

4 The relevant markets and the effects of the merger

Contents

	<i>Page</i>
Introduction.....	53
Cable and wire packaging products and services	53
Manufacturing processes.....	54
Supply of drums	54
Distribution, stock management and drum management services.....	56
Demand and usage applications	57
Substitutes for drums.....	60
Market definition.....	61
Sales and market shares.....	65
Pricing	67
Competition and entry conditions	70

Introduction

4.1. In this chapter we consider the product and geographic markets of relevance to this inquiry (for convenience we describe the businesses of Pentre and Askern as they existed before the merged group came into existence on 4 April 2000). We begin by describing the main types of drums produced by Pentre Askern, their uses, the degree of substitution between different types and the potential for substitution by alternative packaging methods. We also describe the market for drum management services. Following this, we consider the appropriate definitions of the markets of relevance to the inquiry, the size of these markets, suppliers' market shares and pricing. The chapter concludes with an assessment of competition in these markets prior to the merger, and of the conditions of entry.

Cable and wire packaging products and services

4.2. Both Pentre and Askern produced a range of steel (solid and skeletal), timber, plywood and cardboard drums, predominantly used for the packaging of cable and wire. Pentre also supplied plastic drums for packaging, and steel and plastic reels for use in the production of cable and wire ('process reels'—see paragraph 4.41). Drums are typically supplied to manufacturers or, to a lesser extent, distributors of cable, who wind the cable on to the drum and transport it to their customers. The customer's choice of drum (size and material) depends on a range of factors including the weight and bend of the cable to be packaged, the environment in which the cable is to be installed, and acceptance by the cable user of that type of drum. In some cases, other packaging methods may be used as an alternative to drums (see paragraphs 4.37 and 4.38). Durability of the drum may also be a factor if the cable manufacturer or distributor intends to retrieve it for further use, and this depends on the materials of which the drum is made. Drum management services (the retrieval, repair and stocking of used drums) are also provided by the main parties to some of their timber drum customers.

4.3. There are typically three constituent parts to a reel, namely: the barrel, which forms the centre of the reel; flanges, which form either end of the reel; and various devices (for example, tie-rods in the

case of wooden drums) which run through the barrel joining each flange and which provide stability and support to the structure of the reel. Table 4.1 compares the physical characteristics of the main drum types.

TABLE 4.1 **Characteristics of drums**

	<i>Material</i>				
	<i>Steel</i>	<i>Timber</i>	<i>Plywood</i>	<i>Cardboard</i>	<i>Plastic</i>
Maximum weight carried	300 tonnes	30 tonnes	0.7 tonnes	Light-duty household wires	250 kg
Flange diameter:					
Minimum	1,000 mm	600 mm	250 mm	50 mm	50 mm
Maximum	8,500 mm	6,000 mm	1,500 mm	500 mm	500 mm
Expected lifetime	2–20 years	3–10 years (average two trips* a year)	Mainly single trip	Single trip	Indefinite: but a large number are single trip

Source: CC based on information from Pentre Askern.

*A 'trip' is typically the delivery of cable from the cable manufacturer or distributor's site to that of its customer and, where applicable, the return of the drum after the cable has been removed. Actual lifetime may be considerably lower, or single trip, for timber drums, depending on the destination of the cable, treatment during use, and rate of retrieval: see paragraphs 4.16 to 4.18.

Manufacturing processes

4.4. The manufacturing process, and machinery used, are different for each type of drum. The components of solid steel drums are formed from raw steel sheets and beams, pressed and bent as required. The components are then welded together and painted. The components of skeletal steel drums are bolted together. In the case of timber drums, the components are planed and sawn to shape. The flanges of timber drums are made by nailing overlapping layers of timber together (usually with a nailing machine) before they are sawn to form a disc. Steel rods are inserted between the flanges to form a skeleton for the barrel, and the wooden barrel is constructed around these rods by slotting planks of wood into a groove on the inside of the flange. Wooden planks, or 'battens' can be nailed across the flanges after cable has been wound on to the drum, in order to protect the cable.

4.5. The flanges of plywood drums are manufactured from discs cut from square plywood pieces, either by the plywood supplier or the drum manufacturer. In most cases the barrel is made from a finished sheet of plywood, formed into a tube and riveted together. Alternatively, a cardboard or plastic barrel may be used. The barrel is then attached to the flange and supported with metal tubes.

4.6. The flanges of cardboard drums are cut from sheets of cardboard using a press. The barrels are generally constructed either from tin or from small metal plates covered by a cardboard tube. The cardboard tubes used in barrels are made from heavy-duty paper which is glued and rolled in a similar manner to kitchen towel rolls.

4.7. In the year to March 2000, Askern produced around [\$] solid steel drums, [\$] skeletal steel drums, [\$] timber drums, [\$] plywood drums and [\$] cardboard drums or kits (Pentre figures not available).

4.8. The drum management process is described in paragraph 4.17.

Supply of drums

4.9. A brief description of the main parties prior to the merger is given below. Further details are in paragraphs 3.3 to 3.79.

4.10. *Pentre* (incorporating *Pentre Reels Limited*, *Pentre Engineering Limited*, *Industrial Reels Limited*, and two overseas companies) was the drum manufacturing division of *Locker Group plc*. *Pentre* was created in 1988, at which time it consisted of two small drum manufacturing businesses and one wire and cable machinery business. It subsequently acquired a number of drums and cable machinery manufacturing businesses, and merged with *Locker* in 1996.

4.11. *Askern Group Limited*, formerly *AG Holdings Limited*, commenced trading in 1948. It was listed on the London Stock Exchange in 1993, acquired by *Sylvan* in July 1998 via a wholly-owned subsidiary, *Island Gogh Limited*, and subsequently delisted in September 1998. *Sylvan* is 76.9 per cent owned by *Alchemy Partners Nominees Limited*, the ultimate owner of which is the *Alchemy Investment Plan*. Investors in the *Alchemy Investment Plan* include banks, pension funds and individuals. *Sylvan* was formed in March 1998 for the purpose of acquiring *MLM*, a timber manufacturer and importer (hence the name).

4.12. *Pentre* and *Askern* were the only manufacturers in the UK supplying a full product range of steel, timber, plywood and cardboard drums, and drum management, although a number of other suppliers provided one or more of these products. The UK suppliers of each product type are briefly described below, while market shares are discussed in paragraphs 4.63 to 4.68. Capacity estimates for *Pentre* and *Askern* are based on single shifts without overtime.

- (a) *Steel*. *Pentre* manufactured solid and skeletal steel drums for shipping in its St Helens site. The site capacity (by value) was around £[\$] per cent a year, and the capacity utilization was around [\$] per cent in 1999. *Pentre* had recently purchased a Czech manufacturer of skeletal drums. *Askern's* steel drum operation was based in Sheffield and had a capacity of £[\$] million a year, [\$] per cent utilized in 1999. [\$] recently entered the market as an importer (see paragraph 4.83).
- (b) *Timber*. *Pentre* (at its Knowsley plant) manufactured timber drums on three production lines. Its capacity was £[\$] million, [\$] per cent utilized in 1999. *Askern* produces timber drums in *Askern* and *Birtley*, on six production lines. *Askern's* capacity is around £[\$] million, and it utilized [\$] per cent of this in 1999. *YCD* began manufacturing timber drums in *Doncaster* in 1998. It had two production lines and had sales of £1.2 million in 1999. *CDR*, based in *Wrexham*, was primarily a drum management service provider but established a new timber drum plant in 1999, with sales of around £[\$] million in that year, and sales of £[\$] million in the period of January to August 2000. *AEI* in *Gravesend* produced around £0.25 million of timber drums in 1999 for its own use, and *J J Mountain*, *Wakefield*, supplied around £0.1 million. *Pentre Askern* estimated the current capacity utilization levels of these four producers at between 40 per cent and 60 per cent. It told us that imports of timber drums had been £0.25 million in 1999.
- (c) *Plywood*. Plywood drums were produced by *Pentre Reels* in *Leigh* and *Chadderton* (capacity of £[\$] million and [\$] per cent capacity utilization in 1999) and by *Askern* in *Askern* (capacity of £[\$] million, [\$] per cent utilized). *Cable Reels*, in *St Helens*, has a current capacity of around £[\$] million, [\$] per cent utilized in 1999. *Cable Reels* and *CDR* (see (a) above) have a common holding company, *Marlin Industries*. *Jervis*, in *Long Eaton*, produced around £0.1 million in 1999.
- (d) *Cardboard*. Cardboard drums were produced by *Pentre* in *Leigh* (capacity £[\$] million, [\$] per cent utilized in 1999) and by *Askern* in *Carcroft* and *Workington*. Overall, *Askern* had a capacity of around £[\$] million and produced to around [\$] per cent of its capacity in 1999. *Great Western*, in *Swindon*, produced over £0.5 million and *Jervis*, *Long Eaton*, produced around £0.2 million in 1999. *PKR* has recently set up production of cardboard drums (see paragraph 4.91).

4.13. In addition to the above products, *Pentre* manufactures plastic drums for packaging, and steel and plastic process reels. *Pentre Askern* told us that the merger would not affect the supply of plastic packaging drums as *Askern* did not produce plastic drums, and as *Pentre* faced significant competition for the supply of plastic drums from *Simplast*. There may, however, be some substitution between plastic and cardboard drums (see paragraphs 4.35 and 4.36). Process reels are used in the cable production process, and are manufactured to tight specifications for compatibility with other cable making machinery. There appears to be no potential for demand-side substitution between process reels and packaging drums, although there may be some supply-side substitution in that some of the same

machinery is used to manufacture process and non-process steel drums. Askern did not manufacture process reels.

Distribution, stock management and drum management services

4.14. Delivery of new drums to cable manufacturers and distributors is generally by road haulage contractors organized and paid for by the drum manufacturer, although Pentre Askern owns a small number of trucks used for local or small-quantity deliveries. Many cable manufacturers/distributors are required by their customers (cable users) to supply within short lead times: because cable manufacturers/distributors do not wish to hold large stocks of drums, the suppliers of drums also face short lead times (often as little as 24 hours). The main parties told us that a significant proportion of orders was predictable.

4.15. Both parties provided stock management services to their main customers. Stock management normally takes the form of a representative of the drum manufacturer contacting or visiting the customer and ascertaining current stock levels of drums against customer-agreed maximum and minimum stock holdings. Additional drums are then delivered as required. Pentre told us that it carried out this service for a number of customers including Belden and Corning, while Askern offered the service to Pirelli (Newport and Eastleigh), Bridon International (Retford and Willington Quay) and Caradon Group. Alternatively, some customers were offered a consignment stock system under which the supplier delivered drums to the customer on a periodic, pre-arranged, basis but only invoiced them when the stocks were used. Askern provided this service to Draka and Andrew.

4.16. In some instances, stock management (new drums) is provided along with drum management (used drums). Cable manufacturers/distributors purchase drums for the transport of their products to the cable end-users. Generally, cable manufacturers/distributors retain title in their drums at all times and it is in their interests to track and recover their drums for reuse, if this is economical and practical. They achieve this through drum management which can be operated in-house or contracted to third parties; on the cable manufacturer/distributor's site or from a separate warehouse (the level of contracting has increased in recent years). Third party drum management services apply to timber drums: steel drums can generally be reused without repairs, while most cardboard and plywood drums are used only for a single trip.

4.17. Drum management consists of arranging for the collection of used timber drums from the sites of cable users, checking and carrying out necessary repairs, managing the stock of used drums, and, in the case of drum management operated on separate premises, delivery to the cable manufacturer/distributor. Repair typically consists of replacing broken planks on the flanges or barrel and tightening the steel rods or other connecting devices, although more extensive repairs or alterations, such as reducing the flange diameter, can be carried out. The main suppliers of drum management services are CDR and Pentre Askern.

4.18. The rate of return of drums for reuse can vary widely, depending on the ease with which the drum can be retrieved, and whether it is damaged by the cable user. Pentre told us that [%] per cent of the timber drums which it managed on behalf of Corning and Belden were returned (although not all of these were reusable). Drums which were kept on building sites for long periods during use were less likely to be reusable than those which were kept under cover or used and returned quickly. Drums used for exporting cable were unlikely to be returned, but drums which had been used in importing cable could often be reused: usually by the UK division of the importing company. CDR told us that for two of its customers, following delivery of cable from Ireland to the UK, it retrieves and repairs the drums used for shipment and returns them to the cable manufacturers in Ireland. YCD told us that most timber drums used by cable distributors were too badly damaged to be repaired. A number of methods are used to increase the level of retrieval: some cable suppliers print a freephone number on the sides of drums which cable users can call to request collection. Pentre operated a database which assigns a number to each drum supplied to Corning and Belden and tracks its location. Askern operates a manual recording system. Pentre also employs 'drum spotters' to travel around sites looking for discarded drums. Before the merger Pentre and Askern provided drum management services to the largest seven of their 18 timber drum customers. Reuse of drums might continue to grow as a result of recent environmental legislation (see Appendix 4.1).

4.19. Market shares for drum management services are discussed in paragraph 4.68. Implications of the reuse of drums for market definition are discussed in paragraphs 4.45 to 4.48 and Appendix 4.1.

4.20. Askern was involved in the purchase and sale of second-hand drums at its Doncaster plant, and provided drum rental to two of BT's cable suppliers, [\$]. Askern's revenue from this service was £[\$] in the year to March 2000. CDR also sells second-hand drums to some customers. KTG, a large German drum rental company, has expressed interest in establishing a drum rental system in the UK. However, the main parties told us that both trading in second-hand drums and drum rental were limited in the UK at present.

Demand and usage applications

4.21. The drums manufactured by both Pentre and Askern were steel, timber, plywood and cardboard drums for shipping and packaging (plastic packaging drums and steel and plastic process reels were produced by Pentre but not by Askern). These drums were used for the transportation of cable, wire and ducting. The main categories of cable are low-, medium- and high-voltage steel cable supplied to the energy industry, and copper wire or fibre-optic cable for the telecommunications sector.

4.22. Solid steel drums are used in the supply of heavy-duty cable and wire, up to 300 tonnes (see Table 4.1). They tend to be custom-designed for specific products and applications. Skeletal steel drums are mainly used to carry lightweight ducting. Wooden drums are used for heavy-duty cable and wire (up to 30 tonnes) but are also widely used for the delivery of cable and wire rope to the end-user rather than, as in the case of steel, for bulk transportation around or between a cable supplier's sites. Plywood drums are used for the packaging of smaller, lighter cable types and can carry loads of up to 700 kilograms. Cardboard drums are used for light-duty applications such as household wire and cable sold to electrical distributors and retail outlets.

4.23. The main parties told us that the market for cable was global. According to figures from CRU International, a consultancy, the UK produced 209,000 tonnes of cable (excluding fibre-optic cable) in 1999, and consumed 278,000 tonnes. Imports (122,000 tonnes, 44 per cent of consumption) were greater than exports (54,000 tonnes, 26 per cent of production). CRU forecasts that trade (imports and exports) will increase significantly in the next few years relative to the scale of UK production (see Appendix 4.2). The largest customers of Pentre Askern are multinational cable manufacturers, including Pirelli, Belden, AEI, Andrew, Bridon and Draka, although there are also many smaller cable manufacturers operating in the UK (see Table 4.2).

4.24. Demand for cable and wire is a function of investment in energy and telecommunications infrastructure, and as a result tends to be pro-cyclical (ie demand is greater in times of high economic growth). *Wire Industry News*, June 2000, a US publication by CRU, notes that many sectors within the cable industry continue to report record sales and production, but with low profits and increasing raw material costs. It sees the immediate future of the industry as largely dependent on overall economic growth. As regards the UK industry, CRU figures indicate that cable production has fallen 10 per cent from its peak in 1997, but CRU forecasts that production will return to this peak level by 2003.

4.25. The main parties provided us with a recent report by Jaakko Pöyry, an engineering consultancy, which was commissioned in connection with due diligence for the merger. This noted several trends in the cable and wire industry in Western Europe. It found that demand for and production of cable and wire were neither increasing nor declining. Because Western Europe's energy infrastructure was largely in place, the demand for heavy-duty cables was constant or declining while, due to new investment in telecommunications, demand for lighter cables (fibre-optic and copper wire) was increasing. It also found that cable and wire manufacture was consolidating into fewer and larger multinationals operating from fewer and larger production sites. The main parties told us that there had recently been a significant consolidation among cable manufacturers. BICC had sold its power cable and specialist business to General Cable, its telecommunications operations to Corning, and its remaining cable interests to Pirelli. Corning, in turn, had sold its UK metallic telecommunications business to Belden, while Draka had bought the cable interests of Delta and others. The main parties also pointed out that a

number of cable factory closures have occurred recently, or have been planned. There is evidence (see paragraph 4.77) that some large customers of Pentre Askern had considerable strength in their negotiations with drum suppliers even before recent acquisitions. Any such buyer power appeared to depend on the size of the customer's requirement for drums, rather than the size of its turnover (some large companies require a relatively small quantity of drums).

4.26. Jaakko Pöyry reported that the growth in production of lighter telecommunications cables, relative to heavy-duty steel cables for energy, had led to an increase in the demand for plywood drums rather than timber. Another reason for this increase was the trend among cable users to demand cable cut to shorter lengths, requiring smaller drums.

4.27. The types of drum used vary considerably by customer: of the customers of Pentre Askern, only Pirelli, BICC and AEI used all four of the main drum types (steel, timber, plywood and cardboard) in 1999 (BICC also used plastic drums). Most small customers used only one type of drum, although some used two (usually cardboard and plywood). The customer base of the main parties consists of a small number of large customers (the top ten customers accounted for 57 per cent of combined Pentre and Askern revenue from packaging drum sales and drum management), and a large number of small customers (32 per cent of sales are to customers none of which accounted for more than 0.5 per cent of sales of the two parties). The level of buyer concentration varies depending on the type of drum. Table 4.2 compares the market shares accounted for by large customers of the main parties (those representing more than 5 per cent of Pentre and Askern's combined sales of a particular product, or above 2 per cent of sales over all products) with those of small customers (data on purchases from other suppliers is not available). Customers for steel drums are highly concentrated, with three customers accounting for 82 per cent of demand for solid steel sold by Pentre and Askern in 1999. Only three customers used skeletal steel. Seven customers accounted for 87 per cent of Pentre and Askern's revenues from drum management. Buyers of timber, plywood and cardboard drums are less concentrated, although in each market a few large customers accounted for between 43 and 61 per cent of Pentre and Askern's sales in 1999. In the timber market nine customers accounted for 61 per cent of sales. The plywood market is slightly less concentrated, with eight customers accounting for 47 per cent of sales, and the cardboard market is less concentrated again, with the top six customers accounting for 43 per cent of sales.

TABLE 4.2 Customer profiles of Pentre and Askern, 1999

Product/service	Large customers*		Named small customers†		Other small customers‡	
	Number of customers	Market share represented %	Number of customers	Market share represented %	Number of customers §	Market share represented %
Steel drums¶	3	82	7	9	-	8
Timber drums	9	61	9	10	-	29
Plywood drums	8	47	28	30	-	23
Cardboard drums	6	43	28	41	-	17
Drum management⊘	7	87	0	0	-	13

Source: CC based on information from Pentre Askern.

*Customers which individually accounted for over 5 per cent of combined Pentre and Askern sales of that drum type or service, or over 2 per cent of combined Pentre and Askern sales over all packaging drum types or services (including plastic drums).

†Customers which individually accounted for less than 5 per cent of combined Pentre and Askern sales of that drum type, and less than 2 per cent over all product/service types, and the names of which were provided to us by Pentre Askern (see ‡ below).

‡ Pentre named customers which individually accounted for sales of less than £5,000 (cardboard), £7,000 (timber), £10,000 (plywood) and £22,000 (steel); Askern named customers which individually accounted for less than 1 per cent of sales of the product/service.

§Not provided.

¶Excludes skeletal steel, for which there were only three customers in 1999.

⊘Excludes drum rental services to Mainetti and Integral.

Note: Numbers have been rounded.

4.28. The pattern of customer concentration in each market is shown in Appendix 4.3 and summarized in Table 4.3. Three customers for steel drums individually accounted for over 20 per cent of Pentre and Askern's sales in 1999, as did two customers for drum management. One customer (Pirelli) accounted for over 15 per cent of timber and of cardboard sales. However, most large customers accounted for between 5 and 10 per cent of Pentre and Askern's sales in the markets for timber, plywood, cardboard and drum management.

TABLE 4.3 Individual shares of large customers, 1999

Individual share accounted for %	Number of customers (cumulative)				
	Steel drums	Timber drums	Plywood drums	Cardboard drums	Drum management
>40	-	-	-	-	-
>30	1	-	-	-	1
>20	3	-	-	-	2
>15	3	1	-	1	2
>10	3	1	-	2	2
> 5	3	5	5	3	6

Source: CC based on data from Pentre Askern.

Note: Figures are not comparable with Table 4.2 as customer shares across product/service types are not taken into account.

4.29. The customers for these products are trade buyers, and they have the ability and incentive to 'shop around' and compare quotes of different suppliers, at least on a periodic basis, although there are no published price lists. Of the fourteen customers who discussed their drum usage with us, seven used only Pentre and Askern for the supply of drums, a further two used only Pentre, two used either Pentre or Askern and another supplier, while three only used other suppliers. Customer sales figures for 1999, provided by the main parties, indicate that 46 per cent of Pentre's and Askern's combined sales were to customers who used both Pentre and Askern. Where a customer used both parties for a particular product type, on average it purchased around 75 per cent from one and 25 per cent from the other. Three customers used both Pentre and Askern for steel drums in 1999; two for timber, six for plywood, four for cardboard and two for drum management (figures for use of other suppliers are not available).

4.30. Pirelli told us that its strategy, on a global level, was to have one or two major suppliers and one or two alternative sources, rather than many. Andrew, which buys timber drums, told us that it would not single source with the merged company, but would encourage smaller suppliers. Corning told us that, in practice, it used Pentre for new timber drums and drum management services, but had also used Askern for new drums in order to give Pentre an incentive to perform in drum management. Belden told us that it had used Pentre for timber and drum management. [

Details omitted. See note on page iv.

Thomas Bolton told us that it would be ending an agreement with Pentre in September and that, absent the merger, its strategy would probably have been to divide its plywood business between Pentre, Askern and Cable Reels.

4.31. Separate divisions/factories of multinational customers tend to purchase drums independently of each other, although Pirelli told us that it had recently been focusing on the purchase of packaging products such as drums as the next opportunity to centralize its European purchasing, and that a study was currently under way. Pirelli is currently evaluating options to coordinate its UK drum management operation, possibly through one supplier. This business is currently supplied by Pentre Askern.

4.32. As the value of a drum is usually only around 2 per cent of the value of the cable it carries, high quality is a major concern of buyers (although price is also important). An important component of this quality is the service offered by the drum manufacturer. Although the need for ancillary services varies by customer, most demand prompt and reliable delivery. This is because cable suppliers generally provide a just-in-time service to their customers, and may be liable for damages if deliveries are not made on time.

Substitutes for drums

4.33. Cable manufacturers and distributors may have some choice in the way their product is packaged. Within a given product type, such as timber drums, different sizes of drums may be substitutable for one another. As drums are generally produced in batches, the cable manufacturer can choose the size of drum most appropriate to its requirements (the main drum dimensions are flange diameter, barrel diameter, and barrel length). The minimum barrel diameter will be determined by the ability of the cable to bend: large barrels are required for thick steel cables. The maximum flange diameter will depend on the weight of cable that can be supported by the drum, and the length of cable the cable supplier wishes to distribute. The likelihood of retrieving the drum will determine whether reusability is a factor. It is generally the cable supplier, rather than the supplier of drums, who exercises any discretion that may exist in the specification of drum. Sizes of drums are not standardized in the UK, although there is some overlap in the sizes required by different customers. There may also be significant differences in the specification of products sold to different customers—for example, in flange thickness and diameter of tie-rods.

4.34. In most instances, the customer's requirements for drums will be determined by the characteristics of the cable to be carried. As Table 4.1 shows, drums of different materials differ widely in their size ranges and weight capacity and, for many customers, this will prevent, or limit, switching from one type of drum to another. For weights above 30 tonnes, only solid steel drums are suitable. Only solid steel and timber are suitable for shipping cable overseas. Jaakko Pöyry reported that in Western Europe most plywood drums sold (70 per cent by value) are of flange diameter of below 0.7m. Most timber drums (85 per cent) were from 0.7m to 3m, and most solid steel drums (75 per cent) were of diameters above 3m. They said that substitution occurred between timber and plywood for diameters less than 0.7m, and between timber and solid steel for diameters between 0.7m and 3m. For diameters above 3m, demand was mainly for solid steel. We were told that not many customers switch between timber and plywood. However, the main parties told us that there is significant switching between timber and plywood drums.

4.35. Table 4.4 compares typical prices for different types of drums. Cardboard drums of 300 mm are around two-thirds of the price of plywood drums of the same size. At 750 mm, no cardboard drums are used, while plywood drums (£6) are priced similarly to plastic, but only one-third of the price of timber drums of the same size. At 1.05m, timber drums are one-third more expensive than plywood. Solid steel drums are significantly more expensive than timber at every size level although skeletal steel drums are priced similarly to timber at 2m, and cheaper at 2.5m and 3m. Pentre told us that its three customers for skeletal steel drums had all previously used timber drums for packaging of ducting. [\$] told us that it has recently commenced importing steel drums with solid flanges and barrels, but which are bolted, rather than welded together. These drums are available in sizes up to 2.8m and are used for shipping electrical cable (see paragraph 4.83). [\$] told us that these drums are substitutes for the welded small steel drums produced by Pentre Askern.

TABLE 4.4 Relative prices of drums

Size mm	Material					
	Skeletal steel £	Solid steel £	Timber £	Plywood £	Cardboard £	Plastic £
300	-	-	-	0.65	0.45	2.40
750	-	35	18	6.00	-	6.50
1,050	-	55	25	18.00	-	-
1,500	-	350	65	-	-	-
2,000	130	454	134	-	-	-
2,500	140	529	350	-	-	-
3,000	370	740	475	-	-	-

Source: Pentre Askern.

4.36. Several customers using cardboard drums told us that they did not see plastic drums as potential substitutes, for a number of reasons. A switch to plastic would incur relatively high tooling costs and notice periods. The reusability of plastic drums was not seen as an advantage by some because of the administrative cost of retrieving them, and the choice between plastic and cardboard drums tended

to be determined by the customer and the application: plastic drums being used for more expensive light cable, and cardboard for cheaper light cable. PKR told us that there was a small degree of substitution between cardboard and plastic. The main parties told us that plastic and cardboard tags can be used instead of cardboard drums for some retail applications.

4.37. A number of alternative ‘reel-less’ methods of packaging cable and wire are used in the UK, and the main parties have argued that these compete directly with drums. The main technologies are: Reelex, supplied in the UK by Warbrick International under licence from Windings Inc, a US company; and Skaltek, supplied by Skaltek of Sweden. Reelex is a system whereby specialized machinery winds cable into a coil which is then packaged inside a cardboard box. The cost of the equipment required for the Reelex system is from £50,000 to £100,000. Warbrick told us that, in the UK, Reelex has been used only for packaging Cat5 LAN (local area network) cable, which is too delicate to be packaged on an open drum. It estimated annual UK revenues from provision of the Reelex system at around £170,000. Advertisements by Windings suggest that Reelex can be used for a range of cable types. However, Warbrick told us that it had attempted to persuade UK cable manufacturers to use Reelex for cable other than Cat5 LAN and had been unsuccessful.

4.38. Skaltek’s UK representative told us that it manufactured Reel Pac machines, which coil the cable, place it in a box and assemble a cardboard drum around it (with cardboard flanges and tin plate barrels—similar to the drums described in paragraph 4.6). It has not sold any machines of this type in many years, although several such machines are in use in the UK. PKR told us that it does not see Skaltek as a substitute, as it is a system in which cardboard flanges are a component. PKR said that it supplies cardboard flanges to [\$], and that Pentre supplies flanges to Pirelli, for use in its Skaltek machines. An alternative machine produced by Skaltek shrink-wraps the cable without any drum. No sales of this type of machine have been made in the UK since its introduction in the 1980s. Both types of Skaltek machine cost over £200,000.

Market definition

4.39. In order to evaluate the effects of the merger, we have sought to identify the relevant markets in which the two main parties operate, and in which competition might be affected. The product market is usually defined as comprising those products for which there are no close substitutes, on either the demand-side or the supply-side. Substitutability is tested by considering whether a hypothetical monopolist would be able to raise prices materially for a reasonable time period without reducing its profitability because of lower sales. We have also considered whether the relevant geographic market is the UK or a wider, or narrower, area.

4.40. We first consider whether, as the main parties have argued, the product market consists of all products for packaging cable, or whether alternative technologies such as Reelex and Skaltek should be excluded. As discussed in paragraph 4.37, Warbrick International, the UK supplier of Reelex, saw this product as suitable only for cable that cannot be packaged on traditional drums. Use of Skaltek’s Reel Pak system requires the purchase of cardboard drums, albeit in component form (ie tin plate barrels and cardboard flanges); and therefore adds to the demand for these drums, rather than constituting an alternative to them. Skaltek shrink-wrap machines are not yet used in the UK, and the high cost of purchasing the machine would be likely to reduce its effectiveness as a substitute. None of the third parties approached, including both customers and competitors of Pentre Askern, considered any of these technologies to be in competition with drums. In the light of the above, we do not consider these alternative technologies to be in any of the relevant markets.

4.41. We next consider whether all types of new drums are in the same market. A number of distinctions can be made between different types of drums. Steel and plastic process reels, used as components in machinery, are highly-engineered products, designed to run at high speeds and/or to critical tolerances for use in a variety of manufacturing situations. These can be distinguished from drums for packaging, within which the main product categories are steel, timber, plywood, cardboard and plastic. As discussed in paragraphs 4.35 and 4.36, some substitution exists between steel and timber drums, timber and plywood, and between plywood, cardboard and plastic. As a result, it could be argued

that a chain of substitution exists between all of the product types. However, the level of potential substitution appears to be small in each case. A majority of sales for each product are made to customers with specific requirements which can only be met by drums of a particular material type. Switching between drum types tends to occur due to a change in these requirements rather than a change in the relative prices of, for example, plywood and timber (see paragraph 4.26). There also appears to be little, if any, supply-side substitution between the different types of drum, as each is manufactured using different machines. We therefore consider that steel, timber, plywood, timber, cardboard and plastic drums are in separate markets from one another.

4.42. In this light, we see plastic packaging drums as a separate market from other packaging drums. As these drums are produced by Pentre but not Askern, we do not consider that they constitute a relevant market to the inquiry.

4.43. Further distinctions can be drawn between different types of steel drums. Pentre Askern manufacture both solid and skeletal steel drums: the latter are more lightweight and unsuitable for heavier loads. They are also considerably cheaper than solid steel drums and, as a result, their prices are, for some sizes, comparable to those of timber drums. Although there is demand-side substitution between timber and skeletal steel drums for some applications, there is also supply-side substitution between solid and skeletal steel. In view of this, we have adopted the approach of the main parties, in treating skeletal steel drums as a segment of the steel drum market. We consider that bolted small solid steel drums of the type imported by CDR (see paragraph 4.35) are in the same market as the welded small solid steels drums produced by Pentre Askern.

4.44. A further distinct segment is that of very large steel drums for the offshore oil industry. The usual range of steel drum sizes is 750 mm to around 4m, and these have a typical price range of £35 to around £2,000. However, occasional orders arise for large drums for offshore use, with flange diameters of between around 6m and 9m, and prices per drum from £10,000 to over £80,000. These orders are generally of sufficiently high margin to attract competitive quotes from abroad, and also from other steel fabricators which do not usually produce drums. Only one such order was made by a UK customer in 1999: it had a value of at least £2.1 million and was supplied from Mexico. An order in 2000, for 16 drums worth £1.4 million, was quoted for by Pentre but won by [\$], a UK company which is not a specialist steel drum manufacturer. This segment therefore differs from that of other steel drums in that it is subject to a higher level of competition from the presence of imports and of supply-side substitution.

4.45. We next discuss whether used drums should be regarded as being in the same market as new drums. As discussed in paragraph 4.16, steel, timber, and plywood drums can, in some circumstances, be reused by the cable supplier. The extent to which this is possible depends on whether drums can be retrieved after their initial use, and is different for each drum type. Steel drums can generally be reused a number of times without being repaired. Timber drums must be checked, and often need repairing before reuse, while the majority of plywood drums are only used once. Pentre Askern argued that the reuse of drums should be included in the market definition for each drum type (by treating each reuse of a drum as the loss of a sale of a new drum, and attributing to it the value of such a sale) because of the high degree of substitutability between new and used drums. It told us that cable suppliers are faced with a genuine choice between buying a new drum or reusing an old one.

4.46. There are, however, a number of arguments against including used drums in the market definition. On a practical level, we consider that this approach would exaggerate the value of the market, in that customers who reuse drums a number of times initially purchase drums with the expectation that they will be reusable, and this is reflected in the purchase price. This is particularly true of steel drums, although many timber drums are also purchased in the expectation that they will be used more than once, albeit with some checking and repair.

4.47. More fundamentally, however, it is not the case that the price of new drums in the market at present is constrained by the availability of second-hand (traded) drums (as distinct from used drums which remain in the ownership of the original buyer). The parties have told us that no significant market exists for second-hand drums or for drum rental (although Askern provides a limited rental service to two customers, and is involved, to a small extent, in trading second-hand drums at its Doncaster plant). In general, a customer must purchase new drums before having access to used drums, and must continue to purchase new drums to a sufficient level to maintain its stock of drums.

4.48. A number of large customers have expressed an intention to develop further the reuse of drums, and we recognize that an increase in the price of new drums relative to used drums would offer a further encouragement to do so. However, most customers which have developed a drum management system may be expected to maximize the number of times each drum is reused (particularly given the large cost difference which already exists between new and used drums). In this light, it does not appear that the increased use of old drums would provide a significant, continuing price constraint on new drums, with customers switching between new and used drums in response to changes in relative cost. We therefore consider that while the reuse of drums reduces the size of the new drums market, used drums are not part of the market. The issue of durability and reuse of drums is further discussed in Appendix 4.1.

4.49. We next consider whether in-house production should be included in the market. The parties have argued that cable suppliers could respond to an increase in prices by setting up drum production plants themselves. A number of cable manufacturers have produced their own drums in the past. In the UK, at present, only AEI produces drums in-house, and it has done so for a number of years. The OFT asked six customers whether they would consider producing drums in-house. None of the six, including Pirelli, Andrew, Belden and Bridon had any plans to do so (Belden and Pirelli repeated this to us). The main reason was that most cable manufacturers wish to focus on their core competencies. AEI's in-house production has a limited effect as a price constraint, as it affects only prices charged to AEI. This is likely to be true of any other in-house production by a cable manufacturer, unless it also supplied drums to others.

4.50. Similarly, there appears to be a preference among larger cable manufacturers to outsource their drum management requirements: although this can be more easily operated in-house than the production of new drums, due to the lower initial capital expenditure required.

4.51. In summary, we see the relevant product markets as being large high-value steel drums, small steel drums, timber drums, plywood drums, and cardboard drums, including only new drums and excluding in-house manufacture by cable companies for their own use. The markets for process reels and plastic packaging drums are not affected by the merger as these are not produced by Askern. The relevant service market is that for drum management services provided by a third party.

4.52. The relevant geographic markets are considered separately for each product type in paragraphs 4.57 to 4.61. The report by Jaakko Pöyry, which deals with timber and plywood drums, draws a distinction between the way drums are supplied in the UK and in other European markets. It says that in Sweden and Germany the major proportion of cable drums are standardized (ie produced to a limited range of commonly used sizes), and that standardization has existed for the past 30 years. Although this has been driven by legislative requirements, it was also in the interests of the cable suppliers as it reduced stock management costs and facilitated the growth of drum reuse, and was gradually being adopted in Norway and Finland. YCD told us that mass production of drums was common in other EC countries, whereas most drums manufactured in the UK are batch-produced for a specific customer order. In response to the above, Pentre Askern told us that the specifications of UK manufactured drums were very similar to those manufactured elsewhere in Europe.

4.53. As mentioned in paragraph 4.32, cable manufacturers are often required to supply cable to their customers at very short notice. Belden told us that it was liable for 'liquidated damages' to its principal customer if it failed to supply cable in time. It is therefore important for the cable supplier to ensure that it has a reliable source of drums. In theory, a drum supplier could achieve this by importing drums and holding them in stock until required. However, finished drums, because of their bulk, are expensive to hold in stock relative to their sales value, and as standard sizes are not used, the cost and complexity of matching stock holdings to customer requirements may be expected to increase as the number of customers increases. An alternative is to import flat-packed barrels and flanges for assembly in the UK. This approach has the advantage of reducing transport and stocking costs, although local assembly facilities are required. As discussed below, imports of drums to the UK are at present very low, while exports account for a considerable proportion of the output of Pentre Askern. Pentre Askern told us that they had each concentrated on developing exports in recent years, in response to overcapacity, while responding aggressively to any threat of imports. Some foreign suppliers have recently attempted to import drums to the UK, but so far these have generally been unable to agree prices with UK customers (see paragraphs 4.57 and 4.58).

4.54. We also considered whether a more local market definition than the UK would be appropriate. In practice most customers and suppliers are based in the North of England. However, Pentre Askern also supply Pirelli in the South-East of England and Andrew in Scotland. YCD told us that it had initially concentrated on customers in its vicinity but was confident that it could supply beyond that. While there may be some advantage to a local presence, as transport costs and delivery times increase with distance, it is not clear that this is sufficient to define any region within the UK as a separate market.

4.55. The main parties provided us with details of their transport costs within the last 12 months. These appear to vary primarily with distance, and to a lesser extent with drum type. Transport costs for local deliveries can be as low as [\$] per cent of ex-factory price; costs to London range from [\$] per cent; the highest costs were for shipments of steel drums to Edinburgh ([\$] per cent) and Southampton ([\$] per cent): the parties told us that these prices were atypically high. The parties estimate average transport costs within the UK as around [\$] per cent of ex-factory price for steel drums and around [\$] per cent for timber and plywood drums. They told us that average export costs to European destinations were [\$] per cent of ex-factory price for timber drums, [\$] per cent for plywood, and [\$] per cent for steel drums.

4.56. In the light of the above discussion, we now consider the geographic scope of each of the main product markets: steel, timber, plywood, cardboard and drum management services.

Steel drums

4.57. Large steel drums, discussed in paragraph 4.44, appear to constitute a global market. Pentre exported £[\$] million of small steel drums in 1999 ([\$] per cent of its production), while Askern [\$]. There were no small steel drum imports in the period. The main parties told us that other European manufacturers, including Boxy of Italy, were currently tendering for business in the UK. There is no evidence that any of these manufacturers have received any significant orders to date, and Boxy told us that it had not supplied packaging drums to the UK market because transport costs were too high. However, [\$] imported small steel drums in kit form worth £[\$] million from [\$] in 2000 (for one customer), and intends to expand this operation. If it succeeds, the market for small steel drums might become increasingly international: to date it has been largely limited to the UK.

Timber drums

4.58. Askern exported £[\$] million of timber drums in 1999 ([\$] per cent of production) to a range of large and small customers mainly within Europe. Pentre had [\$], while imports were only 2 per cent of the UK market. While some UK customers have asked for quotes from European suppliers, there is no evidence that imports are increasing, although Pirelli is currently considering sourcing its timber drum requirement on a European basis, which may lead to its UK requirement being met from mainland Europe. The main parties told us that August Hildebrandt (Hildebrandt) had recently attempted to import timber drums with local assembly by CDR. CDR confirmed this, but said that this arrangement had recently become less competitive due to fluctuations in the value of sterling relative to the euro. Hildebrandt told us that it did not expect sales in the UK, as they were not competitive due to the currency difference and expensive haulage. It had recently made offers to large UK customers who were initially interested, but appeared subsequently to have received a better offer. Pentre Askern told us it had reduced prices to BICC by 10 per cent in response to an offer from Hildebrandt. Pentre Askern also told us that among others Boffi, an Italian company, was currently tendering for business in the UK. However, Boffi told us that until the end of this year, it had a number of projects in hand and therefore did not need to compete in the UK market. It might do so in 2001, despite high transport costs (see paragraph 5.75). Andrew told us that it had identified a German supplier that would be 'willing' to stock drums in the UK, but had not yet received a price. Its requirement in Germany was currently supplied by Askern, from the UK, but this relied on large stocks being held in a warehouse which Andrew would prefer to use for holding stocks of cable. It said that the system had worked 'fairly well' but there had been problems when Andrew had been unable to supply customer orders because it did not have the correct cable reels in stock. [*Details omitted. See note on page iv.*]

Plywood drums

4.59. The market for plywood drums was similar to that of timber, in that the main parties had significant exports (Pentre £[\$] million ([\$] per cent of production), Askern £[\$] million ([\$] per cent), but there were no imports. Again, exports were largely to mainland Europe and included both large and small customers.

Cardboard drums

4.60. Several third parties expressed the view that importing cardboard drums was not economical, as they were a low-value product. The main parties told us that there was very little use of cardboard drums in mainland Europe. In practice, there were no imports of cardboard drums into the UK in 1999. Pentre exported around £[\$] million of cardboard drums (Pentre told us that a large proportion of cardboard drum exports were to the Middle East and beyond), while in 2000 Askern has so far exported £[\$] million, mainly to one customer, [\$].

Drum management services

4.61. Drum management services require close proximity to the customer and as such it is necessary for the provider to operate in the UK.

Overview

4.62. In summary, we view the following as being the relevant markets for the purpose of the present inquiry:

- (a) the global market for steel drums above 4 metres (flange diameter);
- (b) the UK market for steel drums up to a size of 4 metres;
- (c) the UK market for timber drums;
- (d) the UK market for plywood drums;
- (e) the UK market for cardboard drums; and
- (f) the UK market for drum management services.

Sales and market shares

4.63. We now consider sales figures for each of the relevant markets. The global market for large steel drums is excluded from the analysis as Pentre Askern does not have a significant share of this market (see paragraph 4.44). Table 4.5 shows market shares for each of the product markets (steel, timber, plywood and cardboard) in 1999, while Table 4.6 shows historical market volumes in each market. The value of the UK small steel drum market was around £3.5 million in 1999. Pentre had the largest share with 58 per cent, followed by Askern with 35 per cent. Combined, the parties had a share of 93 per cent. The market value was somewhat higher in 1997 and 1998, but fell in 1999 to around its 1996 level. Pentre Askern told us that £1.5 million of the UK steel drum requirement was for skeletal drums.

4.64. Demand for new timber drums in the UK has fallen by a quarter since 1996, and was just over £10 million in 1999. In 1999 Askern had a share of 62 per cent, while Pentre's timber share was 22 per cent (combined 84 per cent). The largest alternative supplier was YCD, with a share of 12 per cent (having entered the market in 1998).

4.65. The market for plywood drums is marginally smaller than that for timber and has increased slightly over the past few years (see paragraph 4.26). In 1999 Askern had a share of 48 per cent and Pentre of 37 per cent (a combined share of 85 per cent). The only significant competitor is Cable Reels,

which had a share of 13 per cent. Cable Reels' share of the market has not changed significantly over the past five years.

4.66. The value of cardboard drums sales has increased over the past five years and is now at almost £5 million. In 1999 Askern had a market share of just over 50 per cent, while that of Pentre was 34 per cent (combined share of 85 per cent). Other suppliers are Great Western, with a share of 11 per cent, and Jervis, with a share of 4 per cent. Evidence from the main parties suggests that Great Western's and Jervis' sales of cardboard drums have not increased in value terms since 1995.

4.67. Apart from timber drum imports of around £250,000 a year, there were no significant imports of drums into any of the markets in 1999.

TABLE 4.5 Sales of new drums* and suppliers' market shares of these sales in the UK, 1999

Supplier	Material									
	Small steel		Timber		Plywood		Cardboard		Total	
	Sales £'000	Share %	Sales £'000	Share %	Sales £'000	Share %	Sales £'000	Share %	Sales £'000	Share %
UK										
Askern	1,200	34.8	6,200	61.9	4,900	48.0	2,500	50.5	14,800	51.7
Pentre	2,000	58.0	2,200	22.0	3,800	37.3	1,700	34.3	9,700	33.9
Combined	3,200	92.8	8,400	83.8	8,700	85.3	4,200	84.8	24,500	85.6
YCD	-	-	1,200	12.0	-	-	-	-	1,200	4.2
CDR (Marlin)	-	-	70	0.7	-	-	-	-	70	0.2
J J Mountain	-	-	100	1.0	-	-	-	-	100	0.3
Cable Reels (Marlin)	-	-	-	-	1,300	12.7	-	-	1,300	4.5
Great Western	-	-	-	-	-	-	550	11.1	550	1.9
Jervis	-	-	-	-	100	1.0	200	4.0	300	1.0
Other UK	250	7.2	-	-	100	1.0	-	-	350	1.2
Total UK	3,450	100.0	9,770	97.5	10,200	100.0	4,950	100.0	28,370	99.1
Imports	-	-	250	2.5	-	-	-	-	250	0.9
Total	3,450	100.0	10,020	100.0	10,200	100.0	4,950	100.0	28,620	100.0

Source: CC based on information provided by suppliers.

*Excluding plastic drums, process reels and large steel drums.

TABLE 4.6 Sales of new drums* in the UK, 1995 to 1999

	Total sales £'000				
	1995	1996	1997	1998	1999
Steel	3,517	3,374	4,169	4,371	3,450
Timber	13,361	13,322	11,150	11,525	10,020
Plywood	9,657	9,932	10,400	9,700	10,200
Cardboard	4,300	4,534	4,650	4,950	4,950

Source: CC based on information provided by suppliers.

*Excluding plastic drums, process reels and large steel drums.

4.68. Revenues from drum management services are shown in Table 4.7. CDR told us that it had revenues of £2.3 million and around 35 per cent of the market, while Pentre Askern estimated CDR's revenues at £1.9 million but believed it had 55 per cent of the market. We have used each company's

estimate of its own revenues, and calculated market shares accordingly. On this basis, it appears that CDR has around 60 per cent market share. There is some evidence that reuse of timber drums is increasing: estimates by Pentre Askern of the value of used drums in the UK indicate a growth of 6 per cent per annum from 1996 to 1998 and 5 per cent in 1999. Jaakko Pöyry estimated that reuse of timber drums in the UK would grow by 4 per cent per annum to 2005. It estimated that new timber drum production in the UK had fallen by 6 per cent a year from 1995 to 1999 and would fall 4 per cent a year to 2005, due to both substitution by plywood drums and reuse of timber drums.

TABLE 4.7 Revenues from drum management services and market shares in the UK, 1999

Suppliers	£'000	% share
Askern	800	20.6
Pentre	<u>700</u>	<u>18.1</u>
Combined	1,500	38.7
CDR	2,300	59.4
A&T Leigh	75	1.9
Total	3,875	100.0

Source: CC based on information from suppliers.

4.69. [

Details omitted. See note on page iv.

]

Pricing

4.70. Prices of drums are generally arrived at through individual negotiations between the drum manufacturers and cable suppliers. There are no independent wholesalers of drums in the UK market. Drum manufacturers therefore have knowledge of their customers, and influence over the final sales price. Pentre, Askern and their competitors do not issue price lists, with the result that there is a lack of price transparency in the market: cable suppliers do not know the prices paid by their competitors for drums. However, there are several ways in which customers can assess the prices that they are charged. They may compare quotes from Pentre, Askern and other competitors, or use benchmark prices from abroad. Because the cost of raw materials is a significant element in the price of a new drum (see paragraph 4.74), some customers track the prices of these raw materials (such as steel and timber) in the commodity markets, and expect any fall in the price of raw materials to be reflected in the prices they pay for drums. Pentre Askern told us that larger customers resisted price increases when raw material costs rose (costs of timber, plywood and cardboard have not increased in the past five years: see Table 4.9).

4.71. The lack of price transparency may enable a firm to respond aggressively to a competitor or new entrant on a customer-by-customer basis, rather than having to lower prices to all customers. YCD told us that, when it entered the market, with Draka as its principal customer, Askern began selling to Draka at very low prices in what YCD perceived as an attempt to eliminate it as a competitor.

4.72. Askern provided us with 1999 pricing data for a selection of customers, including prices for timber drums to Draka, Pirelli and AEI. Of the drum sizes for which prices were quoted to these customers, eight sizes of drums were common to all three (ie with the same flange, barrel and traverse dimensions). In comparing prices we looked at the lowest specification of drum offered to each customer. In the cases of seven of the eight sizes common to all three customers, the lowest price of the three was quoted to Draka, and the highest to AEI. On average, prices quoted to Pirelli for these drums were [\$] per cent higher than those quoted to Draka. Askern's sales of timber drums to Draka were £[\$] in 1999, compared with £[\$] to AEI and £[\$] to Pirelli. Draka told us that Askern had

reduced prices significantly on some products when it started using YCD. Askern told us that price differences between Pirelli and Draka for these products were due in part to Pirelli requiring a higher product specification, and to differences in haulage costs. It provided a breakdown of the costs of two drum sizes in which this appeared to be the case; nevertheless, in these examples the percentage margin on drums to Pirelli were [\$] and [\$] per cent higher than to Draka. Pentre Askern also told us that prices had fallen in the five months between the quote to Pirelli and that to Draka, and that, because of the lack of economies of scale, 'one would not normally expect significant price discounts as a result of higher purchases' in this industry.

4.73. Pentre Askern told us that written agreements were unusual in this industry. However, it provided examples of supply agreements between Pentre and [\$], Pentre and [\$] and between Askern and [\$]. Under its agreement with [\$], Pentre has sole supplier status in the supply of plywood drums for two years. The agreement stipulates that 'in the event of [Pentre's] prices becoming uncompetitive [\$] reserves the right to enter into renegotiations and shall consider the contract frustrated if negotiations do not furnish a satisfactory outcome to both parties'. Under its agreement with [\$], Pentre was the sole supplier of certain specified types of timber, plywood and cardboard drums, with prices to be reviewed and agreed between the two parties. The supply agreement between [\$] and Askern, of one year's duration (now expired), specified prices for certain drum types. The agreement included an estimate of [\$] requirements, but [\$] was not under obligation to purchase this quantity or value of drums.

4.74. Raw materials are by far the most significant component of total production costs, and of final sales prices. Table 4.8 shows a breakdown of typical costs for each of the main product types. Between [\$] and [\$] per cent of the prices of timber, plywood, cardboard and plastic drums are accounted for by raw material costs. [\$] of the price of a solid steel drum is accounted for by raw materials. As indicated in paragraph 4.12, there is a degree of overcapacity in the market for drums. However, as a low-technology industry with a high raw material component, drum manufacture is subject to low fixed costs (plant and machinery) relative to the variable costs of materials and labour. It should, therefore, be able in principle to limit the impact of a fall in demand by reducing its input costs in the short term.

TABLE 4.8 Key cost components of drums

	Costs as % of sales price				
	<i>Solid steel</i>	<i>Timber</i>	<i>Plywood</i>	<i>Cardboard</i>	<i>Plastic</i>
Direct material	<div style="font-size: 4em; vertical-align: middle;">{</div> <i>Figures omitted. See note on page iv.</i>				
Direct labour					
Freight					
Consumables					
Gross margin					

Source: Pentre.

Notes:

1. Based on costs and prices for typical examples of each product type, taken from Pentre and Askern's product ranges.
2. Figures may not sum to 100 due to rounding.
3. Overheads not included.

4.75. The main raw materials used in drums are globally traded commodities with relatively volatile prices. Table 4.9 shows recent changes in prices paid by Pentre: steel prices fell by almost a quarter from 1996 to 1999 but have recently increased. Prices of timber and plywood have each fallen by 13 per cent and cardboard by 12 per cent.

TABLE 4.9 Price indices of raw materials used in drum manufacture

	<i>Index 1996 = 100</i>				
	1996	1997	1998	1999	2000*
Steel	100	90	86	77	92
Timber	100	97	91	87	87
Plywood	100	99	95	88	87
Cardboard	100	103	98	93	88

Source: Pentre Askern.

*Average to July (steel), March (timber and plywood).

Note: Based on costs and prices for typical examples of each product type, taken from Pentre's product range.

4.76. Because of the large cost component of raw materials for drums, there is considerable volatility in the costs of drum manufacturers. When the prices of raw materials fall, it is not in the interests of drum manufacturers to pass these cost savings on to customers. However, they may be forced to do so either in response to price reductions by competitors (which face similar costs), or because customers are aware that the price of raw materials has fallen, and expect this saving to be passed on.

4.77. The negotiating strength of buyers depends in large part on the volume of the drum manufacturer's business they represent. Pentre Askern told us that some of their customers were able to insist on price reductions when the cost of raw materials fell, but then resisted attempts by the parties to pass on any subsequent increases in costs. The parties provided us with a letter from [\$], dated October 1999, which says: 'We recognise that many of our key suppliers, including Pentre, have already supported us with respect to price reductions this year. Unfortunately further assistance is needed.' The letter goes on to request Pentre's proposals for a retrospective rebate system based on the volume of [\$] purchases in 1999. A further letter, from [\$], in November 1999, requires suppliers 'to provide an additional volume discount in the form of a rebate for our 1999 turnover exceeding any contractual agreements'. [

Details omitted. See note on page iv.

] Pirelli told us that it had considerable buyer power in its negotiations with the parties. However, as illustrated in Table 4.2, a proportion of the markets for timber (39 per cent), plywood (53 per cent) and cardboard drums (57 per cent) is made up of small customers, which may be expected to have substantially less buyer power.

4.78. Table 4.10 shows indices of prices charged to three large customers of Pentre Askern [\$]. Since 1995, prices to these customers for cardboard drums have fallen by 16 per cent, while prices for steel, timber and plywood drums have fallen by around 20 per cent (greater than the decrease in raw material costs: see Table 4.9). Based on limited information from Pentre Askern, it appears that prices have fallen for some small customers for timber, plywood and cardboard, but have risen for others—particularly for those buying cardboard drums from Askern (see Appendix 4.4).

TABLE 4.10 Indices of drum prices to large customers

	<i>Index 1996=100</i>			
	1996	1997	1998	1999
Steel	100	100	81	81
Timber	100	105	94	84
Plywood	100	98	92	80
Cardboard	100	96	93	84

Source: Pentre Askern.

Note: Based on prices charged to [\$]

Competition and entry conditions

4.79. In order to assess the likely effects of the merger we consider the level of competition prior to the merger, and the costs and risks faced by new entrants to each of the markets for the available range of potential entry strategies. Competition from foreign suppliers, and potential entry into the UK market by these suppliers, are discussed in paragraphs 4.52 to 4.61.

4.80. Before the proposed merger, the markets for the supply of steel, timber, plywood and timber drums were essentially characterized by competition between the two main parties. Of the 16 largest customers of Pentre and Askern in 1999 (those with sales over £200,000), 3 used both companies for the supply of solid steel drums, 3 used both for skeletal steel, 2 for timber, 5 for plywood and 2 for cardboard. Dual sourcing is less common among small customers. However, there appear to have been no significant barriers to switching between the two suppliers prior to the merger, as both were able to provide similar product ranges.

Steel drums

4.81. In the market for small steel drums, no other UK supplier has yet established a significant presence. There were no imports of steel drums in 1999 (apart from those discussed in paragraph 4.44), and no foreign manufacturers were established as regular importers of solid steel drums prior to the recent appreciation of sterling (although Pentre Askern told us that skeletal steel drums worth £50,000 a year were supplied to [\$] from abroad until 1998). Large steel drums are discussed in paragraph 4.44.

4.82. Pentre Askern estimated the cost of establishing a steel production operation as a minimum of £100,000, if second-hand equipment could be found. It said that no specialist equipment, patent or know-how was required to manufacture steel drums. As a result, there was also a possibility of supply-side substitution from general steel manufacturers. Such substitution has, in the past, mainly consisted of large one-off orders for high-value drums (see paragraph 4.44) and the same is true of imports of fully assembled drums. [\$] (see paragraph 4.83) expects to spend £50,000 on a plant producing individual drums (larger batches will be imported). It said that the skills required are basic.

4.83. As regards importing steel drums in kit form for local assembly, [\$] told us that it currently assembles steel drums for [\$], the components of which are imported [\$] (see paragraph 4.35). [\$] told us that this was cheaper than buying drums in the UK, despite transport costs and the recent depreciation of sterling against the dollar. It was currently expanding this side of its operations to include importing steel drum components to be welded in the UK, and manufacturing facilities for smaller orders. [\$] told us that cable manufacturers had shown considerable interest in its plans: mainly due to a desire to dual source following the merger. Its target is to achieve sales of around £1.5 million within the next 12 to 24 months, and it intends to supply across the full range of drums produced by Pentre Askern. Pentre Askern told us that it intends to supply skeletal steel drums to the UK from the Czech factory which it has recently acquired (see paragraph 4.12).

Timber drums

4.84. Turning to the timber drum market, YCD entered the market in 1998, with some support from Draka, and has gained a share of 12 per cent of timber drum sales, despite aggressive price competition from Askern. YCD told us that it has sufficient capacity to double its output and may consider further expansion. CDR entered the market in 1999 with 1 per cent of the market, although it may achieve 2 to 3 per cent in 2000. At present there is no specific expectation of any further entry into this market by a UK manufacturer, or expansion by the other small supplier, J J Mountain.

4.85. One of Sylvan's subsidiaries, MLM, manufactures and distributes timber and timber products. MLM previously supplied Askern with its requirements of timber and plywood. A supply agreement of 3 April 2000 between MLM and Pentre Askern stipulates that MLM is the preferred supplier of timber and panel products (for example, plywood) to the merged group (except when the latter can obtain cheaper product elsewhere). In practice, however, the parties told us that Askern, despite this earlier vertical integration, had been less successful at minimizing its timber costs than Pentre prior to the merger. YCD told us that it had much less buying power for timber than Askern.

4.86. Pentre Askern told us that start-up costs for entry into the timber industry were as low as £100,000. It said that no specialized technological knowledge is required, and the only non-standard piece of equipment required is a nailing machine, which would be available new or second-hand. It told us that it had purchased a second-hand machine for £50,000 in the past year, and believed CDR had recently bought a new machine for £65,000. YCD told us that it is necessary to have a nailing machine that could produce the full range of timber drums, that this cost around £350,000 if purchased new (with a six- to nine-month delivery period) and that very few second-hand machines are available (YCD found one in South Africa).

4.87. The parties suggested that new entry could take the form of importing timber drums, perhaps in kit form, and providing a stocking service in the UK. Belden told us that this would cause considerable logistical difficulties due to the high costs of stocking drums, and the need for short delivery times. (Belden requires delivery on a just-in-time basis.) It said that such a service was possible in principle but doubted that it could be provided competitively. The main parties rejected this, and told us that Pentre periodically imports flat-packed timber drums from its operation in Finland for assembly and sale in the UK, and that both main parties export assembled and flat packed timber drums. We note that imports have remained at 2 per cent of the market over the past five years, despite the considerable appreciation of sterling. Recent attempts by European manufacturers do not appear to have been successful (see paragraph 4.58). This may suggest that local manufacturers have at least some cost advantage over importers, which could allow the merged group to increase prices to an extent before imports became a practical alternative.

Plywood drums

4.88. The only significant competitor to Pentre Askern in the UK market for plywood drums to date has been Cable Reels, a sister company of CDR. Cable Reels has around 12 per cent of the plywood drums market but has not significantly increased its share since 1995. Cable Reels told us that the main barriers to entry in the supply of plywood drums were capital expenditure and the need to be established as a credible supplier. It estimated the capital investment required to switch production from any one type of drum to another at £150,000 to £300,000. YCD estimated that it would have to invest £100,000 to expand into the plywood market. Pentre Askern told us that a completely new entrant would face capital expenditure of only £50,000. [*Details omitted. See note on page iv.*

] It estimated that a company wishing to start production of plywood drums would have set-up costs of around £200,000.

4.89. Pentre Askern told us that Technomar, an Estonian plywood converter, had recently entered the market for the supply of plywood drums in the UK, and was quoting for UK contracts in collaboration with PKR. The parties estimated Technomar's sales of plywood drums at £250,000 in 1999. However, Technomar told us that it does not manufacture plywood drums. Its involvement in the market is only in producing plywood flanges [*Details omitted. See note on page iv.*].

Cardboard drums

4.90. Pentre Askern told us that the main items of expenditure required for entry to the cardboard drum market are a tin barrel forming machine (£100,000) and a platen press (£50,000 for a manual press or £150,000 for an automatic press). PKR, a start-up firm, is currently entering the market (see paragraph 4.91). Concordia, a small customer for cardboard drums, told us that it had switched to PKR from Askern because of lower prices and better quality. Two cardboard drum manufacturers, WTR and Curran, have left the market in recent years (1998 and 1996 respectively). Askern bought the cardboard manufacturing operations of both these companies. Two other small suppliers are in the market. We understand that the low unit cost of cardboard drums is a barrier to importing from abroad, although Pentre exports around one quarter of its cardboard reel production. In practice, there have been no imports of cardboard drums to the UK in the past five years.

4.91. PKR told us that it has set up production lines for cardboard drums, with estimated set-up costs to date of £[\$]. PKR's entry was largely customer driven, and it is approaching both large and small customers in the UK. PKR said it had discussed with YCD the possibility of joint transport for services. PKR told us that it was not possible to predict the effects of the merger. It expects to have sales of £[\$] million for cardboard drums within the next [

Details omitted. See note on page iv.

]. It said that Cable Reels provided a winding service to some of its customers, in which it transferred cable from larger drums onto small cardboard drums. [

Details omitted. See note on page iv.

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Drum management services

4.92. Pentre Askern told us that a drum management service could be established for as little as £20,000. CDR told us that the main barriers to entry in the supply of drum management services were the initial capital cost, the requirement to offer new drums, and the lack of customers. It said that increasingly customers were transferring more services from in-house operations to the drum manager, so that a small-scale repair service was no longer possible. CDR said that the repair and manufacture of new drums were inseparable, and that it guaranteed the supply of drums to its customers, whether reused or new.

4.93. Pentre Askern told us that the provision of drum management services is not tied in any way to the provision of new drums. However, we note that most of the providers of drum management services also manufacture new drums, and tend to provide both drum management and new drums to the same customer, although some customers also buy new drums from other suppliers.

Overview of entry barriers

4.94. There are few if any technical barriers to entry or expansion in the relevant markets, and capital requirements are relatively low. The more significant potential barriers are the possibility of an aggressive price response by the merged group (see paragraphs 4.70 and 4.71); and the need to gain the confidence of customers. YCD told us that, although it could potentially increase its production levels in the short term, it is cautious about seeking new customers because of the need to ensure that commitments to existing customers are fulfilled.

4.95. In summary, there are some barriers to entry and expansion in each of these markets, but these are not insurmountable. YCD has demonstrated that these barriers can be overcome in the timber market, while PKR expects to gain significant market share in cardboard, and CDR in steel. The expansion of smaller suppliers is likely to be encouraged by the desire of many customers to have an alternative source of supply.

Effect of smaller suppliers on competition

4.96. The effect on competition and prices of recent new entrants and other small suppliers, will depend on whether they adopt a strategy of increasing their market share by undercutting Pentre Askern on price, or of broadly following Pentre Askern's prices; and on Pentre Askern's response to these strategies. Because of the lack of price transparency in the market, the incumbents are able in principle to respond to new entry, or expansion by competitors, on a selective customer-by-customer basis. In the face of any new entry or expansion by smaller suppliers, Pentre Askern has a number of options as to how it will respond: pricing aggressively in an attempt to prevent the entry/expansion; allowing ongoing price competition to develop; or maintaining prices and accepting a loss of share.

4.97. YCD told us that it expected that the merged group would either use its increased power to lower prices in the short term and drive YCD out of business; or it would increase prices to recover past losses caused by competition between Askern and YCD. YCD added that a price increase by the merged group would allow YCD to increase its own prices. Cable Reels said that it was happy for the merger to proceed, because in the recent past aggressive competition between itself, Pentre and Askern had led to plywood drum prices being driven down. It expected that a reduction in the number of competitors from three to two would provide some 'stability' in the market.

4.98. CDR said it expected that the merged group would increase steel drum prices slightly in the short term, but that competition from CDR itself would force these prices down. It said that customer interest in its steel drum plans had, to date, been largely due to the desire to dual source for security of

supply, rather than CDR beating Pentre or Askern on price. PKR told us that customer interest had been driven by a wish both for security of supply and for price competition. In drum management, CDR said that it could benefit from a reduction in competition in the short term, but faced difficulties in the long term because the merged group could reduce its prices. We note that Pentre Askern is currently competing for the drum management business of [*Details omitted.*
See note on page iv.].

4.99. [

Details omitted. See note on page iv

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4.100. Because each customer's prices are negotiated individually, the competitive effect of smaller suppliers will also depend on whether they attempt to win business from all potential customers, from large customers only, or from customers within a particular geographic area. Pentre Askern told us that its expected loss of share would probably be due to the largest customers switching a share of their business to other suppliers. However, Pentre Askern also told us that small customers, having lower order volumes, might be better able to switch their business to smaller suppliers. This may, in our view, suggest that some large customers will find smaller suppliers unable to meet their drum requirements in full. PKR told us that it had approached both large and small customers (at least one small customer had already switched to PKR). YCD told us that it was initially focusing on local customers: indeed Corning, Belden and Thomas Bolton, which are based in the North-West, did not appear to be aware of YCD, which is based in Yorkshire. However, YCD said that it would expand beyond this if it were confident it could meet the requirements of more customers.