as above-ground tanks.⁶ One reason for this is that many above-ground tanks installed in 2003 were refurbished tanks: suppliers with a stock of used tanks face a lower upfront cost in starting to supply a customer; but such a stock of underground tanks is unlikely to be held by any supplier in the foreseeable future.⁷
22. Installation costs for underground tanks are also higher, although of a similar order of magnitude to those for above-ground tanks. Average installation *charges* in 2003 were substantially higher for underground tanks than for above-ground tanks (four times higher in the case of [X]) although somewhat lower than the actual cost to the supplier. [X] standard charge for removal of an underground tank is £[X], well above the £[X] standard charge for an above-ground tank, reflecting the higher cost of removal, though there is not a significant amount of data available on the charges to customers for uplift, since underground tanks are a relatively new phenomenon. One major supplier ([X]) told us [X].
23. The average LPG price charged to [X] customers with underground tanks in 2003 was broadly similar, and for [X] customers around ([X]) cheaper, than to those with above-ground tanks.⁸ [X] told us that its prices to customers did not distinguish between those with underground and above-ground tanks. It noted that a higher proportion of its customers with underground tanks would be 'new' and therefore on introductory prices. [X] told us that its lower price for LPG supplied to underground vessels [X]. Shell, which excluded metered estates from its response, told us that the price difference was due to the greater volume that could be supplied to underground tanks, which are typically larger than above-ground tanks—a factor also mentioned by [X].

⁵Shell believes they were introduced in 1989.

⁶[X]

⁷[X] told us that the prior need to uplift the tank (at an average cost of £[X]) increased the total cost to £[X] for an above-ground tank, although we note that the uplift cost is incurred regardless of whether the tank is re-used. [X] also said that by uplifting and refurbishing tanks, [X] avoided having to buy new tanks, and that therefore the opportunity cost of the refurbished tanks was somewhere between £[X] and £[X] depending on tank size. Here, we note that the opportunity cost of installing a refurbished tank is the price for which the supplier could sell that tank, rather than the price of a new tank. As there is little second-hand trade in tanks, with suppliers preferring to hold tanks in stock, the opportunity cost is difficult to determine.

⁸[X] and [X], although [X] charge was [X] more for an underground tank than an above-ground tank. [X]

The switching process

24. We considered the switching process, particularly with regard to the potential inconvenience it may cause to customers. Inconvenience can incorporate a number of different elements, including the need to collect and compare quotes from different suppliers,⁹ the need to monitor the level of gas in the tank over the (often lengthy) notice period; the process of arranging the removal and replacement of the bulk tank between the outgoing and incoming suppliers, which involves a number of contacts between the customer and suppliers (see Table 6); the actual uplift and replacement, which normally involves the use of one or more cranes; and, the length of time and degree of contact with suppliers it takes to complete the process. The typical steps involved in switching suppliers are set out in Table 5, which indicates that the process may take four to five months. [X] and [X] each told us that, when approached by a prospective customer, its policy was initially to offer a verbal, indicative, quote by telephone, and to visit the site before offering a written quotation, although [X] told us that some suppliers, other than [X], insist that a site visit is necessary before they can give any price indication. [X] records indicate that only [X] of the [X] domestic users who requested a quote from [X] in 2003 received a quote. In comparison, [X]. [X] said this reflected a high number of calls where the prospective domestic user was looking for information about a future project. Flogas recorded [X] requests from domestic customers in 2003—[X] as many as [X]. [X] told us it received, and met, [X] requests for quotes from domestic customers in 2003. [X] received around [X] domestic customer contacts and issued around [X] quotes.
25. Having given notice of termination to the supplier, the customer would usually have to monitor the level of gas in the tank to ensure it was as low as possible at the end of the period, but without running out of gas in the meantime. The new and outgoing suppliers are required to cooperate in arranging the switch under the CoP 26 and the LPGA policy statement, ensuring that arrangements are not unreasonably delayed, and completing the work within 14 days of the end of the notice period.¹⁰ It is common practice for the new supplier to disconnect the old tank and set it aside when installing the new tank, so a delay in removing the old tank would not normally cause an interruption of LPG supply, although disconnection requires the approval of the outgoing supplier. [X] told us that this does not affect the customer's new LPG supply as the discarded tank will be placed in a suitable temporary location, though [X] told us that setting aside of the old tank happens infrequently because it arranges to uplift the old tank at the same time as the new tank is installed (but see paragraph 48). We note that, depending on the availability of storage space on the property, customers may consider this an inconvenience. [X] told us that the new and outgoing supplier worked together to ensure that the switch took place in 24 hours, and usually within one working day.
26. [X] did not accept that the process took four to five months, and told us that it allowed up to three months to complete the whole process. None of the major suppliers could provide us with details of how many of its former customers faced delays in removal of the tank. [X] told us that gas remaining in the tank had caused delays in some cases. [X] noted that 'in the very small number of cases where there is delay, this is often due to building or landscaping that may have taken place, or be

⁹It is acknowledged that this element of inconvenience is not exclusive to tank uplift, but would exist in relation to other arrangements for change of a supplier.

¹⁰[X] told us that this CoP was subscribed to by all members of LPGA and generally observed by non-members, although we note that one major supplier [X] appeared to interpret the CoP very differently, commenting that 'although the relevant provision...is not entirely clear, the 14 day period is intended to constitute a 'cooling off' period during which the customer is free to contract with the new supplier'.

in progress, preventing access to the tank'. The HSE commented that tanks tended to be in the back gardens of houses and that customers had sometimes built structures around them. This was the case on several sites visited by the CC. Schneider, the tank manufacturer, noted that where customers had done this, larger cranes would be needed.

TABLE 5 Steps in the process of switching suppliers

Step	Typical time
1. Customer contacts alternative suppliers, obtains and compares quotes	1 week
2. Customer contracts with new supplier	
3. Customer notifies outgoing supplier in writing	3 months (notice period)*
4. Run down gas in tank, ideally to below level for safe handling	3 months (during notice period)†
5. New supplier requests permission of outgoing supplier to move its tank	1–3 weeks
6. Outgoing supplier gives permission	(during notice period)
7. New supplier empties remaining gas from tank, into another tank.	
8. New supplier disconnects and moves outgoing supplier's tank.	
9. New supplier completes installation	1–2 weeks (after notice period)
10. New supplier pumps remaining gas into installed tank	
11. Outgoing supplier arranges for collection of empty tank	Up to 3 weeks (after notice period)

Source: Suppliers.

*[redacted]
†[redacted]

27. An internal document from [redacted] sets out its process for completing a standard bulk tank exchange. The process is summarized in Table 6; the points at which customer involvement is required are indicated.

TABLE 6 Tank uplift—customer involvement

- Customer sends written confirmation giving three months' notice.
- Uplift request is received by Customer Engineering.
- **Customer contact 1:** contact the customer by telephone to confirm that the details have not changed and to confirm the next stage of the uplift.

If unable to contact the customer via telephone, send a standard letter requesting the customer to make contact. If no response within 10 days, send standard letter.
- Select disconnection contractor and establish disconnection date with the disconnection contractor.
- **Customer contact 2:** inform the customer of proposed disconnection date by telephone. If unable to contact the customer, send a standard letter which may include a request for the customer to be on site at the time of disconnection.
- Disconnection contractor attends site and informs Customer Engineering whether a gas evacuation, a trolley or Customer Service Engineer visit due to site restrictions is required.

The contractor will also highlight any potential tank removal difficulties for the uplift contractor. If the contractor is unable to attend/visit is aborted, the customer is contacted to explain reason and to confirm new disconnection date.

If needed, a gas evacuation or site inspection by a Customer Service Engineer is organized.
- **Customer contact 3:** confirm whether uplift can take place, check access and if customer needs to be present. Select and contact appropriate uplift contractor.
- **Customer contact 4:** once confirmation of planned uplift date has been received from uplift contractor, contact customer to advise of the uplift date, the name of the uplift contractor and explain the next stage of the uplift. If the uplift is aborted, the customer needs to be contacted to explain reason and agree a new date.
- Once uplift is complete, an invoice is sent to customer.

Source: [redacted].

28. We considered whether customers were likely to face an additional switching cost in the loss of LPG (already purchased by the customer) remaining in the outgoing tank on removal. [redacted] told us that it was standard procedure to change the delivery status of an account to delivery on demand, rather than automatic top-up, when the account was terminated. Its policy for a customer termination was that no credit was given for any LPG uplifted, although there were exceptions. Around one in four [redacted] customers leaving in 2003/2004 [redacted] received such a credit. Flogas told us that [redacted]. [redacted] may (with the customer's agreement) delay tank removal beyond the notice period to allow the customer to run down the gas in the tank. Flogas [redacted], while [redacted] charges [redacted] (only four [redacted] customers paid this charge in 2003). [redacted], Flogas told us that [redacted]. [redacted] told us it encouraged customers to use up their remaining gas during their notice period and that, if the customer was switching to a competing supplier, any remaining LPG would be transferred to the new tank ([redacted] also has this facility).
29. The major suppliers told us that switching of tanks did not inconvenience the customer, particularly given the CoP requirements. Calor told us that it sought to make the process easy in the hope that, in due course, the customer would revert, but we have seen no evidence to support this assertion. Calor and Flogas pointed out that the majority—two-thirds—of respondents to the ORC survey who had switched found the process relatively straightforward. Data from the ORC survey about customers who switched supplier should be treated with caution.¹¹ Even if the data were reliable and the majority of respondents who had switched did not find it difficult, we note that a substantial minority (35 per cent) said that it was difficult to change suppliers—one in five switchers found it very difficult. We consider that the complexity of the switching process means that switching is inconvenient to customers objectively considered. But, in addition to the actual inconvenience of switching, customer perceptions of inconvenience may also discourage switching. Evidence that customers perceive the switching process to be inconvenient is discussed below in paragraphs 42 to 49.

Contract terms

Uplift charges

30. In considering whether to switch suppliers, a customer's expectations as to the cost of switching may differ from the actual switching costs in the market, depending on the information available to the customer. Only 8 per cent of respondents to our customer survey had experience of switching supplier in the past three years, and supplier data on customer switching rates also indicate that a small minority of customers will have had such experience. Other customers may have discussed the cost of switching supplier with the sales representative, although sales staff have no obligation, or obvious incentive, to raise this point with new customers. In view of this, customer contracts are likely to be among the most immediately available information as to such costs (alternatively customers may contact their suppliers). The following provisions in the standard contracts of the major suppliers relate to charges for tank uplift and credit for gas remaining in the tank upon uplift:

¹¹We consider this sample size too low to be reliable and unrepresentative in terms of their experience of switching charges. Of the 1,012 customers surveyed, only around 60 had switched supplier (a further 20 reported switchers had in fact changed supplier as a result of a takeover). We note that this sample reported a level of switching charges well below the actual charges recorded by the major suppliers (62 per cent said that the cost of switching was less than £10).

- (a) Calor (new contract¹²) (paragraph 8.6): 'We will not credit you for any gas in your tank at the time of uplift ... The cost of uplifting the Tank is £120 (£450 in the case of a below ground tank including excavation ...)'.
- (b) Calor (old contract) (paragraph 6): 'On determination of this Agreement and removal of the Vessels or Equipment a charge will be made for such removal and any credit given for the Gas in the Vessel(s) in accordance with Calor's policy in force at the time'.
- (c) Shell (paragraph 7.7) 'Upon termination of this Agreement the Customer shall forthwith...permit Shell and its agents or representatives to enter the premises and remove the bulk gas tank and any gas or other matter contained therein (ownership of which shall vest in Shell upon termination) and ...shall pay all reasonable costs incurred by Shell in removing the bulk gas tank'.
- (d) BP's contract [REDACTED].

31. The standard Flogas contract terms for domestic customers [REDACTED].

Minimum contract terms

32. Most suppliers in Great Britain offer domestic bulk LPG to customers under an initial three-year or, less commonly, a five-year contract, after which either party can terminate on three months' notice. A substantial majority [REDACTED] of [REDACTED] customers are on rolling contracts, which require the customer to give three months' notice. [REDACTED] Discounts offered to established customers are often conditional on the customer signing a new minimum-term contract for exclusive supply, although [REDACTED] told us that its customers were not expected to re-sign contracts. [REDACTED]¹³ told us that the standard way of confirming a price negotiation was to send the customer a new three-year contract, asking the customer to sign and return it. It said that the 'fresh' contract offered (inter alia) protection against price increases during the initial six-month period. Where a customer had not returned the contract, [REDACTED] said it considered that there was doubt as to whether the customer had agreed to a further three-year term and [REDACTED] 'would probably not push the point'.
33. [REDACTED] told us that 21 customers ended their contract during the initial three-year term in 2003. While such customers are liable for any resulting loss of profit to [REDACTED], none of the 21 customers were charged under this provision, owing to an administrative error. [REDACTED] [REDACTED] said that [REDACTED] of its customers ended their contract before the agreed date and none were penalized. [REDACTED] was unable to provide a definitive answer but did not believe that any penalties had been charged. [REDACTED] customers on a fixed term are entitled to terminate early if the price per litre increases by more than [REDACTED] over any six-month period; [REDACTED] customers can do so if the price rises by over 2p per litre in a six-month period or under certain other conditions; [REDACTED]. Of the major suppliers, only Calor's standard contract (paragraph 8.5) set out terms for customer termination of the contract before the end of the initial period, noting that 'If this Agreement is terminated by you before the end of the Minimum Period ... we reserve the right to charge you for our resulting loss of profit, and also the cost of uplifting the tank...[exceptions].' Flogas told us that [REDACTED].

¹²Calor's new contract covers around one in ten customers. Calor told us that the uplift fee was also displayed on the front page of the contract.

¹³[REDACTED] told us that it had no standard price and therefore did not offer 'discounts', although it did offer price reductions to individual customers.

34. The major suppliers mentioned the following advantages to customers of longer-term contracts:
- (a) fixed entry price;
 - (b) smoothing of price increases;
 - (c) automatic refill;
 - (d) security of supply (particularly over initial period);
 - (e) budget plans and payment by direct debit;
 - (f) a single supplier responsible for LPG supply, call-out, emergency services, and liable should any damage occur during delivery; and
 - (g) efficiencies to supplier which are passed on in lower prices.

However, [REDACTED] noted that (c), (d), (e) and (f) would be available to customers regardless of whether they were on a fixed-term contract.

35. BP told us that [REDACTED]. We note that the low rate of switching among customers (including those who are beyond their initial contract period) suggests that the risk of under-recovery is small at present, albeit that it might arguably be slightly higher among new customers than it is among established customers if the initial minimum term did not apply.¹⁴ Initial fixed-term contracts can be pro-competitive by allowing suppliers to recoup initial investment, and hence incentivizing them to compete for new business. However, as discussed in paragraph 18, at least two of the major suppliers seek to recover both tank and installation costs within three or four years. Installation costs represent at most half of these costs (the supplier retains ownership of the tank at the end of the period), suggesting that costs of tank installation should be recovered (through the price of LPG) in a substantially shorter time than three years.

Notice periods

36. Almost all of Calor's domestic bulk customers are required to give three months' (or 90 days') notice of termination. [REDACTED] Flogas told us that [REDACTED]. Three-month notice periods are standard for customers of [REDACTED], although both have told us they would be willing to reduce the length of the notice period. Suppliers told us that three-month notice periods allow customers to 'run down' the gas in their tank so that the supplier does not have to empty the tank before removal. We note that, depending on the customer's rate of LPG usage (which itself varies with the seasons), a customer may not use enough gas to empty the tank during the period, or may run out of gas before the end of the notice period and have to buy more gas from the outgoing supplier. [REDACTED] told us that the three-month notice period also gave the customer time to consider any lower offer put forward by the existing supplier and to use this as a negotiation tool with the existing supplier. We note that, from the existing supplier's perspective, the notice period could be seen as an additional opportunity to dissuade

¹⁴[REDACTED] noted that 'one can imagine situations in which there is almost no switching precisely because suppliers know that the risk of switching is high if their prices move out of line with their rivals, and so automatically match rivals' offers'. We note that, if suppliers observe a low level of switching, whether because of high switching costs or because they match prices, they are likely to consider the risk of under-recovery small. In addition, our analysis of pricing does not support the view that suppliers lose business by pricing 'out of line' with others.

the customer from switching. We received documentation of a case in which a smaller supplier offered a lower price to a [redacted] customer, was accepted, and wrote to [redacted] passing on the customer's request to terminate the contract. Four months later, the week before the tanks were to be switched, the customer informed the smaller supplier that [redacted] had agreed to reduce the price substantially for one year. The supplier commented that the case was not unusual.

37. [redacted] contained a clause stating that 'if following expiry of the minimum period you [the customer] feel that a third party can make (in total) a more competitive offering, you agree to give us the right to meet such offering or to make such proposals as are, in all the circumstances, equally competitive'. [redacted] told us that the objective of the clause was to make it clear to the customer that [redacted] would provide a competitive service at a competitive price but, since the clause might be misinterpreted, it would be dropped.

Metered estates

38. For a discussion of the different types of metered estates, see paragraphs 4 to 6 of Appendix A. Table 7 provides data on the metered estate customers of the major suppliers. Such customers account for [redacted] per cent of [redacted] and [redacted] customer base. [redacted] customers are twice as likely to be metered. Metered estate customers tend, individually, to use a lower volume of LPG than non-metered customers (around one-third less).

TABLE 7 Metered estate customers

	Calor (GB)	Calor (NI)	Flogas (GB)	Flogas (NI)	Shell	BP	All
Metered customers ('000)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
All customers ('000)							[redacted]
Metered customers share (%)							9
Volume of LPG in 2003:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Metered customers (m litres)							[redacted]
All customers (m litres)							[redacted]
Metered customers share (%)	6						
Average LPG sales 2003:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	1,730
Metered customer (litres)							2,977
Non-metered customer (litres)							

Source: Suppliers.

39. We considered whether customers on metered estates might face a particular barrier in that switching suppliers would require the agreement of other customers on the estate and/or the site owner. The major suppliers suggested that an individual household could switch to an alternative arrangement such as an individual tank, cylinders or alternative fuels such as oil. [redacted] told us that, in one metered estate it supplies, 30 out of 200 households had switched to alternative fuels. However, we have considered competition between domestic bulk LPG and other forms of fuel supply¹⁵ and take the view that the supply of domestic bulk LPG is a distinct market, due to the generally limited scope among customers to switch to other fuels in response to LPG price increases. As regards switching to an individual tank, [redacted] told us that, since September 2003, 36 of its metered estate customers had switched to individual tanks. However, we consider on the basis of evidence received, that

¹⁵See Appendix E.

obtaining LPG via an individual tank is, in many cases, likely to be an impossible or unattractive option for a household on a metered estate: the property may not have sufficient space for a bulk tank (or may be an apartment), and the greater expense to the supplier of delivering to a single household rather than an entire estate is likely to mean that the customer will be charged a higher price than might be available if the estate collectively switched to another supplier. One customer from a village which received LPG from a central installation told us that 'although the option of changing to another supplier is a possibility, it would involve the installation of individual tanks to each house, which is not readily achievable due to the topography and small size of individual housing plots'. In another estate, where customers had individual tanks, 30 gave notice to switch supplier, but 17 were unable to do so due to safety issues relating to placement of tanks. Another customer alleged that he was unable to install a tank in his own garden due to the existence of restrictive covenants in the title documents of his property.

40. A metered estate manager told us that, when natural gas became locally available, it had been given to understand that having two sets of pipes (carrying natural gas and LPG) in the same area would cause safety problems, and that therefore, if some residents switched to natural gas, the LPG supplier ([redacted]) had the right to cut off supplies to the remaining LPG customers and fill the pipes with foam. [redacted] told us it had no record of any communication with residents on the estate in question. However, it was of the opinion that having both LPG and natural gas supplied to a metered site would 'by definition' increase the risk of a gas escape or incident and that 'any such incident could then give rise to confusion in relation to who was responsible for responding and cause difficulty in effecting any repair'. [redacted] explained why it felt having both LPG and natural gas supplied to the same estate would increase the safety risk, as the installation of a second gas supply requires excavation work (which, when near existing pipework, may contribute to pipework failure); as mercaptors are used as smelling agents for both natural gas and LPG, it may be unclear as to which system is the cause of a leak; and, where work needs to be done on either gas supply system, it may be best to shut off all gas supplies. [redacted] comments that 'a possible resolution and a smooth transition from LPG to natural gas will need to be agreed between the current LPG supplier, the incoming Public Gas Transporters, the Gas Shipper, and the [metered estate] management company. [redacted] is happy to enter into a dialogue with all such parties involved to see whether a resolution can be reached'. We hope this will now occur.
41. In practice, metered estate customers tend to receive a similar or slightly lower price for LPG than other customers (see paragraph 37 of Appendix I). The cost of supply is usually lower for metered estates than other customers, as the tanker can deliver a relatively large quantity of LPG in a single visit, and whether this lower cost is fully reflected in prices is uncertain. Even if prices to metered estates were more favourable, it is possible that competition in the supply of metered estates may face an additional barrier in the need for agreement between all customers on certain types of metered estate before a switch can take place (ie those without a commercial intermediary). If so, such a barrier might be seen as inherent to the supply of LPG to certain types of metered estates. [redacted] commented that metered estate customers who coordinated, for example through a residents association, exercised a degree of buyer power. In addition, we note that, if customers on an estate can agree to share the costs of switching (including non-monetary costs such as the time taken to shop around), the cost per household may be small (depending on the number of households and other factors such as tank size and whether the tank is above ground or underground).

Customer perceptions of switching barriers

42. Respondents to the ORC survey commissioned by CC were asked to identify reasons that would discourage them, or had discouraged them, from switching supplier. The results are summarized in Table 8. Respondents were allowed to give more than one reason, and similar responses are grouped under broad headings. Customers gave a wide range of reasons for not switching, although the most common reasons were cost and/or inconvenience of tank installation and removal, identified by three in ten customers without prompting, and by almost three-quarters of all customers with prompting. Contractual restrictions were mentioned by 62 per cent with prompting, although only 6 per cent had mentioned them without being prompted. Almost all of those who identified contractual restrictions also mentioned tank installation and removal-related reasons. Some customers (17 per cent) referred, without prompting, to aspects of service or satisfaction with the service from their current supplier. These factors were not included on the prompt list. However, a similar proportion (15 per cent) said without prompting that they did not perceive any benefits from switching. With prompting, this rose to half of all respondents not expecting to benefit from switching, although almost all of these respondents also mentioned installation and removal factors as a discouragement to switching (47 per cent out of 51 per cent).
43. Customers also identified (with prompting) the inconvenience of changing contracts, suppliers refusing to quote without visiting premises, and not knowing how to go about switching. 26 per cent of customers (unprompted) and 15 per cent of customers (prompted) could not identify a reason that discouraged them from switching. In summary, while satisfaction with the current supplier's offer or service may explain the reluctance of some customers to switch, a larger proportion of respondents appeared to be discouraged by the costs and inconvenience of tank installation and removal, and other aspects of the switching process.¹⁶

¹⁶[§] argued that 'only six per cent of respondents to the ORC survey respondents cited inconvenience as something they would have to think about in changing supplier. This is a very important figure that the CC has chosen to ignore.' However, the figure to which [§] refers was in response to the question of what customers would think about if they *had* to change supplier, not 'in changing supplier'. The small proportion mentioning inconvenience is consistent with the view that any such inconvenience would not differ greatly depending on the supplier to which one switched – i.e. if the customer had to switch supplier, a degree of inconvenience would be inevitable. This is different from the question of whether inconvenience is relevant in a decision *whether* to switch. (Price was the main factor customers would think about if they had to switch – see paragraph 68.)

TABLE 8 Reasons customers are discouraged from switching

	<i>per cent</i>	
	<i>Main reason that would discourage, or has discouraged switching (unprompted)</i>	<i>Any reasons that have actually discouraged switching (prompted)</i>
Installation and removal	29	73
Cost of tank installation and removal	17	61
Inconvenience of tank installation and removal	17	52
Need to run down gas in tank	1	30
Contractual restrictions	6	62
Cost of cancelling contract	3	49
Not sure what the penalties are	1	48
Not sure what the contract allows me to do	2	45
Notice period in contract	1	32
No perceived benefit	15	51
No long-term benefit	3	42
Would not expect to get a better deal	4	40
Cost/price*	9	-
Service*	17	-
Satisfied with present supplier	9	-
Quality of service	5	-
Reliability of the delivery	3	-
Safety issues	1	-
Reputation of new supplier/company	1	-
Search and transaction costs	9	60
Inconvenience of cancelling/changing contract	4	41
Don't know how to go about it	1	33
Supplier refusing to quote without visiting the property	1	25
Lack of knowledge/information about new supplier*	1	-
Inconvenience/too much hassle*	4	-
No suitable alternative supplier	4	44
No reason	26	15
Summary		
<i>Installation and removal, and contractual restrictions</i>	32	77
<i>Service, and no perceived benefit</i>	21	51

Source: ORC survey.

*Not included in prompt list.

44. Somewhat less than half of the customers who complained to OFT and the CC referred to the need to change tank in order to change supplier (ie tank uplift and installation) as barriers to switching. While the level of detail in letters varied, costs and inconvenience of switching were common themes. For example:

- (a) 'If I change supplier...will [supplier] ruin my garden by removing the tank?'
- (b) 'I soon realized that the time to run the tank down and the logistic difficulties of timing a changeover made the whole proposition unworkable.'
- (c) 'In view of the upheaval of tank replacement, we contacted [current supplier], they agreed to 'meet us in the middle of our current rate and the rate offered by [competitor]. Therefore from our experience changing supplier is relatively a non-starter.'
- (d) [Of switching] 'This is an unnecessary expense and will cause upheaval and damage to my property.'

- (e) 'We'd have to ensure the 'pit' had a concrete base and the correct backfill. I didn't get the impression this would be a smooth changeover.'
45. Customers with underground tanks were particularly likely to find the process inconvenient:
- (a) 'If I wish to switch, I have to pay to have the underground tank removed and replaced by a tank from an alternative supplier. This will be expensive and very inconvenient.'
- (b) 'The tank is underground and the suppliers know that most people will not wish to go through all the upheaval of having one's garden destroyed to gain some supply advantage.'
- (c) 'Major physical upheaval of having a tank dug out of the garden and replaced by an identical tank.'
46. Respondents to the ORC survey were asked whether they would expect to be compensated by the new supplier for the cost of switching. Around two-thirds said they would expect to be compensated. However, on reflection, we were concerned that customers may have responded in this way because they felt entitled to compensation rather than because they genuinely expected it. Otherwise, the response seems optimistic given most customers' lack of experience of switching. We note there is some inconsistency between a majority of customers being discouraged from switching because of switching costs, and a majority expecting to be compensated for them.
47. A smaller supplier [X] told us that customers were often dissuaded from switching because the outgoing gas supplier would often exaggerate the dangers involved in moving the gas tank. It described this as a 'very effective' strategy for keeping the tank in situ. In response, [X] told us that CoP 26 required suppliers to co-operate to remove a tank. Another supplier [X] told us that the outgoing supplier could be slow to remove the gas that remained in the incumbent's tank and described this as a 'minor irritant' when a customer was being transferred. [X] said that customers were generally asked to use up as much gas as possible to minimize costs on changeover. [X] stated that the incumbent could also refuse to allow the incoming supplier to transfer the gas itself. [X] told us that all suppliers with bona fide processes cooperated to transfer gas.
48. One letter from [X] to a customer who was planning to switch reads as follows:
- 'Further to your contact, I am sorry that you wish to terminate your gas supply with us. In order to effect the uplift of your tank as smoothly as possible and in accordance with the Supply Agreement which calls for three months notice of termination by either party, I would confirm the following arrangements:
1. Safety regulations require that your tank must be empty before it can be moved. Therefore, any automatic deliveries you receive will now be suspended and you will need to ring your depot if you need any more gas—the number is [].
 2. If [X] has to evacuate any gas prior to uplift no credit can be given for the gas uplifted.

3. Please notify our engineering department as soon as your tank is empty and ready for uplift by ringing [].
4. Please note that the removal of the tanks involves a two stage process. Firstly should any gas remain in the tank, it must be removed prior to uplift and secondly a specialist vehicle must be allocated to remove the tank from your premises. This process will take up to 16 days and may mean 2 separate visits depending on the availability of our resources and the location of the tank. If you have not already notified us of any restrictions to the access of your site, please can you let us know as soon as possible. In the meantime we would ask you to co-operate with us by deferring any landscaping of building work, until the uplift has been concluded.
5. A final statement will be forwarded once all transactions have been completed and will include the uplift charge of £[] plus VAT.
6. Finally, in the interest of safety, may I remind you only [] authorised agents are permitted to disconnect and move your tank.

I would like to thank you for your custom and hope that we might still be of service to you in the future. In the meantime if you have any queries, please contact us on [].

49. [] told us that the emphasis of CoP 26 was on ‘co-operation between incoming and outgoing suppliers including... transferring any LPG left in the outgoing supplier’s tank at changeover pumped into the incoming supplier’s tank’. The letter above gives no indication that such a transfer of gas is possible, despite several references in the letter to gas remaining in the tank. In addition, the letter does not say that [] will arrange to uplift the old tank at the same time as the new one is installed (as suggested by []—see paragraph [] above), while any arrangement in which the new supplier disconnects [] tank and sets it aside for collection is specifically ruled out by paragraph [] of the letter. More generally, there is no suggestion that [] will cooperate with the incoming supplier, or that continuity of supply will be assured. Indeed, the suggestion that gas removal and tank removal may take place on separate dates suggests that a break in supply is likely. We put this letter to the supplier concerned for comment, and it told us that the text of the letter in paragraph 48 was intended for customers who planned to stop using domestic bulk LPG altogether, and that the customer would have received this letter because [] did not know they were switching to another supplier. We note that the standard practice under CoP 26 is for incoming suppliers to ask the customer to inform the outgoing supplier of the switch.¹⁷

Smaller suppliers’ views of switching barriers

50. A large number of smaller suppliers who gave evidence to us supported the view that difficulties in switching supplier, including the current system of tank uplift, inhibited them from competing for each others’ customers:

¹⁷CoP 26 provides: ‘Where a consumer has decided to change suppliers, subject to any overriding contractual arrangement, the incoming supplier should ask the consumer firstly to confirm the proposed change in writing to the outgoing supplier and secondly to request the outgoing supplier’s co-operation in co-ordinating the safe disconnection and removal of its storage vessels and equipment with the installation of equipment by the incoming supplier...’

- (a) [X] reported that: 'The view of the regional suppliers was that they would like the opportunity to expand their exposure in the bulk domestic LPG market. They had been prohibited from doing so in the same way that the domestic customer had been prohibited from switching.'
- (b) [X] said that: 'We have experienced delay and obstruction by some of the larger LPG companies in swapping tanks over.'
- (c) [X] said that: 'In most cases because of the difficulty in changing it is usually a waste of time for us even to quote.'
- (d) [X] said that: 'We firmly believe that there is an unfair practice in place regarding our competitors, ie Calor, BP and Shell for customers who wish to change supply.'
- (e) [X] said: 'The majors are pushing tanks [over cylinders] in order to lock customers in contracts away from opportunities to change suppliers.'
- (f) [X] said that: 'Dominant suppliers such as Calor and Flogas [use] their position of size and obvious financial strength to prevent any customers from changing over.'
- (g) [X] said that: 'To be perfectly honest with you, because it suits the supplier to [uplift tanks on switching] ... It is an obstacle to competition ... I believe that is why there is no market that exists for transfer of ownership.'
- (h) [X] told us that the vast majority of its new customers were won from one major supplier [X] and that, following each gain, [X] wrote via recorded delivery to that supplier to arrange the switch, but that [X] had never responded to these letters. [X] said that [X] did not abide by the procedure laid out in LPGA CoP 26.

Switching rates

- 51. In practice, the extent of switching by customers is very low. Table 9 shows the number of customers gained and lost in Great Britain by the major suppliers in 2003, and Table 10 shows the reasons for leaving. On average, new customers and outgoing customers represent, over a year, around 3 per cent each of the customer base. Around 3 per cent of customers left one of the major suppliers in 2003; and 0.5 per cent did so to switch to another supplier. [X] acknowledged that the amount of customer switching from one supplier to another was limited. Switching rates in earlier years were similar where data are available.
- 52. [X] told us that the percentage of customers switching should be expressed as a percentage of those who could switch: a substantial proportion of customers were in fixed-term contracts and unable to switch, but received a discounted price in return. [X] estimated that around [X] of its customers were in fixed-term contracts [X]. Of these, [X] per cent were previously established customers who had entered the contract as a condition of negotiating a lower price; the remaining [X] per cent had either moved into a property on which a [X] tank was installed, or started using [X] as a new customer. Expressed as a percentage of those not in fixed contracts, [X] lost customers account for 5 per cent, rather than 3 per cent of the customer base. We note that fixed-term contracts are themselves a barrier to switching. [X]

TABLE 9 Proportion of customers starting and stopping in 2003

	Calor	Flogas	Shell	BP	Major supplier	
Customer base	[]	
Gains			✂			
Losses						
					<i>per cent</i>	
<i>Gains and losses as a proportion of customer base:</i>						
Gains	[✂]	3
Losses						3

Source: Suppliers.

TABLE 10 Reasons for leaving LPG supplier, 2003

	Calor	Flogas	Shell	BP	Major suppliers	
<i>All switchers, per cent</i>						
Heating oil	[]	32
Different LPG supplier						17
Premises vacated/no further use			✂			11
Natural gas						6
Other						19
Unknown						15
<i>All customers, per cent</i>						
Heating oil	[]	1.0
Different LPG supplier						0.5
Premises vacated			✂			0.3
Natural gas						0.2
Other						0.6
Unknown						0.5

Source: Suppliers.

Customer price responses

53. The major suppliers have argued that the costs to customers of tank installation and removal are modest relative to the savings that can be achieved by switching. This point is considered as a worked example, attached as Annex 1. The analysis suggests that, for many customers, installation and removal charges are a substantial, if not prohibitive, cost in switching between suppliers, relative to the savings available. This result is obtained without taking any non-monetary switching costs to the customer (such as inconvenience) into account.
54. We consider three further aspects of pricing in the context of low switching rates:
- (a) customer response to supplier price changes;
 - (b) customer response to differences in average prices between suppliers; and
 - (c) customer response to introductory prices.

Supplier price changes

55. None of the main parties has carried out research into the price elasticity of demand of domestic bulk LPG customers. [X] provided us with price and volume sales data from July 1999 to June 2004; at the monthly level, we were unable to identify any negative correlation between price and sales (for example, sales falling as a result of price rises in previous periods).
56. Calor told us that [X]. Shell told us that customer gains rarely reflected movements in (short-term) prices. In relation to loss of customers, while price did have an effect, actual customer loss was usually a result of accumulated grievances over time, rather than just being a function of a single price movement.

Price differences between suppliers

57. The major suppliers have argued that few customers switch in response to price increases because customers are aware that changes in the price of LPG are driven by input prices (propane), which affect all suppliers. Around half of the respondents to the ORC survey who had experienced a price increase in the past year believed that other suppliers had made similar increases, while most of the remainder did not know.
58. Figure 1 shows the percentage difference between the highest and lowest average prices charged by the major suppliers over the period for which data were available. From July 1999 to March 2002, the highest-priced major supplier was on average 17 per cent more expensive than the lowest-priced. From then until May 2004, the difference between highest and lowest was 9 per cent and, from June 2004 to October 2005, the difference was 16 per cent. Further information on prices is contained in paragraphs 8 and 9 of Appendix I. For most of the period covered, one supplier was the highest price and another was the lowest price (ie suppliers did not frequently alternate between being highest-, lowest- or middle-priced). Annex 1 further illustrates that, even where there is apparent scope for savings by switching, customers on the whole do not switch.

FIGURE 1

Average monthly prices to domestic customers

[X]

Source: CC analysis.

59. We note, then, that in practice, the average prices of the major suppliers differ substantially, and that these price differences have been sustained over time. Furthermore, suppliers differ considerably in the timing and degree of their price changes. In a competitive market, we would expect customers to switch away from the more expensive suppliers, or bargain prices down to similar levels across suppliers.¹⁸

¹⁸[X] argued that this ignored the importance of non-price factors such as safety and reliability of supply. We have discussed these factors elsewhere and have seen no evidence that customers see suppliers as differentiated according to these factors, nor particularly that higher-priced suppliers are seen as safer or more reliable.

Introductory prices

60. A recent NERA discussion paper for the OFT¹⁹ notes that:

‘Instead of focusing on the rate of switching alone, we recommend [that] [w]hen firms can price discriminate then a large difference between the prices charged to old and new customers of the same firm can be taken as indicative of a market with switching costs.’²⁰

61. Annex 1 demonstrates that switching charges to customers are substantial in relation to the potential savings from switching between suppliers, albeit that such savings are themselves substantial. Furthermore, we note that such savings—whether they exist because of differences between introductory prices and prices to established customers, or to differences between suppliers’ average prices—are themselves, as NERA has noted, indicative of switching costs.²¹ While offering low prices to attract new customers may be pro-competitive, the fact that this practice has not led many customers to seek such lower prices is suggestive of a lack of competition.

62. Differences in pricing policies to new and established customers are described in paragraphs 10 to 31 of Appendix I. Of the major suppliers, [X] offer lower prices to new customers than to their established customers.²² [X] told us that the difference between its standard and introductory price had risen from [X] in 2003 to [X] in 2005. [X] told us that the existence of different approaches suggests that switching costs are not so overwhelmingly high as to imply that charging higher prices to established customers is the most appropriate business model for the sale of LPG.

63. In summary, a range of evidence indicates that, while switching charges are substantial, many customers could, in principle, obtain net savings by switching, in that lower prices are available from other suppliers. We now examine why customers do not switch in order to avail of these savings.

Reasons for low rates of switching

64. If significant price savings are available by switching to another supplier, and customers do not do so, possible reasons may be that:

(a) they are prevented from doing so by high switching costs;

(b) they believe that the quality of service available from other suppliers is poorer than that from their present supplier;

¹⁹Paragraph 1.9, *Switching costs, Economic Discussion Paper 5*, prepared by NERA for OFT and DTI. The paper does not necessarily represent the OFT’s views.

²⁰[X] commented that the text quoted was selective and partial. In particular it commented that the paragraph from which the quote was taken begins by noting that: ‘Contrary perhaps to initial perceptions, the level of switching in a market is not necessarily a good indication of the presence or importance of switching costs. It is perfectly possible for there to be a low level of switching suppliers even if switching costs are low as for example, prices may adjust to pre-empt switching.’ While we acknowledge that this may be the case, this does not detract from the point that significantly lower introductory prices may be indicative of the existence of switching costs. [X] also commented that the NERA study found switching costs do not necessarily make markets less competitive (we consider this issue in the present appendix, starting at paragraph 103); that levels of switching were not insignificant (we consider switching rates in the present appendix, starting at paragraph 51); and that [X] sought to retain a reasonable relationship between prices to new and established customers (which we note in Appendix I, paragraph 11).

²¹[X] argued that different average prices could reflect other factors such as different cost bases of the suppliers due to different quality of supply. We have seen no evidence that higher-priced suppliers offer a higher quality service or are seen as doing so by customers.

²²[X] commented of its introductory price, which is fixed for the first six months, that ‘over time...these prices are aligned and there is no evidence of discrimination on price between new and established customers’.

- (c) they lack comparative information on suppliers' prices (which may also be regarded as a switching cost);
- (d) they are able to negotiate lower prices without switching; or
- (e) they are insensitive to prices.

We have discussed switching costs in paragraphs 9 to 50. We now consider customer satisfaction levels, information, price negotiation and price sensitivity in turn.

Service quality

- 65. The major suppliers told us that switching rates reflected customer satisfaction with the price and service they received. Customer surveys by suppliers tend to show high levels of satisfaction and this was largely confirmed by our own survey. Overall, three-quarters of all customers were satisfied with their supplier, although 14 per cent were dissatisfied (satisfaction levels varied significantly between suppliers). According to surveys commissioned by the suppliers, [redacted] per cent of [redacted] customers and [redacted] per cent of [redacted] customers said they were likely to recommend their supplier (a further [redacted] per cent of [redacted] customers would 'possibly' do so).
- 66. These results do not necessarily support the argument that the very low rate of switching between suppliers is due to customer satisfaction. Only 4 per cent of respondents to our survey thought that other suppliers offered a poorer service than their current supplier: 24 per cent thought other suppliers were as good or better, and the remaining 72 per cent did not express a view—Flogas argued that this could be because they were satisfied with their current supplier and saw no need to investigate others. Calor told us that in utility and fuel sectors customer satisfaction was generally high. LPG was a critical product and 'you have got to get it right'. This could suggest that any firm which has established a presence in the market has necessarily done so by providing a reliable service—which appears to be confirmed by the survey results mentioned above.
- 67. Respondents to our survey were less satisfied with the value for money they got from their suppliers—33 per cent were satisfied and 54 per cent dissatisfied.²³ Again, there was variation between suppliers. Among the major suppliers, customers of those which charge a higher average price (see paragraph 8 and Table 1 of Appendix I) appeared to express a higher level of dissatisfaction (although the difference was only significant in the case of one supplier). Customers of three of the major suppliers were significantly more likely to be dissatisfied with value for money than customers of smaller suppliers. Suppliers argued that customer dissatisfaction arose from recent increases in wholesale propane prices, which affected all suppliers and therefore did not lead to switching. They also noted that 46 per cent of respondents who had experienced price increases thought that other suppliers had made similar increases, and argued that as a result they would have less incentive to switch in response to a price rise. We note that 36 per cent of respondents thought that other suppliers offered a lower price. However, even among those who described themselves as dissatisfied with their supplier overall, almost half had never considered switching.

²³[redacted] commented that 'such expressions do not necessarily equate to a feeling by customers that their LPG suppliers are overcharging them'.

68. We considered the relative importance customers attach to price and service quality. Calor quoted a recent report from Datamonitor noting that 'Cost is crucial to utilities customers. While service, brand and choice are influential, Datamonitor analysis found that 64 per cent of customers rate price as the priority when choosing a utility, compared with 20 per cent prioritizing service and 10 per cent prioritizing brand'. Calor said that, in contrast, its surveys had shown safety to be the main factor in the LPG supply relationship. However, this was not supported by our own survey: unprompted, only 5 per cent of respondents said that safety was the main factor they would think about if having to change supplier,²⁴ whereas 78 per cent said price of LPG was the main factor (15 per cent mentioned customer service and 12 per cent mentioned reliability). Similarly, when asked what would make them consider switching, respondents were far more likely to name price increases (42 per cent) than poor service quality (8 per cent). [redacted] argued that because the survey had been presented as being into pricing, this had led to customer bias. We note that, while pricing was mentioned in the preamble to the questionnaire, respondents were not asked about the main factor they would consider if having to switch until question 53, having answered questions about a range of subjects (including quality of service and safety) in the meantime. [redacted] also argued that 'at no time was the customer asked what aspects were important in the relationship which again explains why the focus is on price'. It said that there was a substantial difference between asking customers what their priorities are when considering changing supplier, and asking about the most important aspect of the present relationship with their supplier. We do not consider this distinction to be of sufficient importance to undermine the results of the survey.²⁵ [redacted] commented that, if prompted, customers would have been likely to say that safety standards were one of the main factors they would consider if switching to a new supplier. We note that the wording of survey questions inevitably influences how they are answered, but we consider that, notwithstanding the comments of suppliers, the response to this question is sufficiently robust to support the view that customers see price, rather than service quality, as the most important aspect of domestic bulk LPG supply.
69. [redacted] commented that the CC had been selective about which research results it took into account, rather than piecing together results from various surveys on the basis of sample size, statistical significance, and how the survey was introduced. We consider the ORC survey a particularly important source of evidence, because we were able to monitor the sample selection process, and because the questions were specifically designed to be relevant to our inquiry. We have, however, interpreted the results with caution, taking into account sample sizes for specific question responses, internal consistency of responses, consistency with evidence from other sources, and more generally how responses should be interpreted in the light of evidence from other sources.
70. In considering whether customers have a preference for their current supplier's service over that available from other suppliers, we note that almost half of the respondents to our survey said that their current supplier already had a tank installed at the property when they moved in, or was the only supplier in the area, or had taken over their previous supplier. In each of these circumstances, we note that there is a large degree of passivity in the customer's choice of supplier. Calor told us that the assertion that customers began using the supplier by default when they moved into a new home was incorrect. It said that such a person was under no contractual obligation, that Calor would treat such a person as a potential new customer, sending

²⁴[redacted] commented that 18 per cent of customers in its brand tracking survey were classified as 'safety first'.

²⁵If, as [redacted] implies, service quality were the most important factor to customers in their present supply relationship, one would expect customers to attach importance to it in comparing prospective suppliers.

a representative to visit and requiring a new contract to be signed, and that it would uplift the tank without charge. [X] made similar comments. However, the fact that almost half of customers began their supply relationship in this way, in contrast to the one in ten who did so by switching from another supplier, suggests that the decision may often be driven more by convenience and the desire to avoid installation charges than by a preference for the particular supplier. [X] pays its sales staff more for signing a new domestic supply contract (£[X] over target in 2003) than for signing a new domestic contract where the property owner has changed (£[X]).

71. [X] provided us with presentation slides from a qualitative survey of customers (including non-[X] customers), dated December 2004, which concludes that:

From a strategic point of view there are three characteristics of the market that are important: consumers are very unaware of competitor service; service expectations are very low; the cost/hassle of switching is significant inertia (sic). From [X]'s strategic point of view, service is mainly about retention as switching is very unlikely based on service alone.

72. [X] provided us with a presentation which, it argued, established a relationship between switching rates and satisfaction in other industries.²⁶ This relationship is based on only eight data points (ie industry examples), and assumes that industries such as mortgages, telecoms and pay-TV are relevant comparators to LPG (pay-TV alone accounts for three of the data points). We note that, based on the data presented by [X], switching is far lower in LPG (0.5 per cent) than in any of the other seven industries covered, including electricity (22 per cent) and mains gas (15 per cent). Nor is the relationship between switching rates and satisfaction particularly strong: Sky TV apparently has similar satisfaction levels to LPG, but a switching rate of around 10 per cent (compared with LPG's 0.5 per cent). The wide range of sources used for the data give rise to further concerns about comparability. Our own survey by ORC revealed significant differences in satisfaction levels between customers of different suppliers. However, a comparison of these results with information on switching rates from the major suppliers did not show that those suppliers with lower satisfaction ratings lost more customers.

73. Two related points are raised by [X] slide presentation:

(a) [X] argues that recent growth in its customer base has been due to high levels of satisfaction and advocacy (ie customers' willingness to recommend [X] to others), on the basis of annual figures for five years, over which customer numbers and advocacy levels (but not satisfaction levels) increased. We do not consider five data points sufficient to demonstrate a correlation. Advocacy levels are shown as being lower in 2000 ([X] per cent) than 2004 ([X] per cent), while the net gain in customers is [X] in 2000, [X] in 2001 and [X] in 2004. However, low or negative net gain in customers in the earlier years is likely to be due to [X] price increase at that time.

(b) [X] quotes a study into customer satisfaction with supply of mains gas and electricity, in which 'image and reliability have twice the weight of price considerations'. We do not argue that price is the only, or necessarily the most important, factor in choosing between suppliers. However, as previously

²⁶We note that any such empirical relationship would not demonstrate that switching is caused by dissatisfaction. Customers who face high barriers to switching may expend less effort in comparing their supplier's service with others and have lower expectations (as indicated by [X] qualitative research discussed above).

discussed, our own survey indicates that customers do not perceive service quality as substantially different between suppliers, and are more likely to use price as a basis for distinguishing between them. As mentioned in paragraph 68, a Datamonitor study, [redacted], reported that utilities customers placed more importance on cost than other factors.

74. We do not consider that the reported satisfaction with the service quality of incumbent suppliers demonstrates a strong preference for that supplier's service over others. There is little evidence to support the proposition that customers remain with a supplier because they believe the quality of service from that supplier to be greater than other suppliers. Customers appear to attach significantly more importance to price than to service quality in comparing suppliers. In any event, there appears to be a large degree of passivity in the customer's choice of supplier and even among customers who expressed dissatisfaction with their supplier, fewer than half had ever considered switching.

Information on pricing

75. Two-thirds of the respondents to our customer survey were able to tell us how much they paid for LPG (some had a recent invoice to hand), and 95 per cent knew whether their prices had changed in the past year.
76. Customer awareness of alternative local suppliers is low. More than half of those responding to our survey were unable to name any other suppliers of LPG in their area. 63 per cent of respondents did not know how the price of gas from other suppliers compared with the price they were paying. Nine out of ten (91 per cent) could not recall ever having been approached by another supplier ('approach' was explained to include a telephone call or mail). [redacted] commented that customers tended to discount promotional approaches unless they were actively considering themselves in the market.
77. Identifying local suppliers does not appear difficult (see paragraph 68 of Appendix F), though suppliers do not publish prices for domestic bulk LPG. Suppliers told us that they quoted indicative prices to prospective customers who contacted them; confirmation of the price being subject to a site visit. But several customers who wrote to us found suppliers unwilling to quote for business (such customers should not, of course, be assumed to be representative of all customers²⁷). One customer told us he contacted every supplier on the LPG website who appeared to cover his area (Cornwall). Of the six suppliers on the list, two did not cover the customer's area, one only supplied new housing developments, one did not supply underground tanks, one gave the impression that the changeover would not be smooth (we also refer to this letter in paragraph 44(e) above), and one quoted a lower price subject to a site survey. Another (metered estate) customer told us that 'Having spent some considerable time already trying to track down possible suppliers and endeavouring to contact them and obtain a reply, I am already concerned that the work involved in such an enterprise is such as to provide a considerable barrier to a truly competitive gas market in the metered estate arena.'
78. Suppliers who offered introductory prices told us that they also informed customers of their current standard prices at the start of the contract. However, suppliers do not

²⁷[redacted] told us that there may be legitimate reasons for being unwilling to quote for business, for example if the person was resident in a very remote part of Scotland.

generally commit to future (non-introductory) prices, because future prices depend on the future cost of propane (see paragraph 81 below).

79. Only 15 per cent of respondents to our survey had tried to compare the costs and benefits of alternative suppliers. Among those who had tried, 63 per cent had been able easily to obtain all the information they needed to compare alternative suppliers, and 36 per cent had not.
80. [X] told us that a qualitative survey of its customers from December 2004 illustrated that in 'close communities', customers had an awareness of prices paid by other customers and dissatisfaction at price differentials. It supported this with a quote from a customer in St Austell that 'the old lady next door was being charged 35p a litre while I was being charged 29p'. We looked at prices to [X] customers in the St Austell area as of 1 January 2004 and found that, across 12 areas (in each of which [X] had at least five customers), the average difference between the highest and lowest prices charged was 12 per cent. The data showed very little correlation between prices and volume of LPG purchased. A presentation slide from the [X] survey describes customers as 'often very uninformed about competitors—little awareness apart from in small close knit communities'. [X] commented that it remained of the view that in close-knit communities, customers had an awareness of their neighbours' prices.
81. Changing prices due to variation in the cost of propane may increase the difficulty of comparing prices between suppliers, compared with an industry in which prices are more stable. Calor told us that customer awareness of changes in oil-related product costs (especially crude oil and petrol) is normally high as they are regularly featured in the media, ie newspapers and television or at the petrol forecourt. We note that this does not amount to an understanding of how competing LPG price offers in the retail market will change over time. No UK supplier offers its domestic bulk LPG customers a price linked to propane costs.
82. Most customers have little awareness of the prices of other suppliers and, although the evidence is mixed, customers would appear to face some difficulties in comparing prices, due to the lack of published prices, cost fluctuations due to variations in the cost of propane and difficulties in obtaining quotes from other suppliers. While suppliers told us that they quoted indicative prices to prospective customers who contacted them, several customers who wrote to us found suppliers unwilling to quote for business and there is some evidence from the ORC survey that a significant minority of customers had experienced difficulty when seeking to compare prices.

Price negotiations

Evidence from customer databases

83. The major suppliers provided us with customer databases, indicating which customers had negotiated prices. Customers whom Calor described as having individually-negotiated prices ([X] per cent of all customers), paid an average of [X] pence per litre (ppl), compared with an average of [X] ppl for Calor customers who did not. On the basis of our analysis in Annex 1 of Appendix I, whether a [X] customer was recorded as having individually-negotiated prices did make a significant difference to the level of the price. [X] told us that all of its customers negotiated prices, while [X] did not identify which of its customers did so.
84. [X]

85. Table 11 shows data for [redacted] non-metered estate customers in 2003. Over this period [redacted] per cent had an absolute price reduction, [redacted] per cent saw no change in price, and [redacted] per cent had a price increase of less than the standard increase of [redacted] ppl. [redacted] told us that, for all of these customers, had prices increased by the standard rate during 2003, there was a significantly enhanced risk that they would have switched away from [redacted] to another supplier or to another fuel.

TABLE 11 [redacted] non-metered customers: distribution of price increases

Price change (ppl)	Number of customers	Proportion of customer base (%)	Average price (excl. metered estates)
<0	[redacted]	[redacted]	[redacted]
0			
0<p<1			
1			
>1			

Source: CC, based on data from [redacted].

86. [redacted] referred to the increase in the amount of telephone calls to [redacted] when a general price increase was implemented. [redacted] provided us with data as to the outcome of telephone calls [redacted] to query price between [redacted]. Customers making queries accounted for only 1.1 per cent of those whose price had been increased. [redacted] of those querying their price did not get a discount from the standard price increase, although we note that a price query is not necessarily a request for a discount.

87. The number of customers threatening to switch supplier but persuaded to stay with their existing supplier is shown in Table 12. The basis of calculation is slightly different in each case. In general, only a small proportion of the domestic customer base had to be 'price defended' in 2003. The final column shows those customers who were persuaded to stay after threatening to switch or giving notice as a proportion of the suppliers' total customer bases. [redacted] In aggregate, around 3 per cent of the customers of the major suppliers threaten to switch, but are persuaded to stay, each year—well above the 0.5 per cent of customers who actually switch to another supplier.

TABLE 12 Customers threatening to switch, 2003

	Persuaded to stay after threatening to switch	Persuaded to stay after giving notice	Total customer base	Share of customer base (%)
Major suppliers	([redacted])	[redacted]	[redacted]	[redacted]

Source: Suppliers.

*[redacted]
†[redacted]

88. The term 'negotiation' is open to interpretation and may range from a supplier offering to delay a price increase in compensation for a delivery error, to a customer giving notice of termination to the supplier and being persuaded to stay with a price

cut. There is a corresponding uncertainty about the precise number of customers who are aware that they can negotiate, or that have actually done so. However, it appears that at most around one customer in four is aware of the scope to negotiate prices, and not much more than one in twenty is currently receiving a negotiated discount.

Survey evidence

89. Among respondents to the ORC survey, 29 per cent said they had tried to negotiate a lower price from a supplier. However, only 12 per cent had done so within the past year. Around 60 per cent of these (7 per cent of all customers) had successfully negotiated a lower price from their supplier in the last year. Among customers who had negotiated a lower price, the average price reduction was around 3 ppl.
90. [X] provided us with responses from a recent customer satisfaction survey showing customer perceptions of price flexibility—reproduced as Table 13. More than four-fifths of domestic customers were not aware that there was any scope to negotiate on price. In contrast, half of [X] commercial customers were aware that some opportunity for negotiation existed. Only one in 20 customers believed that every customer could negotiate on price.

TABLE 13 [X] customer perceptions of scope for negotiation

	<i>per cent</i>	
	<i>Domestic</i>	<i>Commercial</i>
Every customer can negotiate on price	(X)	
Large users can negotiate on price	(X)	
Different prices set for high and low users	(X)	
All customers pay the same price per litre	(X)	
Don't know	(X)	

Source: [X].

91. A [X] survey in 2000 found that one-third of customers claimed they were likely or very likely to review their gas supplier in the next year. However, half the respondents were non-domestic customers and the report notes that ‘This “review” may be standard company practice’. [X] told us that 9 per cent of domestic customers responding to a 2003 survey indicated an ‘intention to quit’.

Other points on negotiation

92. Calor told us that there are currently [X] domestic bulk buying groups, comprising [X] of its customers. These customers generally ask for a lower price because of the quantity purchased in total or their ease of filling (eg residential caravan parks). Calor told us that each customer in these groups has an individual tank (ie they do not comprise metered estates) and a separate contract, and that they face no particular obstacle to switching.

93. [redacted]²⁸ Flogas told us that it sees increases in the volume of calls into its domestic customer call centre at times of price changes in the market, including customers of competitor companies. [redacted]
94. Shell told us that local word-of-mouth required consistent pricing logic at the local level. Calor told us that it did not have specific information as to the number of cases in which price reduction for one customer led to requests by others in the area, although it told us that such cases did occur. Flogas also told us that price reductions spread by word of mouth, and [redacted].
95. A number of customers who negotiated lower prices have complained to us about the need to renegotiate at regular intervals in order to sustain a lower price. Some customers felt that this approach to pricing was inappropriate and ‘unprofessional’ in the context of an energy retail market. Others expressed dissatisfaction at the inconsistency of supplier pricing—for example having learned that a friend or relative consuming less gas, or located further from the depot, had been offered a lower price.
96. In summary, the proportion of customers who negotiate lower prices appears to be around 5 per cent, although the precise figure is uncertain. The degree to which a customer can negotiate a lower price will depend on the credibility of their threat to switch suppliers, which depends in turn on switching costs. Because ‘price-defend’ discounts are selective, firms are able to offer lower prices to marginal customers, without reducing prices to other customers. In addition, customers who wish to ensure a lower price must regularly monitor the price they are paying, as suppliers will try to limit the time for which discounts are available. In some cases, such discounts are subject to the extension or renewal of contract exclusivity.

Price sensitivity

97. Price sensitivity will depend on the ability of customers to switch or to reduce their consumption of products, as well as their willingness to do so. Here, however, we consider whether customers, as a group, are intrinsically insensitive to prices—ie whether, even if there were few constraints on their obtaining a lower price, they would not do so.
98. Calor recently commissioned qualitative research into pricing which noted that ‘for those that can afford it, price is unimportant in determining choice of fuel *and* choice of supplier.’ A recent marketing document produced by [redacted] notes of domestic customers that ‘their choice of LPG as a fuel (rather than oil, or solid fuel) indicates a willingness to pay a premium for convenience and comfort’. In contrast, 40 per cent of respondents to the ORC survey said that LPG had no advantage over other fuel types, 10 per cent thought it was cheaper, and 10 per cent said ‘don’t know’, indicating that over 50 per cent saw no qualitative advantage of LPG over other fuels.
99. [redacted] told us that its regular customer satisfaction surveys show that customers have a high sensitivity and awareness of price. Flogas told us that [redacted]. This was supported by the ORC customer survey in which 78 per cent named price as a main factor they would think about if having to change.
100. Shell told us that overall, the level of involvement of customers in the choice of LPG supplier was low and mostly convenience-driven, noting that ‘from data relating to

²⁸[redacted]

other commodities, eg natural gas and electricity, it is clear that there is generally significant customer inertia, to the extent that some customers remain with their existing supplier even when aware that they could get a lower price from a new (or even existing) supplier'. However, this analogy appears to assume that customer inertia explains the low switching rates in domestic bulk LPG, and does not take account of the significant barriers to switching that exist in relation to the domestic bulk LPG market. Moreover, switching rates are much higher in the markets mentioned by Shell than in domestic bulk LPG.

101. We might expect wealthier customers to be less sensitive to prices. While domestic bulk LPG customers tend to be wealthier on average than other households (36 per cent of respondents to the ORC survey were in the 'AB' social group compared with a national average of 25 per cent), customers are not all wealthy—almost 40 per cent are in the 'C2' social group or lower.
102. On the whole, there appears to be very little evidence to support the view that customers would not seek to obtain a lower price if they could do so more easily, and we do not conclude that customers are insensitive to prices.

Interaction between switching costs and price discrimination

103. As indicated in the CC's guidance,²⁹ market features such as switching and search costs will tend to give suppliers a degree of market power and, in principle, even a small switching cost could enable suppliers to price as they would in the absence of competition.³⁰ In evaluating the effect of switching costs on competition and entry in the domestic bulk LPG market, it is necessary to take into account the effect of the suppliers' ability to price discriminate between their different customers.
104. Suppliers price discriminate both between new and established customers, and between price-sensitive and non-price-sensitive established customers. We consider the effects of both types of price discrimination below. The effect of price discrimination is ambiguous in that, compared with the case where firms have to charge a single standard price to all customers, price discrimination may mean that some customers pay more, but others, who would not have purchased at the standard price, may pay less. The effect is complicated further when price discrimination takes place in a market with switching costs.

Introductory pricing to new customers

105. If a firm had to charge a uniform price, its ability to offer discounts to new customers would be constrained by the cost of also offering these discounts to established customers and, conversely, the ability to charge monopoly prices to established customers would be constrained by the desire to win new customers. The firm would have to choose between 'investing' in new customers or 'milking' established customers. In the case of domestic bulk LPG, the number of new customers is small

²⁹Market Investigation References: Competition Commission Guidelines (CC3), paragraph 3.74.

³⁰As an illustration, consider a market with several suppliers, and in which a price of P would prevail if the market was perfectly competitive. Suppose that customers face a cost S in switching between suppliers. Other things being equal, customers will be willing to pay a premium of up to S above the competitive price P rather than switch to another supplier, so their current supplier can charge $P + S$ without causing the customer to switch. However, if firms are symmetric and charge a uniform price, the best price the customer can get elsewhere will be $P + S$, and the customer will have to incur a switching cost of S to obtain this price. Therefore the current supplier will be able to charge up to $P + 2S$, as will alternative suppliers. As this will also be the best price available elsewhere, the current supplier can increase prices further. The equilibrium outcome is that all suppliers will charge the monopoly price, regardless of the size of S . (This model assumes that a supplier charges all customers the same price).

relative to the market suggesting that, if unable to offer introductory discounts, it would be economically rational for firms to 'milk' established customers at the expense of winning new customers.³¹ However, the ability to offer introductory discounts enables firms both to 'invest' and to 'milk'. This will tend to increase prices to established customers and reduce them to new customers.³²

106. Suppliers' introductory discounts are typically available both to new-to-LPG customers and customers of other suppliers. Theoretically, such discounts can lead to competitive prices prevailing, despite the presence of switching costs: each firm is willing to offer aggressive prices to other firms' customers because it can do so without having to offer the same lower prices to its own customer base. If all firms behave in this way, the customer base of each firm can avail itself of the aggressive prices from the other firms, leading to prices close to the competitive level.
107. However, there is no evidence that this is happening in the market for domestic bulk LPG, which is characterized by substantial price differences, both on average between suppliers and among the customers of each major supplier, which are not explained by differences in quality (between suppliers) or cost of supply (between customers). Several suppliers have told us that, when trying to grow their business, they tend to focus on new-to-LPG business rather than attracting their competitors' customers (see Appendix F). As such, the scenario in which suppliers mutually constrain prices by offering introductory discounts to each others' customer bases does not appear to hold in the market for domestic bulk LPG. This seems to be due to a combination reasons:
 - (a) The extent of switching costs is such that even a discounted introductory price is not sufficient to induce switching (the discount on offer will be limited by the firm's expected profit from supplying the customer). Customers appear reluctant to switch, even to obtain a substantially lower price, in view of the cost and inconvenience of switching.
 - (b) A customer who wishes to achieve the lowest possible price must regularly seek alternative quotes and/or renegotiate prices with the existing supplier. Introductory discounts tend to be strictly time-limited, with the length of the discount in some cases shorter than that of the contract. A number of customers told us that, if they switched, they would expect to face the same problem with the next supplier—taking advantage of switching costs to offer an uncompetitive price—further reducing their incentive to switch. This evidence was supported, to a degree, by our survey, as four in ten customers said they were discouraged from switching because they saw no long-term benefit.
108. Another explanation as to why price discrimination between new and established customers may not lead to a competitive outcome is that there are limits to firms' ability to discriminate between such customers. NERA (ibid, p36) notes that: '... in reality price discrimination is rarely perfect ... The discrepancy between rates offered to new and old customers cannot be too wide or the firm may offend its old

³¹Such a strategy could make market entry easier by allowing recent entrants to supply new customers. An incumbent firm with a large number of existing customers will generally be less willing to respond aggressively to entry if this entails lowering prices to both marginal and non-marginal customers.

³²When firms price above cost to established customers, but price below cost in order to gain new customers, pricing could potentially be at cost (ie at the competitive level) over the lifetime of the product. In the case of domestic bulk LPG, introductory prices are usually below average prices, but we have seen no evidence that they are below cost. Indeed some suppliers appear to recover the cost of both the installation and the tank (which has a residual asset value) over the introductory pricing period. Furthermore they are available only for a relatively short period (one to three years), while customer relationships are very long (70 per cent of [redacted] delivery points have been in place since 1996). The number of new customers entering the market in any one year is small relative to the market, and these customers do not invariably receive the lowest available price.

customers. As a result, many of the dynamics seen under uniform pricing will still exist under imperfect price discrimination.’ Suppliers have argued that their prices to established customers are constrained by the need to compete for new customers, and to maintain consistent pricing between new and established customers. New customers were often informed both of the introductory and standard prices, while existing customers would become aware of the disparity when they moved from introductory to standard pricing. We accept that there may be a limit to how far introductory prices can diverge from those to established customers, but we have not seen evidence that this amounts to a strong price constraint on prices to established customers. In particular, we note in paragraph [X] of Appendix I that, in the case of one major supplier, the difference between the introductory and standard prices has increased considerably in recent years.

Price defending by incumbent suppliers

109. In pricing to established customers, incumbents can price discriminate between marginal (or price-sensitive) and inframarginal (or non-price-sensitive) customers. Because of this, any attempt to win an existing customer is likely to lead to an aggressive pricing response from the incumbent—offering the customer a selective discount to deter switching. The incumbent’s advantage in defending its customer base could also influence a competitor’s behaviour when considering whether to approach a customer of another supplier. If the likelihood of winning the customer is small, then the competitor would gain no advantage for itself. As such, selective discounts can deter suppliers from investing resources into winning their competitors’ customers.³³
110. Flogas argued that selective discounting should only be seen as problematic when engaged in by a dominant firm and when prices offered are below cost (ie predatory pricing). We note that we have not identified selective discounting as a concern in itself, but that, in the context of a market with significant switching costs, the practice has scope to reduce the degree of competition by limiting the ability of firms to win customers from one another, and the benefits to customers of negotiated discounts are temporary and limited to those customers who have negotiated.
111. Flogas cited papers by Chen (1997),³⁴ Shaffer and Zhang (2000)³⁵ and Taylor³⁶ (2000) as having developed models with consumer switching costs, where selective discounting was a rational outcome of competition between a small number of firms. Chen (2000) develops a model in which firms pay each others’ customers to switch. The model is essentially similar to that described in paragraphs 105 and 106 above—ie that the market may be more competitive if firms can offer lower prices to new customers than to locked-in customers. Chen notes that, even in these circumstances, a higher expected cost of switching leads to higher prices. Taylor (2000) also explores a model in which offering incentives to switch can increase competition.

³³In principle, the potential competitor could also be deterred by the consideration that, if it quotes aggressively, the incumbent may have to offer a substantial discount to retain the customer, and could respond by quoting aggressively against the competitor’s customer base. However we have not seen evidence that suppliers offer uncompetitive quotes to each others customers in order to avoid such a response.

³⁴Chen Y. (1997) ‘Paying customers to switch’, *Journal of Economics and Management Strategy*, 6, pp 877-897.

³⁵Shaffer, G. and Z.J. Zhang (2000) ‘Pay to switch or pay to stay: preference-based price discrimination in markets with switching costs’, *Journal of Economics and Management*, 9, pp 397-424.

³⁶Taylor, C.R. (2000), ‘Supplier surfing: competition and consumer behaviour in subscription markets’, Duke Economics Paper, 00-12.

112. Flogas argued that, in Schaffer and Zhang's (2000) model, it was optimal for a firm to offer discounts to its own customers if the level of switching costs differed between customer groups. We note that optimal behaviour from the firm's perspective does not necessarily lead to a competitive outcome. In fact, Shaffer and Zhang's conclusions as to both the optimal firm behaviour and the effect on competition of selective discounts depend on the circumstances. In particular, whether firms should offer discounts to their own customers and the effect on competition of doing so, depend on levels of switching costs. The authors note that price discrimination may lessen competition rather than intensify it.
113. Switching costs appear to have a strong impact on competition in this market. In principle, price discrimination by suppliers can enable competition in the presence of switching costs. However, in the market for domestic bulk LPG, the extent to which competitors try to win customers from one another is limited. This is due in large part to the costs, and inconvenience to customers, of switching and the ease with which the incumbent supplier can selectively lower prices to customers whom it considers likely to switch. Customers will generally prefer to avoid switching costs by remaining with their present supplier, and this in turn deters suppliers from competing aggressively for each others' established customers.

Costs and savings from switching

1. Both Calor and [redacted] provided us with examples of the benefits of customer switching, illustrating that customers had an economic incentive to switch suppliers, and that the direct cost borne by customers in relation to tank removal and installation was modest compared with the potential savings from switching. The purpose of this annex is to calculate the likely monetary costs and savings to a typical customer switching between the big four suppliers.
2. A variety of measures of the switching cost were available—standard charges, average charges to those who paid such a charge, or charges averaged across all customers who switched. Of these three measures, the third tends to be the most conservative—ie giving the lowest measure of switching costs—and this is the measure we have used in the following calculations.³⁷ However, we note that a customer considering switching would not know the average charge, and may not know the probability that the charge will be waived. Customers are arguably more likely to know the standard charge—whether from their contract or from sales representatives. We also note that average charges are based on all removals and installations, a majority of which will not be customers switching between suppliers. The effect of this is uncertain: new-to-LPG customers will tend to have a slightly wider choice of suppliers (for example, if there are four in an area, a new user will have a choice of four, whereas a switcher will have only three alternatives to the present supplier) but may also have less experience of the market, as regards installation charges; a customer switching to another supplier, and relying on the present supplier to cooperate in the switch-over process, may be less likely to withhold payment of removal charges than one who is vacating a property.
3. Typical installation and removal charges when switching from one of the major suppliers to another one of the four are shown in Table 1, based on average charges to all customers in 2003.³⁸

³⁷[redacted] commented that the following calculation used industry average charges, but that its own analysis, based on [redacted] data, showed that the net financial benefit was relatively modest for customers with a typical volume consumption. [redacted] submitted that the economic incentive for switching was not as significant as suggested in the following calculation, and that, in practice, service failure by the supplier may be a bigger issue for the customer and a more important trigger for switching. We note that our analysis is based not on an industry average, but on averages for each of the major suppliers, and that the net financial benefit depends on both savings available and switching costs. In addition, we note that our purpose here is not to identify triggers for switching, but to calculate the costs and savings available to customers (who in most cases do *not* switch).

³⁸[redacted] told us that it did not charge, and had not historically charged, for tank installation. [redacted] [redacted] said that a customer seeking to switch would not now pay an installation charge. We have used 2003 as a snapshot of the market but note that company policies and other factors can change over time, affecting the level of switching costs. [redacted] told us that, because gas could be transferred to the new tank, customers would pay at most the lower removal charge of £[redacted], and this is the figure we have used.

TABLE 1 Installation and removal charges

From:			To:	£
	Calor	Flogas	Shell	BP
Calor	(
Flogas			✂	
Shell				
BP				
)			

Source: CC, based on data from major suppliers.

4. We compared switching costs with the potential savings available from switching supplier. At our request, the major suppliers grouped their customers according to the year in which the customer had started supply, and provided us with average (2003) prices for each customer group. However it appears that all customers who start using a supplier do not necessarily receive the suppliers' standard introductory prices. We assumed for the purposes of our calculation that a customer considering switching would receive a standard introductory price. In particular, we assumed that:
 - (a) Customers switching to Calor at the start of 2003 would have expected to receive a price of [✂].
 - (b) Customers switching to Flogas at the start of 2003 would have expected to receive [✂].
 - (c) Customers switching to Shell at the start of 2003 would have expected to achieve [✂].
 - (d) Customers switching to BP at the start of 2003 would have expected to receive a price of [✂].

5. Total savings for switching, per litre consumed annually, are shown in Table 2. For example, a switcher who consumed 3,000 litres a year, and who saved 5 ppl in the first year following a switch, 3 ppl in the second year, and 2 ppl in the third year, would save a total of £300 over the three years, equivalent to 10p for every litre consumed annually (assuming a constant volume consumption). We apply a discount rate³⁹ of 3.5 per cent a year. For simplicity we also assume zero inflation in LPG price and a constant level of consumption in the first two years following a switch.⁴⁰ Total savings, over three years, for a customer with a typical annual consumption (3,000 litres) are shown in Table 3.

³⁹Treasury Green Book, January 2003. [✂] questioned the use of a discount, saying it assumed that the average customer was not that sophisticated. We note that, while customers may be unlikely to apply a discount rate, they will tend to value immediate savings more than future savings.

⁴⁰Flogas pointed out that the price of LPG is far from being stable, which can make price comparisons difficult, and that demand (the customer's requirement for LPG) can vary depending on weather, making year on year comparisons difficult. It said that, as a result, the analysis contained in this paper was of very limited value in attempting to understand the behaviour of customers. We note that these considerations are likely to increase the barriers to switching in response to a price difference: if customers have difficulty comparing price differences, they may be less likely to respond to such differences. Flogas noted that these factors were intrinsic to the supply of LPG.

TABLE 2 Savings per litre consumed annually

<i>From:</i>		<i>To:</i>		<i>ppl</i>
<i>Calor</i>	<i>Flogas</i>	<i>Shell</i>	<i>BP</i>	
Calor Flogas Shell BP	✂)

Source: CC, based on data from major suppliers.

TABLE 3 Total savings for a customer consuming 3,000 litres a year

<i>From:</i>		<i>To:</i>		<i>£</i>
<i>Calor</i>	<i>Flogas</i>	<i>Shell</i>	<i>BP</i>	
Calor Flogas Shell BP	✂)

Source: CC, based on data from major suppliers.

6. Switching costs as a percentage of total savings are shown in Table 4. Twelve possible switches could be made between the major suppliers. On the basis of 2003 prices, in five cases, the customer would pay a higher price with the new supplier, so no savings are available from switching. In a sixth, the switching costs are three times the savings available from switching. In the remaining six cases, there is a net financial benefit to the customer in switching—ie the saving is great enough to cover switching costs. However, switching costs remain significant in relation to the savings available—on average switching costs would amount to around 50 per cent of the savings available. In a typical case, the total savings available would be around £300, and switching costs would be around £150. The average annual bill for domestic bulk LPG was around £800 in 2003.

TABLE 4 Switching costs as a percentage of total savings

<i>From:</i>		<i>To:</i>		<i>per cent</i>
<i>Calor</i>	<i>Flogas</i>	<i>Shell</i>	<i>BP</i>	
Calor Flogas Shell BP	✂)

Source: CC, based on data from major suppliers.

7. The relationship between switching costs and available prices is complex, as it is unclear to what extent the ability of firms to sustain price differences between new and established customers is due respectively to switching costs and to a preference among customers for a particular supplier, for which they are willing to pay a higher price. However, it appears from the above analysis that the typical customer could reasonably expect to face switching costs which are significant, and in some cases prohibitive, in relation to the available savings. The inconvenience, or expected inconvenience, of arranging the changeover of tanks is likely to provide a

considerable additional deterrent, as evidenced by responses to the ORC customer survey, where inconvenience was identified by most customers as having discouraged them from switching and, among the small number who had switched supplier, one in three had found the process difficult.